DB2 Server for VSE & VM

Master Index and Glossary

Version 7 Release 1

SC09-2890-00

DB2 Server for VSE & VM

Master Index and Glossary

Version 7 Release 1

SC09-2890-00

Note!
Before using this information and the product it supports, be sure to read the general information under "Notices" on page 129.

First Edition (September 2000)

This edition applies to Version 7, Release 1, Modification 0 of the IBM® DATABASE 2™ Server for VSE & VM Program, (product number 5697-F42) and to all subsequent releases and modifications until otherwise indicated in new editions.

This edition replaces SC09-2666 and SC09-2667.

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Contents

About This Manual v
Who Should Use This Manual v
How to Send Your Comments v
Organization v

Summary of Changes vii
Summary of Changes for DB2 Version 7 Release 1 vii
Enhancements, New Functions, and New Capabilities vii
Reliability, Availability, and Serviceability Improvements ix
Library Enhancements ix

Chapter 1. Library Overview 1
DB2 Server for VSE & VM Library 1
DB2 Server for VSE & VM Optional Features Library 2
Distributed Data Library 3
Task Orientation of the Manuals 3
Bill of Forms Numbers and Contents 4
LBOF-8928-00 DB2 Server for VM Library for a VM Environment 5
Items Not in the DB2 Server for VM Bill of Forms 5
LBOF-8927-00 DB2 Server for VSE Library for a VSE Environment 6
Items Not in the DB2 Server for VSE Bill of Forms 6

Chapter 2. Alphabetic Codes 7

Glossary 9

Index 31

Notices 129
Trademarks 131

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About This Manual

This manual presents an overview of the DB2 Server for VSE & VM library and consolidates the indexes of the manuals in the library into one master index. The master index directs readers to one or more manuals in which a topic is discussed.

Who Should Use This Manual

The master index and glossary is intended for use by readers interested in topics described in the DB2 Server for VSE & VM library.

How to Send Your Comments

Your feedback is important in helping to provide the most accurate and high-quality information. If you have any comments about this book or any other DB2 Server for VSE & VM documentation:

- Visit our home page at:

  `http://www-4.ibm.com/software/data/db2/vse-vm/`
- A form for readers' comments is provided at the back of this publication. If the form has been removed, address your comments to:

  IBM CANADA LTD.
  DB2 Server for VSE & VM
  2S/240/1150/TOR
  1150 Eglinton Ave. East
  North York, Ontario
  Canada M3C 1H7
- Send your comments by electronic mail to one of the following addresses:

Format	Address
Internet	torrcf@ca.ibm.com
Facsimile	(416) 448-6161 (Attention RCF Coordinator)

  Be sure to include the name of the book, the form number (including the suffix), and the page, section title, or topic you are commenting on.

  If you choose to respond through the Internet, please include either your entire Internet network address, or a postal address.
- Fill out the form at the back of this book and return it by mail, by fax, or by giving it to an IBM representative.

Organization

This manual contains the following:

- "Summary of Changes" on page vii summarizes the technical and library changes made to the DB2 Server for VSE & VM Version 7 Release 1 product.
- "Chapter 1. Library Overview" on page 1 discusses the documentation available for the DB2 Server for VSE & VM product.

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- "Chapter 2. Alphabetic Codes" on page 7 lists the alphabetic codes that identify the books to which the master index refers.

The **Glossary** lists specialized terminology used in the manuals in the DB2 library.

The **Master Index** lists all the index entries in books in the DB2 Server for VSE & VM library and indicates the book that contains each index entry.

Summary of Changes

This is a summary of the technical changes to the DB2 Server for VSE & VM database management system for this edition of the book. All manuals are affected by some or all of the changes discussed here. For your convenience, the changes made in this edition are identified in the text by a vertical bar (|) in the left margin. This edition may also include minor corrections and editorial changes that are not identified.

This summary does not list incompatibilities between releases of the DB2 Server for VSE & VM product; see either the *DB2 Server for VSE & VM SQL Reference*, *DB2 Server for VM System Administration*, or the *DB2 Server for VSE System Administration* manuals for a discussion of incompatibilities.

Summary of Changes for DB2 Version 7 Release 1

Version 7 Release 1 of the DB2 Server for VSE & VM database management system is intended to run on the Virtual Machine/Enterprise Systems Architecture (VM/ESA®) Version 2 Release 3 or later environment and on the Virtual Storage Extended/Enterprise Systems Architecture (VSE/ESA™) Version 2 Release 3 Modification 1 or later environment.

Enhancements, New Functions, and New Capabilities

TCP/IP Support for DB2 Server for VSE

TCP/IP support allows:

- VSE online and batch application programs to access remote application servers which support IBM's implementation of the DRDA architecture over TCP/IP.
- Remote application requesters which support IBM's implementation of the DRDA architecture to access the DB2 for VSE application server over TCP/IP.

For more information, see the following DB2 Server for VSE & VM documentation:

- *DB2 Server for VSE & VM Database Administration*
- *DB2 Server for VSE System Administration*
- *DB2 Server for VSE Program Directory*.

DRDA RUOW Application Requester for VSE (Batch)

DRDA Remote Unit of Work Application Requester provides read and update capability in one location in a single unit of work.

This support provides VSE batch application programs with the ability to execute SQL statements to access and manipulate data managed by any remote application server that supports IBM's implementation of the DRDA architecture.

VSE batch application programs can access only one remote application server per unit of work, and must use TCP/IP communications.

For more information, see the following DB2 Server for VSE & VM documentation:

- *DB2 Server for VSE System Administration*
- *DB2 Server for VSE & VM Database Administration*
- *DB2 Server for VSE & VM Application Programming*

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- *DB2 Server for VSE Program Directory*.

Stored Procedures Application Requester

A stored procedure is a user-written application program compiled and stored at the server. Stored procedures allow logic to be encapsulated in a procedure that is local to the database manager. The ability to use stored procedures provides distributed solutions that let more people access data faster. SQL statements and replies flowing across the network are reduced and performance is improved.

This support provides VM and VSE (online and batch) application programs with the ability to invoke stored procedures from any remote application servers that support IBM's implementation of the DRDA architecture. It also allows processing of result sets if supported by the remote DRDA application server.

For more information, see the following DB2 Server for VSE & VM documentation:

- *DB2 Server for VSE & VM Application Programming*
- *DB2 Server for VSE & VM SQL Reference*.

Simplified DB2 Server for VSE Installation/Migration

A REXX procedure Job Manager is supplied to assist in the DB2 Server for VSE Installation/Migration process. It controls the overall job flow based on the contents of the job list control tables and the parameter table (supplied as Z-type members). The job manager selects the job control member from the job list file (a Z-type member), extracts the member from the Installation Library, modifies the JCL, submits the job, evaluates the execution, posts the results, and then repeats the process as required. The users are required to modify the parameter table, according to their environment.

This support simplifies the process of installation and migration by reducing user intervention - the Job Manager submits the prepared jobs.

See the *DB2 Server for VSE Program Directory* for further details.

New Code Page and Euro Symbol Code Page Support

The following CCSIDs are now supported:

- 1137: Hindi
- 1142: E-Danish/Norweigan
- 1143: E-Finnish/Swedish
- 1145: E-Spanish.

Additional support has been added for conversions from Unicode (UTF-8) to host CCSIDs.

For a complete list of CCSIDs supported, refer to the *DB2 Server for VM System Administration* and *DB2 Server for VSE System Administration* manuals.

Control Center for VM Enhancements

The following is a list of enhancements that have been made to the Control Center for VM:

- QMF™ Tools: allow the user to list QMF objects, view and unload QMF queries and PROCS, schedule QMF PROCS to execute, and run explain on QMF queries.
- Table Create Tool: allows the user to create new tables.
- Search List improvements.
- Referential Integrity Report tool: A referential integrity map report can now be generated directly from the CMS command interface.

- PL/I prerequisite removal.
- New and improved tape hopper support.
- High density tape drive support: support for high density (non-CMS density) tape drives.

Control Center for VSE Enhancements

The following enhancements have been provided for Control Center for VSE:

- Additional Operator Command Support
- Installation of IBM-provided Stored Procedures.

QMF for VSE & VM Optional Feature

The following enhancements have been provided for QMF for VSE & VM:

- Application Requester support for VSE QMF users
- Command enhancements to default to object type
- Fast path to the QMF home screen
- Cross-platform install capability
- DB2 for AS/400 database access.

QMF for Windows® Optional Feature

The following enhancements have been provided for QMF for Windows :

- Java-based Query
- Aggregating, grouping and formatting directly within query results and automatic Form creation
- Personal portal user interface that launches centrally shared queries and reports, and sends results to spreadsheets, desktop databases, and browsers
- Procedures with REXX.

Reliability, Availability, and Serviceability Improvements

DBNAME Directory Restructuring

ARISDIRD has been restructured to improve readability and flexibility. Each DBNAME entry is now defined explicitly by its type (Local, Remote or Host VM (Guest Sharing)). CICS AXE Transaction TPNs (Transaction Program Names) are still included in the directory as a type of 'LOCALAXE'. The DBNAME Directory Builder program, ARICBDID has been rewritten as a REXX/VSE procedure with extensive error and dependency checking. Support for TCP/IP information is added and 'alias' DBNAMEs are supported. **ALL** DBNAMEs **must** be specified in the new DBNAME Directory, including the Product Default DBNAME "SQLDS". A migration REXX/VSE procedure, ARICCDID, is provided to assist in migrating to the new format. See the *DB2 Server for VSE System Administration* and *DB2 Server for VSE Program Directory* for additional information.

Migration Considerations

Migration is supported from SQL/DS™ Version 3 and DB2 Server for VSE & VM Versions 5 and 6. Migration from SQL/DS Version 2 Release 2 or earlier releases is not supported. Refer to the *DB2 Server for VM System Administration* or *DB2 Server for VSE System Administration* manual for migration considerations.

Library Enhancements

Some general library enhancements include:

- The following books have been removed from the library:
  - *DB2 Server for VM Application Programming*
  - *DB2 Server for VSE Application Programming*

- *DB2 Server for VM Database Administration*
- *DB2 Server for VSE Database Administration*
- *DB2 Server for VSE Installation*
- *DB2 REXX SQL Interface Installation*
- *DB2 REXX SQL Reference*
- *DB2 Server for VM Diagnosis Guide and Reference*
- *DB2 Server for VSE Diagnosis Guide and Reference*
- *DB2 VM Data Spaces Support*

  Note: Information from this book can now be found in the *DB2 Server for VSE & VM Performance Tuning Handbook*
- *DB2 Server for VM Master Index and Glossary*
- *DB2 Server for VSE Master Index and Glossary*.

• The following books have been added to the library:
  - *DB2 Server for VSE & VM Database Administration*
  - *DB2 Server for VSE & VM Application Programming*
  - *DB2 REXX SQL for VM/ESA Installation and Reference*
  - *DB2 Server for VSE & VM Diagnosis Guide and Reference*
  - *DB2 Server for VSE & VM Master Index and Glossary*.

Refer to the new *DB2 Server for VSE & VM Overivew* for a better understanding of the benefits DB2 Server for VSE & VM can provide.

Chapter 1. Library Overview

This chapter discusses the documentation available for the DB2 Server for VSE & VM product.

IBM provides a library that supports the DB2 Server for VSE & VM product, a relational database management system designed for both end users and data processing professionals. The DB2 Server for VSE & VM product works with the following systems or their equivalents:

- Virtual System Extended/Enterprise Systems Architecture (VSE/ESA) system
- Virtual Machine/Enterprise Systems Architecture (VM/ESA) system

Separate libraries of DB2 Server for VSE & VM manuals are available for VSE and VM users.

DB2 Server for VSE & VM Library

The DB2 Server for VSE & VM library contains the following:

- The *DB2 Server for VSE & VM Overivew* booklet provides information for executives, demonstrating organizational benefits that can be obtained from using the DB2 Server for VSE & VM database manager.
- The *DB2 Server for VSE & VM Database Administration* manual describes tasks in database administration including configuration planning, operating environments, application design, database design, data security, performance improvements, and error recovery.
- The *DB2 Server for VM System Administration* and the *DB2 Server for VSE System Administration* manuals cover the planning and administration tasks from a systems administration perspective. The topics in this document include: configuration planning, operating environments, installation planning, operations planning, accounting, startup parameters, authorizing users, adding and deleting users, providing and managing space, customizing features of the DB2 Server for VSE & VM product, and using the DB2 Server for VSE & VM product in a distributed environment.
- The *DB2 Server for VSE & VM Interactive SQL Guide and Reference* manual covers the basic uses of SQL statements and the commands of the Interactive SQL (ISQL) facility. This guide includes exercises that can be done at a display terminal or on paper. It also references ISQL command syntax for end users.
- The *DB2 Server for VSE & VM Operation* manual explains how to control the DB2 Server for VSE & VM system with commands from the system operator's console.
- The *DB2 Server for VSE & VM Application Programming* manual is the guide and reference book for programmers using SQL. This book presents a complete description of all SQL statements.
- The *DB2 Server for VSE & VM Database Services Utility* manual is the guide and reference book for users of the DB2 Server for VSE & VM Database Services Utility program.
- The *DB2 Server for VM Messages and Codes* and the *DB2 Server for VSE Messages and Codes* manuals are reference manuals that explain each DB2 Server for VSE & VM message and completion code. Each explanation includes the action to be taken when that message or code is issued.

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- The *DB2 Server for VSE & VM Diagnosis Guide and Reference* manual provides information that helps in determining if the DB2 Server for VSE & VM database manager is the source of the problem, recovering from problems, describing and reporting a defect. It also provides information on the DB2 Server for VSE & VM concepts for use in problem diagnosis.
- The *DB2 Server for VSE & VM Master Index and Glossary* manual lists all the index entries in books in the DB2 Server for VSE & VM library and indicates the book that contains a particular index entry. It also includes a glossary of DB2 Server for VSE & VM terms.
- The *DB2 Server for VSE & VM Quick Reference* manual summarizes SQL statements, Database Services Utility commands, ISQL commands, operator commands, functions, queries, SQL language elements, catalog tables, and reserved words.
- The *DB2 Server for VSE & VM SQL Reference* manual contains syntax diagrams and descriptions for all commands and statements that an application programmer uses in the DB2 Server for VSE & VM system.
- The *DB2 Server for VSE & VM Performance Tuning Handbook* manual helps you analyze and tune the performance of the DB2 Server for VSE & VM product. It provides details on how to manage storage and configure the operating system, how to configure the application server and application requester, and how to improve data access performance by analyzing and rewriting SQL statements. It also contains the information for operating, tailoring, and tuning VMDSS on a VM/ESA operating system.
- The *DB2 Server for VSE & VM Licensed Program Specifications* defines the warranty criteria for the DB2 Server for VSE & VM database manager.

DB2 Server for VSE & VM Optional Features Library

The DB2 Server for VSE & VM Optional Features Library contains the following:

- The *DB2 REXX SQL for VM/ESA Installation and Reference* manual, SC09-2891, is a separately priced feature and must be ordered separately using the order number.
- The *DB2 Server for VSE & VM Data Restore Guide*, SC09-2991, provides installation and usage information for the Data Restore feature which provides extended archive and recovery options.
- The *DB2 Server for VSE & VM Control Center Operations Guide for VSE*, GC09-2992, provides installation and usage information for the Control Center feature which provides database administration tools that help you automate many routine tasks in the VSE/ESA environment.
- The *DB2 Server for VSE & VM Control Center Operations Guide for VM*, GC09-2993, provides installation and usage information for the Control Center feature which provides database administration tools that help you automate many routine tasks in the VM/ESA environment.
- The *QMF Messages and Codes* manual, GC27–0717, lists all of Query Management Facility's Messages
- The *Installing and Managing QMF for VM* manual, GC27–0720, helps systems programmers install QMF in the VM/ESA environment. Subtasks include planning for installation, customizing QMF, or customizing co-requisite products to optimize QMF.
- The *Installing and Managing QMF for VSE* manual, GC27–0721, helps systems programmers install QMF in the VSE/ESA environment. Subtasks include planning for installation, customizing QMF, or customizing co-requisite products to optimize QMF.

- The *Introducing QMF* manual, GC27–0714, assists the customer in making a buy decision.
- The *QMF Reference* manual, SC27–0715, provides detailed information about the structure of a QMF command or an SQL query. This is for people who have experience with QMF.
- The *Using QMF* manual, SC27–0716, documents the end-user getting started functions available in QMF. Guides the user to online help for learning about QMF.
- The *Developing QMF Applications* manual, SC27–0718, discusses what you can do to design and develop Query Management Facility (QMF) applications.
- The *Getting Started with QMF for Windows* manual, SC27–0723, provides assistance in operating and maintaining QMF for Windows. This guide explains the basic layout of QMF for Windows and how to execute the most common end user tasks within the QMF for Windows environment.
- The *Installing and Managing QMF for Windows* manual, GC27–0722, provides assistance in planning for installing, configuring, and maintaining QMF for Windows.

Distributed Data Library

If you connect to other IBM relational databases using the Distributed Relational Database Architecture™ (DRDA) implementation, or if your DB2 Server for VSE & VM system is being accessed as an application server by other IBM relational databases using the Distributed Relational Database Architecture (DRDA) implementation, you may wish to consult the following:

- *DB2 Connect Enterprise Edition Quick Beginning*, S10J-7888
- *DB2 Connect Personal Edition Quick Beginning*, S10J-8162
- *DB2 Connect User's Guide*, S10J-8163.

Task Orientation of the Manuals

The DB2 Server for VSE & VM library is organized into the following tasks:

Table 1. Task Organization of the Manuals

For Information on	Look in
Evaluation	
Examining and judging the applicability of an IBM product to an installation's needs.	*DB2 Server for VSE & VM Overivew* booklet
Planning and Administration	
Making fundamental decisions about the options a program offers. The decisions are presumably specified in written directions and procedures that are followed during the implementation tasks of installation, operation, resource definition, application programming, and program service. Planning is an iterative task in that many of the decisions are made before installation, continually evaluated after installation, and revised as appropriate.	*DB2 Server for VSE & VM Database Administration*, *DB2 Server for VM System Administration* or *DB2 Server for VSE System Administration*, *DB2 Server for VSE & VM Performance Tuning Handbook*
Defining the characteristics of data processing resources to a program. The resources can be databases, programs, users, and others.	*DB2 Server for VSE & VM Database Administration*, *DB2 Server for VM System Administration* or *DB2 Server for VSE System Administration*, *DB2 Server for VSE & VM Performance Tuning Handbook*
Installation	
Making the database manager ready for use.	*DB2 Server for VM Program Directory* or *DB2 Server for VSE Program Directory*
Operation	
Starting the database manager, monitoring it to keep it operating, and shutting it down when it is no longer needed.	*DB2 Server for VSE & VM Operation*
Application Programming	
Designing, coding, preprocessing, compiling, executing, debugging, and maintaining application programs to perform specific functions.	*DB2 Server for VSE & VM Application Programming*, *DB2 Server for VSE & VM SQL Reference*, *DB2 Server for VSE & VM Database Services Utility*
End Use	
Directing use of an IBM program for the purpose for which it was provided.	*DB2 Server for VSE & VM Interactive SQL Guide and Reference*, *DB2 Server for VSE & VM Quick Reference*
Diagnosis and Program Service	
Identifying the IBM program that is the source of a programming problem, describing the problem, comparing it to similar known problems, reporting a new problem, and correcting the problem.	*DB2 Server for VM Messages and Codes* or *DB2 Server for VSE Messages and Codes*, *DB2 Server for VSE & VM Diagnosis Guide and Reference*

Bill of Forms Numbers and Contents

A bill of forms has been set up to help you order the DB2 Server for VSE & VM manuals.

LBOF-8928-00 DB2 Server for VM Library for a VM Environment

Ordering LBOF-8928-00 is the same as ordering each of the following:

Title	Order Number
DB2 Server for VSE & VM Overivew	GC09-2995
DB2 Server for VSE & VM Database Administration	SC09-2888
DB2 Server for VM System Administration	SC09-2980
DB2 Server for VSE & VM Interactive SQL Guide and Reference	SC09-2990
DB2 Server for VSE & VM Operation	SC09-2986
DB2 Server for VSE & VM Application Programming	SC09-2889
DB2 Server for VSE & VM Database Services Utility	SC09-2983
DB2 Server for VM Messages and Codes	GC09-2984
DB2 Server for VSE & VM Master Index and Glossary	SC09-2890
DB2 Server for VSE & VM SQL Reference	SC09-2989
DB2 Server for VSE & VM Quick Reference	SC09-2988
DB2 Server for VSE & VM Performance Tuning Handbook	GC09-2987

Items Not in the DB2 Server for VM Bill of Forms

These items are **not included** in the bill of forms grouping:

- The *DB2 Server for VSE & VM Diagnosis Guide and Reference* manual, LC09-2907, is a licensed manual and must be ordered separately using the order number.
- The *DB2 Server for VSE & VM Licensed Program Specifications* is not needed in a working library. (One copy is supplied with the DB2 Server for VSE & VM product tape.)
- The *DB2 Replication Guide and Reference*, SC26-9920, provides information on how to plan, configure, administer, and operate the IBM Replication tools available as DataPropagator Relational Version 5.1 or later program products or within DB2 Universal Database Version 5.2 or later.
- The following optional features items are also **not included**:
  - *DB2 REXX SQL for VM/ESA Installation and Reference*
  - *DB2 Server for VSE & VM Data Restore Guide*
  - *DB2 Server for VSE & VM Control Center Operations Guide for VM*
  - *QMF Messages and Codes*
  - *Installing and Managing QMF for VM*
  - *Introducing QMF*
  - *QMF Reference*
  - *Using QMF*
  - *Developing QMF Applications*
  - *Getting Started with QMF for Windows*
  - *Installing and Managing QMF for Windows*.

LBOF-8927-00 DB2 Server for VSE Library for a VSE Environment

Ordering LBOF-8927-00 is the same as ordering each of the following:

Title	Order Number
DB2 Server for VSE & VM Overivew	GC09-2995
DB2 Server for VSE & VM Database Administration	SC09-2888
DB2 Server for VSE System Administration	SC09-2981
DB2 Server for VSE & VM Interactive SQL Guide and Reference	SC09-2990
DB2 Server for VSE & VM Operation	SC09-2986
DB2 Server for VSE & VM Application Programming	SC09-2889
DB2 Server for VSE & VM Database Services Utility	SC09-2983
DB2 Server for VSE Messages and Codes	GC09-2985
DB2 Server for VSE & VM Master Index and Glossary	SC09-2890
DB2 Server for VSE & VM SQL Reference manual	SC09-2989
DB2 Server for VSE & VM Quick Reference	SC09-2988
DB2 Server for VSE & VM Performance Tuning Handbook	GC09-2987

Items Not in the DB2 Server for VSE Bill of Forms

These items are **not included** in the bill of forms grouping:

- The *DB2 Server for VSE & VM Diagnosis Guide and Reference*, LC09-2907, manual is a licensed manual and must be ordered separately using the order number.
- The *DB2 Server for VSE & VM Licensed Program Specifications* is not needed in a working library. (One copy is supplied with the DB2 Server for VSE & VM product tape.)
- The *DB2 Replication Guide and Reference*, SC26-9920, provides information on how to plan, configure, administer, and operate the IBM Replication tools available as DataPropagator Relational Version 5.1 program products or within DB2 Universal Database Version 5.2.
- The following optional features items are also **not included**:
  - *DB2 Server for VSE & VM Data Restore Guide*
  - *DB2 Server for VSE & VM Control Center Operations Guide for VSE*
  - *QMF Messages and Codes*
  - *Installing and Managing QMF for VSE*
  - *Introducing QMF*
  - *QMF Reference*
  - *Using QMF*
  - *Developing QMF Applications*
  - *Getting Started with QMF for Windows*
  - *Installing and Managing QMF for Windows*.

Chapter 2. Alphabetic Codes

Entries in the master index refer you to the appropriate DB2 Server for VSE & VM manuals through the use of uppercase alphabetic codes. For example, **APP-13** represents the *DB2 Server for VSE & VM Application Programming* manual and page number that the topic will be found on.

The following alphabetic codes are used in the master index to identify a specific DB2 Server for VSE & VM manual:

Code	Manual Name
APP	*DB2 Server for VSE & VM Application Programming*
DBA	*DB2 Server for VSE & VM Database Administration*
DBSU	*DB2 Server for VSE & VM Database Services Utility*
DIAG	*DB2 Server for VSE & VM Diagnosis Guide and Reference*
ISQL	*DB2 Server for VSE & VM Interactive SQL Guide and Reference*
OPER	*DB2 Server for VSE & VM Operation*
PERF	*DB2 Server for VSE & VM Performance Tuning Handbook*
SYVM	*DB2 Server for VM System Administration*
SYVSE	*DB2 Server for VSE System Administration*
SQLREF	*DB2 Server for VSE & VM SQL Reference*

The following items do not have indexes, and are thus not represented in the master index:

- *DB2 Server for VSE & VM Overivew*
- *DB2 Server for VSE & VM Quick Reference*
- *DB2 Server for VSE & VM Licensed Program Specifications*
- *DB2 Server for VM Program Directory*
- *DB2 Server for VSE Program Directory*

The master index does not include index entries from the *DB2 Server for VM Messages and Codes* or *DB2 Server for VSE Messages and Codes* manuals.

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Glossary

This glossary includes terms and definitions from:

- The *American National Standard Dictionary for Information Systems*, ANSI X3.172-1990, copyright 1990 by the American National Standards Institute (ANSI). Copies may be purchased from the American National Standards Institute, 1430 Broadway, New York, New York 10018.
- The *Information Technology Vocabulary*, developed by Subcommittee 1, Joint Technical Committee 1, of the International Organization for Standardization and the International Electrotechnical Commission (ISO/IEC JTC1/SC1).

A

access. The manner in which files or data sets are referred to by a computer.

access module. See *package*.

access path. The path used to get to data specified in SQL statements. An access path can involve either an index, a sequential search, or a combination of both.

access plan. A package or a product-specific object that contains control structures used to execute SQL statements.

active set. A set of rows currently being acted on by an application program. An active set is associated with either a *query cursor* or an *insert cursor*. The active set of a query cursor is also called a *result table*.

addressing mode (AMODE). The addressing scheme used in the System/370 environment; either 24-bit or 31-bit.

Advanced Communications Function for Virtual Telecommunications Access Method (ACF/VTAM). An IBM licensed program that controls communications and flow of data in an SNA network. It provides single-domain, and interconnected network capability.

advanced program-to-program communication (APPC). The inter-program communication service within SNA LU 6.2 on which the APPC/VM interface is based.

advanced program-to-program communication/virtual machine (APPC/VM). An application programming interface that uses the SNA LU 6.2 protocol to enable two application programs to communicate.

agent. A structure that the database manager allocates to a user to enable the processing of requests by an application server.

allocated cursor. A cursor defined for stored procedure results sets by using ALLOCATE CURSOR.

American National Standard (ANS). A standard produced by the American National Standards Institute.

American National Standards Institute (ANSI). An organization consisting of producers, consumers, and general interest groups, that establishes the procedures by which accredited organizations create and maintain voluntary industry standards in the United States.

American Standard Code for Information Interchange (ASCII). An encoding scheme used to represent character data in the OS/2® environment.

AMODE. See *addressing mode*.

ANS. See *American National Standard.*

ANSI. See *American National Standards Institute.*

API. See *application programming interface.*

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APPC. See *advanced program-to-program communication*.

APPC/VM. See *advanced program-to-program communication/virtual machine*.

APPC/VM VTAM Support (AVS). A component of VM/370 and VM/ESA that lets application programs using APPC/VM communicate with programs anywhere in an SNA network. AVS transforms APPC/VM into APPC/VTAM protocol.

application. A program or set of programs that performs a task; for example, a payroll application.

application-embedded SQL. SQL statements coded within an application program. See *static SQL.*

application process. A general term for a unit that depends on the environment, but has the same basic properties in all environments. An application process involves the execution of one or more programs and is the unit to which resources and locks are allocated.

application program. A program used to perform a particular data processing task, such as inventory control or payroll. ISQL and QMF are examples of application programs.

application programming interface (API). The interface that application programs use to request services from a program such as a database manager.

application requester. A component that accepts a database request from an application and passes it to an application server.

application server. The database manager component that receives and processes database requests issued by the application requester.

archive. A copy of the database at a given time plus all the changes made since that time. It is used as a backup and to recover the database if a failure occurs. See *log*.

arithmetic expression. (1) An expression that contains arithmetic operations and operands and that can be reduced to a single numeric value. (2) A statement containing any combination of data items joined by one or more arithmetic operators in such a way that it can be evaluated as a single numeric value. (3) An arithmetic operation (+, -, *, /) involving numeric operands. An expression preceded by a numeric minus sign is also considered to be an arithmetic expression.

ASCII. See *American Standard Code for Information Interchange (ASCII)*.

assembler language. A programming language that provides symbolic form for machine instructions. It usually also provides macro instructions.

atomic integrity. The condition in which either all or none of the actions involved in an operation or a logical unit of work are performed.

authority. See *CONNECT authority, RESOURCE authority,* and *DBA authority*.

authorization. The right granted to a user to communicate with or make use of a computer system.

authorization ID. (1) A character string that designates a set of privileges. The authorization ID of a statement is used by the database manager for authorization checking and as an implicit qualifier for the names of tables, views, and indexes. (2) A user or a group of users. Contrast with *user ID*.

authorization name. A character string that is coded as part of some SQL statements, such as GRANT, REVOKE, and CONNECT. The character string must correspond to the character string designated for the user's authorization ID, to execute a desired statement that requires certain privileges granted on objects such as tables, views, and packages.

auto protocol. A protocol option that lets a DB2 Server for VM application server communicate with a DB2 Server for VM application requester using the SQLDS-only protocol or with a non-DB2 Server for VM application requester using the DRDA protocol.

AVS. See *APPC/VM VTAM support*.

AXE transaction. This is the APPC-to-XPCC Exchange transaction that serves as an APPC communications adapter for the DB2 Server for VSE DRDA application server. This AXE transaction communicates externally with the application requester using the APPC protocol (basic conversion) and internally with the DB2 Server for VSE application server using the XPCC protocol. Its main function is to route a data stream received through CICS/APPC to a DB2 Server for VSE application server using XPCC.

B

backout. A process in which the database manager restores a database to the condition it was in before a specific *logical unit of work* began and releases the locks that were acquired for that logical unit of work.

basic predicate. A predicate that compares two values.

batch. Pertaining to activity involving little or no user action. See *noninteractive processing*. Contrast with *interactive processing*.

big-endian. A format for storage or transmission of binary data in which the most significant bit (or byte) comes first. The reverse convention is little-endian.

binary integer. A basic data type that can be further classified as small integer or large integer.

bind. The process in which the database manager transforms the specification of an SQL statement into a plan for a sequence of internal operations.

BIT data. Data that is not associated with a coded character set and is therefore never converted.

buffer. A portion of storage used to hold input or output data temporarily.

C

C. A programming language containing both high level and low level language constructs. C programs can be run on different types of computers with minimal change to the code.

callable services library (CSL). A package of CMS assembler routines that can be stored as an entity and made available to a high-level language, REXX, or an assembler program.

cascade. A delete rule that can be specified in the definition of a referential constraint. When a parent row of the referential constraint is deleted, the delete operation is propagated to its dependent rows.

catalog. A set of tables maintained by the database manager. These tables contain information such as descriptions of tables, views, and packages.

catalog table. A table maintained dynamically by the database manager containing information about objects such as tables and views, and other entities such as conversion tables and authorization IDs defined to the database manager.

CCSID. See *coded character set identifier (CCSID)*.

CDRA. See *Character Data Representation Architecture.*

centralized database. Data that is stored in a single database. Contrast with *distributed database*.

character. (1) A letter, digit, or other symbol in a data character set. (2) A data type in SQL.

character conversion. The conversion of a string from one coded character set to another.

Character Data Representation Architecture (CDRA). The architecture that defines CCSID values to identify the codes used to represent characters and the conversion of these codes, as needed, to preserve the characters and their meanings.

character set. A defined set of characters.

character string. A sequence of bytes or characters.

checkpoint. A set of cleanup and recovery actions taken periodically by the database manager. Actions include writing a copy of the database to disk, recording information in the database log, and freeing storage pool space.

CICS. See *Customer Information Control System.*

CICS/VSE®. Customer Information Control System/Virtual Storage Extended.

clause. In SQL, a distinct part of a statement, such as a SELECT clause or a WHERE clause.

clustered index. An index whose sequence of key values closely correspond to the sequence of rows stored in a table.

clustering index. The first index created for a table. The database manager uses it to determine the placement of subsequent rows.

CMS. See *Conversational Monitor System.*

CMS communications directory (COMDIR). A CMS facility used by the DB2 Server for VM resource adapter that lets APPC/VM or TCP/IP applications establish conversations with remote systems using symbolic destination names. The resource adapter uses two levels of directories: the *system communications directory* and the *user communications directory*. CMS user and system communications directories map a *server-name* to a symbolic destination name.

COBOL (common business-oriented language). A high-level programming language, based on English, that is used primarily for commercial data processing applications.

code page. A set of assignments of characters to *code points*.

code point. In CDRA, a code point is a unique bit pattern that represents a character in a code page.

coded character set. The one-to-one mapping between each character in a character set and its coded representation.

coded character set identifier (CCSID). A 16-bit number that includes an encoding scheme identifier, character set identifiers, code page identifiers, and other information that uniquely identifies the coded graphic character representation used.

collection. A logical grouping for SQL objects. See also *TSAF collection*.

column. The vertical component of a table. A column has a name and a particular data type (for example, character, decimal, or integer).

column function. An SQL operation that produces a value from a set of values. It is expressed in the form of a function name followed by an argument enclosed in parentheses.

COMDIR. See *CMS communications directory*.

command. Generally, a request for system action. ISQL and the DBS utility uses commands to interact with the DB2 Server for VM and DB2 Server for VSE database managers. Contrast with *statement.*

commit. The operation that terminates a *unit of work* by releasing locks so that the database changes made by that unit of work can be perceived by other processes. The process that allows data changes to be made permanent. When a commit occurs, other applications can reference the just-committed data.

commit point. A point in time when data is considered to be consistent.

common programming interface (CPI). A set of languages and services that programmers can use to develop applications that take advantage of SAA consistency.

comparison operator. A symbol (such as =, >, <=) used to specify a relationship between two values.

compatibility. In SQL, when two expressions have similar attributes (for example, both are numeric). Compatibility allows the expressions to be compared or assigned to each other.

component CCSIDS. Mixed CCSIDs have a single byte component CCSID and a double byte component CCSID. For example, in mixed CCSID 5035, CCSID 1027 is used for single byte characters and CCSID 4396 is used for double byte characters.

composite key. An ordered set of key columns of the same table.

concurrency. The shared use of resources by multiple interactive users or application processes at the same time.

CONNECT authority. The authority to use database functions (such as SQL statements) on a database.

connectivity. The capability that allows different database managers to work together in response to a request for data. The database managers can be *like* or *unlike*, for example, all database managers or a combination of the DB2 Server for VSE & VM and DB2® database managers.

console. That part of a computer used for communication with the operator.

constant. A language element that specifies an unchanging value. Constants are classified as string constants or numeric constants. Contrast with *variable*.

Control Program (CP). A component of a VM system that manages the resources of a single computer so that multiple computing systems appear to exist. Each virtual machine is the functional equivalent of an IBM System/370 or System/390 system.

CONV. See *data conversion*.

Conversational Monitor System (CMS). A virtual machine operating system that provides general interactive time sharing, problem solving, and program development capabilities, and operates only under the control of the VM Control Program.

conversion selection table. Information about all valid source and target CCSIDs and all necessary conversions.

coordinated resource recovery (CRR). A CMS facility that implements the LU 6.2 sync point architecture, which ensures that transactions can update multiple protected resources with integrity. This means that all updates, within the transaction, are either completed (committed) or not completed (rolled back or backed out). CRR consists of the coordination function, the resynchronization function, and the logging function. The coordination function resides in the application program's virtual machine. The resynchronization and logging functions reside in the CRR recovery server.

correlated subquery. A subquery (part of a WHERE or HAVING clause) applied to a row or group of rows of the table or view named in an outer subselect.

correlation name. An identifier that designates a table, a view, or individual rows of a table or view within a single SQL statement. It can be defined in any FROM clause or in the first clause of an UPDATE or DELETE statement.

CP. See *control program*.

CPI. See *common programming interface (CPI).*

creator. See *owner*.

CRR. See *coordinated resource recovery*.

CS. See *cursor stability*.

CSL. See *callable services library*.

cursor. A visual cue that shows a user where keyed input will appear on a screen. A named control structure used by an application program to point to a specific row within some ordered set of rows. The cursor is used to retrieve rows from the set.

cursor stability. An isolation level that (1) prevents a row changed by a concurrently executing application process from being read until that row is committed by the application process and (2) ensures that the current row of every cursor is not changed by concurrently executing application processes. Under level CS, a row that is read and not updated during a unit of work and is no longer the current row of a cursor can be changed by concurrently executing application processes.

Customer Information Control System (CICS). An IBM licensed program that enables transactions entered at remote terminals or workstations to be processed concurrently by user-written application programs. It includes facilities for building, using, and maintaining databases.

Customer Information Control System/Disk Operating System/Virtual Storage. A general-purpose licensed program that controls online communication between terminal or workstation users and a database.

D

daemon. A software "entity" that monitors a TCP/IP port for a request from a client.

data conversion (CONV). A component of the DB2 Server for VSE & VM database manager that performs data conversion and returns data to the user when the DRDA datastream is used. Also converts character and graphic data, regardless of the protocol used.

data integrity. The condition where the accuracy and consistency of data in the database is preserved regardless of changes made. Data integrity is achieved with *atomic integrity, entity integrity*, and *referential integrity*.

data type. (1) An attribute used for defining data. For example, CHARACTER, NUMERIC, and GRAPHIC data each have different data types. (2) A set of values together with a set of permitted operations in a programming language. The SQL data types are SMALLINT, INTEGER, DECIMAL, FLOAT, CHARACTER, VARCHAR, GRAPHIC, VARGRAPHIC, LONG VARCHAR, LONG VARGRAPHIC, DATE, TIME, and TIMESTAMP. If data is specified as NUMERIC, it is treated like DECIMAL.

database administrator (DBA). (1) An individual or group responsible for the design, development, operation, safeguarding, maintenance, and use of a database. DBA is the highest authority level a DB2 Server for VSE & VM user can have. (2) An individual or group responsible for the rules by which data is accessed and stored. The DBA is usually responsible for database integrity, security, performance, and recovery.

database archive. To copy the database (Directory and DBEXTENTS) to tape for the purpose of media recovery.

database machine. A virtual machine that has access to DB2 Server for VM code and a database. The database machine controls access to the database.

database management system (DBMS). A software system that controls the logical and physical resources and facilities of a database.

database manager. A program product that processes SQL statements.

database partition. A VSE partition that has access to DB2 Server for VSE code and a database. It controls access to the database.

Database Services utility (DBS utility). An application program supplied with the DB2 Server for VSE & VM database managers to provide several utility functions, including the loading and unloading of data and packages, and the execution of SQL statements previously saved in a command file.

database storage subsystem (DBSS). A component of the database manager that accesses and manages the database DASD.

data pages. 4096-byte pages that contain the tables in a DBSPACE.

data system control (DSC). A component of the DB2 Server for VSE & VM database manager that initiates, terminates, and supervises communications for the database machine. Used on both the user and the database machine.

date. A three-part value that designates a day, month, and year.

date duration. A value that represents a number of years, months, and days.

datetime arithmetic expression. An addition or subtraction operation in which one of the operands is a DATE, TIME, or TIMESTAMP data type.

datetime data type. One of the DATE, TIME or TIMESTAMP data types.

datetime duration. A period of time. A date duration is represented in the form yyyymmdd, where yyyy is the number of years, mm is the number of months, and dd is the number of days. A time duration is represented in the form hhmmss, where hh is the number of hours, mm is the number of minutes, and ss is the number of seconds.

datetime value. A value of the data type DATE, TIME, or TIMESTAMP.

DB2 Server for VSE operator console. A workstation used for communication between the operator and the DB2 Server for VSE database manager. It is used, for example, to specify information concerning application programs and to monitor system operation.

DBA. See *database administrator*.

DBA authority. The authority to perform all SQL operations on all SQL tables. DBA authority includes both CONNECT authority and RESOURCE authority.

DBCS. See *double-byte character set (DBCS)*.

dbextent. The physical medium where database data is stored. Storage pools are composed of one or more dbextents.

DBMS. See *database management system.*

dbname. See *server-name*.

DBNAME Directory. A directory of all DBNAMEs for local, remote, and host VM (Guest Sharing) application servers. It identifies the system default application server and partition defaults. It identifies all valid TPNs used to access the DB2 Server for VSE application server from remote application requesters.

DBS utility. See *Database Services utility.*

dbspace. A logical allocation of space in a *storage pool* contained in a database. Contains one or more tables and their associated indexes.

dbspace scan. An access path for retrieving the results of an SQL statement by which all nonempty data pages of the DBSPACE are fetched.

DBSS. See *database storage subsystem*.

DCSS (discontiguous saved/shared segment). See *discontiguous shared segment*.

DDM. See *distributed data management*

ddm-rdb. Well-known service name for relational databases. The well-known port number that is assigned to ddm-rdb is 446.

deadlock. An impasse that occurs when a process is waiting for a resource that is being held by another process that is currently waiting for the first resource.

default. Pertaining to an attribute, value, or option that is assumed when none is explicitly specified.

delete casade. See *casade*.

delete-connected table. A table that may be involved in a delete operation on another table.

delete restrict. See *restrict*.

delete rule. A rule associated with a referential constraint that can restrict the deletion of a parent row or specify the effect of such a deletion on the dependent rows.

delete set null. See *set null*.

delimited identifier. A sequence of characters enclosed within double quotation marks (″). The sequence must consist of a letter followed by zero or more characters, each of which is a letter, a digit, or the underscore character.

delimiter token. A string constant, a delimited identifier, an operator symbol, or any of the special characters shown in syntax diagrams.

dependent row. A row that contains a foreign key that matches the value of a primary key in the *parent row*.

dependent table. A table that is a dependent in at least one referential constraint.

descendent table. A table is a descendent of table T if it is a dependent of T or a dependent of a descendent of T.

directory. (1) A list of identifiers that map corresponding items of data. For example, a DB2 Server for VSE & VM directory maps dbspaces to addresses on a physical device. (2) The CMS communications directory maps the server-name to its destination.

directory block. A 512-byte record from the directory.

directory buffer. A storage area for directory blocks.

disconnect mode. A facility that allows an interactive user to disconnect from the database manager while the database manager continues to run. The user can later reconnect.

discontiguous shared segment (DCSS). A *shared segment* that occupies one or more architecturally-defined segments.

dispatcher. The component of DB2 Server for VSE & VM that is responsible for allocating processor service to agents.

distributed data management (DDM). A protocol architecture that allows an application program to access data from a remote system. DDM, together with LU type 6.2, CDRA, and FD:OCA, provides the base for DRDA architecture.

distributed database. A collection of logically related data that is physically stored over different but interconnected computing systems. Each site of the network has autonomous processing capability and can run local applications on local databases. Contrast with *centralized database*.

distributed relational database. A set of tables that is spread across different but interconnected computing systems.

Distributed Relational Database Architecture (DRDA). Pertaining to an IBM connection protocol for the access and use of distributed relational data wherever it resides in an interconnected network of relational database products.

dotted-decimal form. Notation for an internet address. For example, "9.21.23.103". A dotted-decimal form address must be converted to network byte order before it can be used in a socket interface.

double-byte character set (DBCS). A set of characters in which each character is represented by 2 bytes. Languages such as Japanese and Chinese, which contain more symbols than can be represented by 256 code points, require double-byte character sets. Because each character requires 2 bytes, entering, displaying, and printing DBCS characters requires hardware and supporting software that are DBCS capable.

distributed unit of work (DUOW). Lets a user or application program read or update data at multiple locations within a single unit of work. With distributed unit of work, you can have many SQL statements within a unit of work; you can access one database management system with each SQL statement; and you can access many database management systems within a unit of work.

double precision floating-point number. A 64-bit approximate representation of a real number.

DRDA. See *Distributed Relational Database Architecture (DRDA)*.

DRDA protocol. A protocol for communicating with both DB2 Server for VM and non-DB2 Server for VM database managers.

DSC. See *data system control*.

dual logging. An optional facility that produces a duplicate copy of log data.

DUOW. See *distributed unit of work*.

duration. A number that represents an interval of time. See *labeled duration, date duration*, *time duration*, and *timestamp duration*.

dynamic SQL. SQL statements that are prepared and executed within a program while the program is executing. In dynamic SQL, the SQL source is contained in host language variables rather than being coded into the application program. The SQL statement might change several times during the program's execution.

E

EBCDIC. See *extended binary-coded decimal interchange code (EBCDIC)*.

ECECPs. Euro Country Extended Code Pages. These code pages are identical to the existing Country Extended Code Pages (CECPs), except that the Euro symbol occurs in the new CECPs in the location where the international monetary symbol occurs in the existing CECPs.

embedded SQL. SQL statements coded within an application program. See *static SQL*.

encoding scheme. A set of rules to represent character data.

enter. To type characters and press the Enter key, instructing the computer to perform the requested action.

entity integrity. The state in which all values of a table's primary key are unique and not null regardless of changes made to data in the table.

escape character. The symbol used to enclose an SQL delimited identifier. This symbol is the double quotation mark (″). A character coded in the ESCAPE clause of the LIKE predicate.

ESM. See *External Security Manager*.

EUC. See *extended UNIX code (EUC)*.

exclusive lock. A lock that prevents concurrently executing applications from accessing row data.

executable statement. An SQL statement that can be (1) embedded in an application program, (2) dynamically prepared and executed, or (3) issued interactively.

EXEC. A CMS file with a file type of EXEC. It contains a series of commands or instructions that are executed when you enter the filename of the EXEC file.

exposed name. Names specified in a FROM clause are exposed or nonexposed. An exposed name is a correlation name or a table or view name for which a correlation name is not specified. Contrast with *nonexposed name*.

expression. An operand or a collection of operators and operands that yields a single value.

extended binary-coded decimal interchange code (EBCDIC). An encoding scheme used to represent character data in the MVS, VM, VSE, and OS/400® environments.

extended dynamic SQL. SQL statements that support direct creation and maintenance of packages. They provide a function similar to the DB2 Server for VSE & VM preprocessors, and can be used to create additional preprocessors and database interface routines.

extended UNIX code (EUC). Defines a set of encoding rules that can support sets of characters from 1 to 4 bytes in length. EUC is a means of specifying a collection of codepages rather than actually being a codepage encoding scheme itself. This is the UNIX alternative to the PC double-byte (DBCS) codepage encoding schemes.

External Security Manager (ESM). Software that is not part of DB2 Server for VSE & VM that is used to define and authenticate user access to system resources. An example of an external security manager is RACF.

extract. Selected data that is copied from a remote system and loaded into the local system. The process of copying selected data from a remote system and loading it into a local system.

F

FD:OCA. See *formatted data object content architecture*.

fenced. This term is used to describe a stored procedure that is separated from the database manager with respect to execution and memory usage.

field procedure. A user defined exit to encode values before they are inserted into a database and to decode them when the values are retrieved. Used, for example, to change the alphabetic collating sequence.

FIPS. Federal Information Processing Standards.

fixed-length string. A character or graphic string whose length is specified and cannot be changed. Contrast with *varying-length string*.

flagger. An optional preprocessor function that identifies all SQL statements in an application program that do not conform to the SQL-89 standard or the SAA standard.

foreign key. A row in a dependent table with a foreign key value that matches a primary key value in a parent table, and is referenced in the referential constraint.

formatted data object content architecture (FD:OCA). An architected collection of constructs used to interchange formatted data. DDM, CDRA, LU type 6.2, and FD:OCA, provide the base for the remote unit of work architecture.

free class. An approximation of the free space on a data page.

free space. The number of bytes on a data page that are available for storing rows.

fullselect. Two or more subselects linked by UNION operators. A fullselect does not include an ORDER BY clause or a FOR UPDATE OF clause. A form of subselect that specifies that a result table is to be used, or is one or more subselects linked by UNION operators.

function. A *column function* or *scalar function*.

G

gatename. The DB2 Server for VSE & VM NAME for a lockable object. It is a multipart name.

GDS. See *general data stream*.

general data stream (GDS). An SNA data stream that consists of transaction program data preceded by a 2-byte binary logical length (LL) field and a 2-byte binary identification (ID) field.

gigabyte (GB). 2^{30}, or 1,073,741,824 bytes.

graphic string. A sequence of DBCS characters.

guest operating system. An operating system that runs on the user's primary operating system. For example, VSE can run as a guest operating system on VM.

guest sharing. A facility that enables VSE/ESA to run as a guest operating system under VM/ESA and access a DB2 Server for VM database.

H

header pages. 4096-bytes that contain the control row describing the tables and indexes in the DBSPACE.

heterogeneous. See *unlike*.

heuristic commit. A commit of an in-doubt unit of work performed manually by an operator with the FORCE *n* COMMIT command.

heuristic damage. Heuristic damage has occurred if a heuristic commit or rollback was performed and then, at a later time, the transaction manager tries to resolve the in-doubt units of work but cannot due to the heuristic action taken previously by the operator. That is, the operator performed a heuristic commit and then the transaction manager requests that the unit of work be rolled back, or the operator performed a heuristic rollback and then the transaction manager requests that the unit of work be committed.

heuristic rollback. A rollback of an in-doubt unit of work performed manually by an operator with the FORCE *n* ROLLBACK command.

homogeneous. See *like*.

host-identifier. A name declared in the host program.

host language. Any programming language in which you can embed SQL statements.

host program. A program written in a host language that contains embedded SQL statements.

host variable. In an application program, a variable referenced by embedded SQL statements.

I

inactive key. A primary or foreign key that is not being enforced. A foreign key becomes dependently inactive when the primary key it references is made inactive.

inactive table. A table that has an inactive primary or foreign key, references an inactive *primary key*, or is referenced by an inactive *foreign key*.

independent table. A table that is not related to any other table through a referential constraint.

index. A set of pointers that are logically ordered by the values of a key. Indexes can provide quick access to data and can enforce uniqueness on the rows in a table.

index key. The set of columns in a table used to determine the order of index entries.

index pages. 4096-byte pages that contain the indexes on the tables in a DBSPACE.

index scan. (1) An access path that uses an index to retrieve the results of an SQL statement. (2) To retrieve all the rows using an index.

indicator variable. A variable used to represent the null value in an application program. If the value for the selected column is null, a negative value is placed in the indicator variable.

initial program load (IPL). (1) The initialization procedure that causes an operating system to commence operation. (2) The process of loading system programs and preparing a system to run jobs.

| **internet address.** The unique 32-bit address identifying each node in an internet.

insert cursor. A cursor associated with an INSERT statement that an application uses to access rows in an active set.

insert rule. A condition enforced by the database manager that must be met before a row can be inserted into a table.

installation. (1) A particular computing system, including the work it does and the people who manage it, operate it, apply it to problems, service it, and use the results it produces. (2) The process of adding a product, such as the DB2 Server for VSE & VM database manager, to a computing system.

interactive processing. A processing method in which each user action causes a response from the program or system.

interactive SQL facility. An SQL application program that reads statements from a terminal, prepares and executes them dynamically, and displays the results to the user. The QMF™ and ISQL facilities use interactive SQL.

Interactive Structured Query Language (ISQL). A DB2 Server for VSE & VM *Interactive SQL Facility*.

internal dbspace. A temporary dbspace used by the database manager to perform tasks such as sorting data or processing a query.

International Standards Organization (ISO). An organization of national standards bodies from various countries established to promote development of standards to facilitate international exchange of goods and services, and develop cooperation in intellectual, scientific, technological, and economic activity.

IPINIT file. TCP/IP for VSE/ESA configuration file.

IPL. See *initial program load*.

ISO. See *International Standards Organization (ISO)*.

isolation level. An application attribute that defines the degree to which that application process is isolated from other currently executing application processes. The degree of independence that one *unit of work* has from another.

ISQL. See *Interactive Structured Query Language (ISQL)*.

J

join. A relational operation that allows retrieval of data from two or more tables based on matching column values.

K

key. One or more columns identified as such in the description of a table, index, or referential constraint.

keyword. In programming languages, a predefined word that has a special meaning or function. For example, in the DB2 Server for VSE & VM database managers, SELECT is the keyword used to retrieve data from a table.

L

labeled duration. A number that represents a duration of years, months, days, hours, minutes, seconds, or microseconds.

leaf page. An index page at the lowest level in the index tree structure; it contains key or TID pairs to the data in the table on which the index was created.

length attribute. A value associated with a string that represents the declared fixed or maximum length of the string.

like. Pertaining to two relational database management systems that are the same product (for example, both are DB2 Server for VM, both are DB2 Server for VSE, or one is DB2 Server for VM and the other is DB2 Server for VSE). Contrast with *unlike*.

literal. A string whose value is given by the content of the string itself. For example, the numeric literal 7 has the value 7. Synonym for *constant*.

little-endian. A format for storage or transmission of binary data in which the least significant bit (or byte) comes first. The reverse convention is big-endian.

load. To transfer data from one medium to another; for example, transferring data from a sequential file to a database, or transferring a program from DASD to computer memory.

local server. In VSE, a local server can be 1) a DB2 Server for VSE application server residing in the same VSE machine as the application program connecting to it, 2) a DB2 Server for VM application server accessed through VSE guest sharing. Contast with *remote server*.

location. Either the name of a host or a relational database. The location is represented by an identifier of 1 to 18 characters.

lock escalation. A lock escalation occurs when the database manager increases the size of the data being locked. The database manager always escalates a lock to the dbspace level. (It does not increase locking from a row level to a page level.)

lock mode. The kind of lock that can be requested (and held). Possible lock modes are: IN, IS, IX, S, SIX, X, U, and Z.

locking. The mechanism used by the database manager to ensure the integrity of data. Locking prevents concurrent users from accessing inconsistent data.

locking hierarchy. A prescribed sequence for locking objects such that conflicts can be recognized at their highest level.

locking protocol. Rules followed by the system to assure that actions taken on behalf of LUWs are protected against interference from other LUWs.

log. A collection of records maintained by the database manager to describe events that occurred during operation of a database. This information is used for recovery if a failure occurs while the database manager is executing.

log archive. To copy the database log to tape or disk for the purpose of media recovery.

logical unit of work (LUW). A recoverable sequence of operations within an application process. At any time, an application process is a single unit of work, but the life of an application process can involve many units of work as a result of commit or rollback operations.

logical unit of work identifier (LUWID). A name that uniquely identifies a logical unit of work within a network.

logical unit type 6.2 (LU 6.2). The SNA logical unit type that supports general communication between programs in a distributed environment.

long string. A varying-length string whose maximum length is greater than 254 bytes or 127 double-byte characters.

LRB. Lock Request Block. A data area used to hold information about a lock request and define the characteristics of a lock on a data object.

LU 6.2. See *logical unit type 6.2*.

LUW. See *logical unit of work (LUW)*.

LUWID. See *logical unit of work identifier.*

M

mailbox. An area in which messages from one machine to another machine are constructed.

MBCS. See *Multi-byte character set (MBCS)*.

minidisk. A logical division of a physical direct access storage device.

mixed data string. A character string that can contain both single- and double-byte characters.

mixed single- and double-byte character set. A set of characters in which each character is represented by either 1 or 2 bytes. A mixed single- and double-byte character set combines characters from one single-byte character set and one double-byte character set.

multi-byte character set (MBCS). A set of characters in which each character is represented by 2, 3, 4 or more bytes. Multi-byte character sets which have characters encoded using only 2 bytes are more commonly known as double-byte character sets (DBCS).

multicolumn key. A key composed of more than one column.

multiple user mode. A mode of operating the database manager in which one or more users or application programs can access the database at the same time. Contrast with *single user mode.*

N

national language support (NLS). National language support allows messages to be displayed in the language of your choice.

navigational database. A database system in which the user performs the logic needed to find the data. Contrast with *relational database*.

network byte order. Also big-endian byte order. The socket interface requires that addresses are in network byte order.

NLS. See *national language support*.

nonexposed name. Names specified in a FROM clause are exposed or nonexposed. A nonexposed name is a table or view name for which a correlation name is specified. Contrast with *exposed name*.

noninteractive processing. A processing method in which an application program is executed with no user interaction.

nonleaf page. An index page at the intermediate level in the index tree structure; it contains page numbers of pages in the next level in the index tree structure.

nonpreemptive. An environment in which agents willingly relinquish control of the processor; agents are not interrupted.

nonrecoverable storage pool. A storage pool for which the database manager does not provide automatic recovery to restore data to the condition it was in before a failed operation or a system failure.

NUL. In C, a single character that denotes the end of the string in a C NUL-terminated host variable.

not fenced. This term is used to describe a stored procedure that has nothing separating it from the database control structures that are used by the database manager.

null. A special value that indicates the absence of information.

NUL-terminated host variable. A varying-length host variable where the length of the data is indicated by the presence of a NUL-terminator.

NUL-terminator. The value in a NUL-terminated host variable that indicates the end of the string. For character strings, the NUL-terminator is X'00'.

O

object. Anything that can be created or manipulated with SQL - for example, tables, views, indexes, or packages.

online. Pertaining to a user's ability to interact with a computer from a terminal or workstation.

operator command. A command that controls the operation, or provides information, about the operation of the database manager.

optimizer. A component of a relational DBMS that carries out the logic required to find data in a database. The optimizer determines the *access path*.

ordinary identifier. An uppercase letter followed by zero or more characters, each of which is an uppercase letter, a digit, or the underscore character. An ordinary identifier must not be a *reserved word.*

ordinary token. A numeric constant, an ordinary identifier, a host identifier, or a keyword.

overflow. The leftmost part of the result of an operation (arithmetic or data movement) that exceeds the capacity of the intended unit of storage.

owner. The authorization ID associated with an SQL object.

P

package. A control structure produced during program preparation that is used to execute SQL statements. Previously called *access module*.

packed decimal format. A format in which each byte in a field, except the rightmost byte, represents two numeric digits. The rightmost byte contains one digit and the sign; for example, the decimal value 123 is represented as 0001 0010 0011 1111.

packed decimal notation. A binary-coded decimal notation in which two consecutive decimal digits, each having 4 bits, are represented by one byte. The datetime data types use this notation.

parameter. A variable that is given a constant value for a specified operation.

parameter marker. A question mark (?) that appears in a statement string of a *dynamic SQL* statement. The question mark indicates that a host variable can appear if the statement string was a static SQL statement.

parent row. A row that has at least one dependent row.

parent table. A table that is a parent in at least one referential constraint.

PassTicket. An alternative to the RACF password that permits workstations and client machines to communicate with the host. It allows a user to gain access to the host system without sending the RACF password across the network. PassTickets are supported by RACF V1R10 for VM (5740-XXH) or later.

phantom row. A table row that can be read by application processes being executed with any isolation level except repeatable read. When the application process issues the same query multiple times, additional rows called phantom rows can appear in between queries because of data being inserted and committed by concurrently executing application processes.

placeholder. Symbol representing a quantity that can assume any of a given set of values.

PL/I (Programming Language/One). A high-level programming language designed for use in a wide range of commercial and scientific computer applications.

port. (1) An endpoint for communication between devices, generally referring to a logical connection. (2) A 16-bit number identifying a particular TCP or UDP resource within a given TCP/IP node.

portability. The ability to run a program on more than one processor without changing it. Portable packages can be created on one processor and used in another.

portable package. A file containing a package that can be used by *like* and *unlike* database managers.

positional parameter. A parameter that must be in a specified location relative to other parameters.

precision. The total number of binary or decimal digits excluding the sign.

predicate. An element of a search condition that expresses or implies a comparison operation.

prepared SQL statement. The executable form of an SQL statement that has been processed by the PREPARE statement.

preprocess. The process of generating executable SQL statements from SQL statements in an application program. Preprocessed SQL statements are stored in (bound to) a database in a *package*. The SQL statements in the source code are replaced with calls to sections of the package that are derived from the original SQL statements.

primary key. A unique key that is part of the definition of a table. If the table is a parent in a referential constraint, the values of its primary key determine the valid values of the foreign key of the constraint.

private dbspace. A logical space in a database owned by one user.

privilege. The right or authority to access a specific database object in a specified way.

program preparation. The process of producing an executable program. This process includes precompilation, compilation, and bind.

PROGS. A table used by RDS to keep track of loaded packages.

protocol. The rules that must be followed by two communication stations or processes. The protocol defines the actions that can be taken by a station when it receives a transmission or detects an error condition.

pseudo agent. A DB2 Server for VSE & VM structure that is allocated to a user upon establishing an IUCV or APPC/VM connection with the database machine, or to a remote requestor upon establishing a connection with the DB2 Server for VSE application server.

public dbspace. A logical space in a database that is accessible to many users.

Q

QMF. See *Query Management Facility*.

quantified predicate. A predicate that compares a value with a set of values.

query. A component of certain SQL statements that specifies a result table. A request for data using an SQL SELECT statement.

query cursor. A cursor associated with a SELECT statement and used by an application program to access rows in a result table.

Query Management Facility (QMF). An *interactive SQL facility*.

R

RDBMS. See *relational database management system.*

RDIIN. The key input data area to RDS from a DB2 Server for VSE & VM application program.

RDS. See *relational data system*.

real storage. The main storage in a virtual storage system. Physically, real storage and main storage are identical. Conceptually, however, real storage represents only part of the range of addresses available to the user of a virtual storage system.

rebind. To recreate a package. Rebinding can occur when (1) An application program is repreprocessed, (2) The system dynamically rebinds any invalid package, or (3) A DBS Utility RELOAD PACKAGE or REBIND PACKAGE command is issued.

recoverable storage pool. A storage pool that protects its data by using the database manager's automatic recovery facilities to restore data to the condition it was in before failed operations or system failure.

recovery. The process of rebuilding databases after a system failure.

referential constraint. The referential integrity rule that the non-null values of the foreign key are valid only if they also appear as values of a primary key.

referential cycle. A set of referential constraints such that each table in the set is a descendent of itself.

referential integrity. The state of a database in which all values of all foreign keys are valid.

referential structure. A set of tables that are related to each other by *referential constraints.*

registered. In a distributed environment, a database is registered by including it in a corporate database directory service. A registered database is uniquely identified by its *server-name.*

relational data system (RDS). A component of the DB2 Server for VSE & VM database manager that supports the relational model of data; letting users conceptualize data as rows and columns of a table. Also translates SQL statements for the database storage system.

relational database. A database that can be perceived as a set of tables and manipulated in accordance with the relational model of data.

relational database management system (RDBMS). A database management system that is based on the relational database model. The DB2 Server for VSE & VM relational database management system are examples.

remote server. In VSE, a remote server is 1) a DB2 Server for VSE application server not residing in the same VSE machine as the application program connecting to it, 2) a DB2 Server for VM application server not accessed through Guest Sharing by a VSE batch or CICS application program, 3) a non-DB2 Server for VSE application server which supports IBM's implementation of the DRDA protocol. Contrast with *local server*.

remote unit of work. Lets a user or application program read or update data at one remote location per unit of work. With remote unit of work, you can have many SQL statements within a unit of work; you can access one database management system with each SQL statement; and you can access one database management system within a unit of work.

remote unit of work protocol. Communication protocols for *unlike* databases such as DB2 Server for VSE and DB2 UDB for OS/390.

repeatable read (RR). An isolation level that completely isolates an application process from all other concurrently executing application processes. Under level RR, (1) rows read during a unit of work cannot be changed by concurrently executing application processes until the unit of work is complete and (2) rows changed by concurrently executing application processes cannot be read until they are committed by that application process, and (3) phantom rows are prevented.

reserved word. A keyword in a programming language than cannot be used as an identifier in a statement.

residency mode (RMODE). Identifies where in virtual storage a loaded program can reside; above or below 16M.

resource. A facility of a computing system, such as main storage, programs, the processing unit, or database storage.

RESOURCE authority. The authority to create tables in a public dbspace and to acquire a private dbspace.

restart table. The table from which RELOAD will begin reloading when the RELOAD command is entered with the RESTARTTABLE parameter.

restrict. A delete rule that does not allow a parent row to be deleted if it has dependent rows.

result set. The set of rows returned to a client application by a stored procedure.

result set locator. A 4-byte value used to uniquely identify a query result set returned by a stored procedure.

result table. A set of rows produced by the evaluation of a SELECT statement. See also *active set*.

REXX. A procedural language that allows programs and algorithms to be written in a clear and structured way.

RMODE. See *residency mode*.

rollback. The process of restoring data changed by SQL statements to the state at its last commit point. All locks are freed. Contrast with *commit*.

ROLLBACK WORK. The end of a logical unit of work that results in the backout of its changes to the database.

root page. The highest level in the index tree structure.

routine. A series of commands and statements stored under an identifying name.

row. The horizontal component of a table. A row consists of a sequence of values, one for each column of the table.

RR. See *repeatable read*.

S

saved segment. An area of virtual storage that was previously loaded, saved, and assigned a unique name. See also *discontiguous shared segment*.

SBCS. See *single-byte character set*.

SBCS data. Data in which every character is represented by a single byte.

scalar function. An SQL operation that produces a single value from another value and is expressed as a function name followed by a list of arguments enclosed in parentheses.

scale. The number of digits in the fractional part of a number.

schema. The set of statements, expressed in data definition language, that completely describe the structure of a database. SCHEMA is a Database Services Utility command that allows you, under the specified authorization ID, to read the text of a schema and execute the statements in it.

search condition. A criterion for selecting rows from a table. A search condition consists of one or more predicates.

section location table (SLT). Directory of sections and their corresponding statements in a package.

select-list. The column names specified by an SQL SELECT statement.

select-statement. A query that can be directly specified in a DECLARE CURSOR statement, or prepared and then referenced in a DECLARE CURSOR statement. A select-statement is a fullselect that also optionally contains ORDER BY or UPDATE clauses.

self-referencing row. A row that is a parent of itself. Not directly supported by the DB2 Server for VSE & VM database manager.

self-referencing table. A table that is a parent and a dependent in the same referential constraint. Not directly supported by the DB2 Server for VSE & VM database manager.

server-name. A name up to 18 characters that uniquely identifies and fully qualifies a database.

set null. A delete rule that allows the *parent row* to be deleted and automatically sets to null the nullable *foreign key* columns in all *dependent rows*. Do not confuse with the ISQL SET NULL command.

SFS directory. See *shared file system directory.*

share lock. A lock that limits concurrently executing application processes to read-only operations on row data.

shared file system directory (SFS directory). A part of CMS that allows users to organize their files into groups known as directories, and to selectively share those files and directories with other users.

shared segment. An area of virtual storage that was previously loaded, saved, and assigned a unique name. The segment or segments can contain only read-only data or reentrant code that many users can share. See also *discontiguous shared segment*. Also called *DCSS*.

shift-in character. A special control character (X'0F') used in EBCDIC systems to denote that the following bytes represent SBCS characters. See *shift-out character*.

shift-out character. A special control character (X'0E') used in EBCDIC systems to denote that the following bytes (up to the next shift-in control character) represent DBCS characters.

short string. A fixed-length or a varying-length string whose maximum length is less than or equal to 254 bytes (127 double-byte characters).

single-byte character set (SBCS). A set of characters in which each character is represented by 1 byte. National languages such as English or French, and computer languages such as EBCDIC or ASCII use single-byte character sets.

single user mode. A mode of operation in which the database manager and one application run in the same partition. No other application programs or users can access the database at the same time. Contrast with *multiple user mode*.

SNA. See *Systems Network Architecture.*

socket. (1) An endpoint for communication between processes or applications. (2) A pair consisting of TCP port and IP address, or UDP port and IP address.

special register. A storage area that is defined for an application process by the database manager and is used to store information that can be referenced in SQL statements. Examples are USER and CURRENT DATE.

SPM. See *sync point manager*.

SQL (Structured Query Language). See *Structured Query Language.*

SQL92. A term that refers to the combination of the following standards:

- ISO (International Standards Organization) 9075-1992(E)
- ANSI (American National Standard for Information Systems) X3.135-1992
- FIPS (Federal Information Processing Standards) publication 127-2

These documents list more than one level of conformance. The levels are Entry, Transitional (FIPS only), Intermediate, and Full SQL. SQL92 as used by DB2 Server for VSE & VM refer to the Entry level.

SQL comment. Any text that follows two consecutive hyphens (--) on one line of a static SQL statement in an application program or DBS Utility, or in the command portion of a DBS Utility command. Compare with *host language comment*.

SQL communication area (SQLCA). A set of variables that provides an application program with information about the execution of its SQL statements.

SQL descriptor area (SQLDA). A set of variables that is used to provide description information in the execution of certain SQL statements. It may be used to describe columns, input variables, or output variables. The SQLDA is used with dynamic SQL.

SQL object. See *object*.

SQL return code. See *SQLCODE* and *SQLSTATE*.

SQLCA. See *SQL communication area (SQLCA)*.

SQLCODE. A code set by the database manager after an SQL statement is executed to indicate the success or failure of the SQL statement. The value returned in the SQLCODE is specific to the DB2 Server for VSE & VM database managers. Contrast with *SQLSTATE*. See also *SQL communication area*.

SQLDA. See *SQL descriptor area (SQLDA)*.

SQLSTATE. A code set by the database manager after an SQL statement is executed to indicate the success or failure of the SQL statement. The value returned in the SQLSTATE is common to the SAA-participating database products. See also *SQLCODE* and *SQL communication area*.

SQL/DS. See *Structured Query Language/Data System*.

SQLDS protocol. A private flow used for communication between 1) a DB2 Server for VM application requester and a DB2 Server for VM application server, 2) a DB2 Server for VSE application requester and a DB2 Server for VM application server via Guest Sharing, 3) a DB2 Server for VSE application requester and a DB2 Server for VSE application server residing in the same VSE machine as the DB2 Server for VSE application requester. Contrast with *remote unit of work protocol*.

statement. An instruction in a program or procedure. A language construct that represents a step in a sequence of actions. Contrast with *command*.

static SQL. SQL statements that are embedded within a program, and are prepared during the program preparation process before the program is executed. After being prepared, the statement itself does not change (although the values of host variables specified by the statement may change).

storage pool. A specific set of available storage areas. These areas are used by the database administrator to control storage of the database. A storage pool contains one or more dbspaces.

stored procedure. A user-written application that is compiled and stored at the server.

stored query. An SQL statement stored in a database that can be recalled by typing a preassigned name.

Stored Procedure Handler. A DB2 Server for VSE & VM supplied application that runs in the Stored Procedure Server. It is the interface between the database manager and the stored procedure.

Stored Procedure Server. In VM, a virtual machine in which a stored procedure runs. In VSE, a partition in which a stored procedure runs.

stream socket. A reliable connection oriented service. Data is sent without errors or duplication and is received in the same order as it is sent.

string. See *character string* or *graphic string*.

Structured Query Language (SQL). A language for managing data in a relational database. Many non-IBM relational database products use the Structured Query Language.

Structured Query Language/Data System (SQL/DS). Pertaining to the IBM licensed program for the VM and VSE environments. For Version 5 Release 1, the product name (SQL/DS) has been changed to DB2 Server for VSE & VM.

subquery. A subselect used within a predicate. For example, a select-statement within the WHERE or HAVING clause of another SQL statement.

subselect. A form of query that does not include the ORDER BY clause, the UPDATE clause, or UNION operators.

substitution character. A unique character that is substituted during character conversion for any characters in the source coding representation that do not have a match in the target coding representation.

subtype. A specification that indicates how to interpret character data to the database manager. Subtypes enable character columns to be used for bit data, SBCS data, or mixed data.

sync point manager (SPM). This system function is responsible for coordinating two-phase commit activity. That is, the sync point manager ensures that updates to multiple sites are either all committed or all rolled back.

sync point tree. A method used to conceptually organize all the protected conversations that are coordinated by a sync point manager in a transaction. The sync point tree consists of nodes that contain the targets of protected conversations.

synonym. A user's alternative name for a table or view.

system communications directory. A CMS communications directory that resides at a system-wide or TSAF collection-wide location. See *CMS communications directory*.

Systems Network Architecture (SNA). The IBM architecture that describes a logical structure, format, protocol, and operational sequence for transmitting information units through a network. It also controls the configuration and operation of a network.

T

table. A named data object consisting of a specified number of columns and any number of unordered rows.

table designator. A column name qualifier that designates a specific object table. This can be a table or view name, a *synonym* or a *correlation name*.

TCP. Transmission Control Protocol

TCP/IP. Transmission Control Protocol/Internet Protocol

task-related user exit (TRUE). Allows a CICS transaction to access an external CICS resource, such as a database, that would not otherwise be available to the CICS system.

TID. Tuple identifier. An internal identification of a row (tuple).

time. A three-part value that designates a time of day in hours, minutes, and seconds.

time duration. A value that represents a number of hours, minutes, and seconds.

timestamp. A seven-part value that consists of a date and time, expressed in years, months, days, hours, minutes, seconds, and microseconds.

timestamp duration. A value that represents a number of years, months, days, hours, minutes, seconds, and microseconds.

token. The basic syntactic unit of a computing language. A token consists of one or more characters, excluding the blank character and the characters within a string constant or delimited identifier.

Transparent Services Access Facility (TSAF). A component of VM that handles communication between systems by letting APPC/VM paths span multiple VM systems. TSAF lets a source program connect to a target program by specifying a name identified by the target program, instead of an authorization ID and node ID.

truncation. The deletion or omission of a leading or trailing portion of a string in accordance with specified criteria. The termination of a computation process, before its normal conclusion or natural termination, if any, and in accordance with specified rules.

TRUE. See *task-related user exit*.

TSAF. See *Transparent Services Access Facility*.

TSAF collection. A group of VM processors, each with a TSAF virtual machine, connected by channel to channel, binary synchronous lines, or LANs.

U

UCS. Universal Character Set

UCS-2. Unicode (UCS-2) is the two-byte version of the ISO/IEC 10646-1 standard. It is the Basic Multilingual Plane (BMP) of 10646 -- the only part of the 10646 standard which is currently defined.

UDP. User Data Protocol.

uncommitted read (UR). An isolation level that allows, for read-only operations, (1) any row that is read during the unit of work to be changed by other application processes and (2) any row that was changed by another application process to be read even if the change has not been committed by that application process. For other operations, the rules of CS apply. Read-only operations are SELECT INTO, FETCH with read-only cursor, and subselect used in a subquery.

UNION. An SQL operation that combines the results of two subselects. The UNION operation is used to merge lists of values obtained from several tables.

unique constraint. One or more non-nullable columns that uniquely identify each row in a table. These columns are identified as a unique constraint in the table definition. A unique constraint is similar to a primary key, but cannot be referenced by a foreign key. A table may have more than one unique constraint.

unique index. An index that ensures that no identical key values are stored in a table.

unique key. A key that is constrained so that no two of its values are equal.

unit of recovery. See *logical unit of work.*

unit of recovery descriptor (URD). Describes a unit of recovery about which an external resource manager may be in-doubt owing to a connection failure between CICS and the resource manager. When CICS is unable to complete a syncpoint request to an external resource manager such as DB2 Server for VM, it records the state of the LUW by creating an URD.

unit of work. See *logical unit of work (LUW)*.

unlike. Pertaining to relational database management systems that are different products (for example, the DB2 Server for VSE and DB2 UDB for OS/390). Contrast with *like*.

update rule. A condition enforced by the database manager that must be met before a column can be updated.

user communications directory. A CMS communications directory that resides on a user's virtual machine. See *CMS communications directory*.

user ID. A string of characters that uniquely identifies a user to a system. Contrast with *authorization ID*.

user machine. A virtual machine containing the user's application program and an application requester.

UR. See *uncommitted read*.

URD. See *unit of recovery descriptor*.

V

value. Smallest unit of data manipulated in SQL.

variable. A data element that can assume any of a given set of values. Contrast with *constant*.

varying-length string. A character or graphic string whose length can vary from zero up to a specified limit. Contrast with *fixed-length string*.

view. An alternative representation of data from one or more tables. A view can include some or all of the columns contained in the table or tables on which it is defined.

Virtual Machine (VM). A functional simulation of a computer and its associated devices. VM manages the computer's resources in such a way that all workstation users have their own virtual machine. All users can work at their virtual machines as though each is the only person using the real computer.

Virtual Telecommunications Access Method (VTAM®). An IBM licensed program that controls communication and the flow of data in a computer network. It provides single-domain, multiple-domain, and multiple-network capability. VTAM runs under MVS, OS/VS1, VM, and VSE.

VM. See *Virtual Machine (VM)*.

VM/ESA. Virtual Machine/Enterprise Systems Architecture. The 370 Feature addresses a maximum of 16 megabytes of virtual storage per virtual machine. The ESA Feature addresses a maximum of 2 gigabytes of virtual storage per virtual machine.

VSE. Virtual Storage Extended.

VSE/ESA. Virtual Storage Extended/Enterprise Systems Architecture.

VTAM. See *Virtual Telecommunications Access Method*.

W

well-known port. A port number that has been preassigned for specific use by a specific protocol or application. Clients and servers using the same protocol communicate over the same well-known port.

work unit manager (WUM). A component of the DB2 Server for VSE & VM database manager that interfaces between the DRDA component DRRM and the non-DRDA components RDS and DSC.

workstation. A device, usually equipped with a keyboard and display device capable of sending and receiving information. A workstation can be programmable or nonprogrammable. Nonprogrammable workstations are also called nonprogrammable terminals.

WUM. See *work unit manager*.

Index

Special Characters

/
  initialization option OPER–8
%
  archive percent OPER–161
  free space, dbspace OPER–76
  log cushion percent OPER–168
!! (concatenate) operator SQLREF–71
+ (add) operator SQLREF–71
* (asterisk)
  in subselect SQLREF–122
: (colon) SQLREF–68
= (equal to) operator
  in predicate SQLREF–79, SQLREF–80
  in UPDATE statement SQLREF–341
* (multiply) operator SQLREF–71
? (question mark) SQLREF–265
- (subtract) operator SQLREF–71
^= (not equal to) operator SQLREF–80
>
  convention APP–xiv
  See also shift-in character APP–52
>= (greater than or equal to)
  operator SQLREF–79, SQLREF–80
> (greater than) operator SQLREF–79,
  SQLREF–80
> shift-in character SQLREF–7
<
  convention APP–xiv
  See also shift-out character APP–52
<= (less than or equal to)
  operator SQLREF–79, SQLREF–80
< (less than) operator SQLREF–79,
  SQLREF–80
<> (not equal to) operator SQLREF–79,
  SQLREF–80
< shift-out character SQLREF–7
*IDENT PERF–28
/ (divide) operator SQLREF–71
¬= (not equal to) operator SQLREF–79,
  SQLREF–80
|| (concatenate) operator SQLREF–71

Numerics

16MB line
  storage above PERF–45
  storage queue PERF–44
  virtual addressability
    extension PERF–77
24-bit addressing APP–114
31-bit addressing APP–114, PERF–26
31 bit addressing
  advantages PERF–45
  storage queue PERF–44
  virtual addressability
    extension PERF–77
3270 display terminal ISQL–1
3370 storage device SYVSE–10
3370 storage device
  directory size SYVM–15, SYVSE–15
3370 storage device (continued)
  production minidisk size SYVM–8
  service minidisk size SYVM–8
  work minidisk size SYVM–8
3375 storage device SYVSE–10
3375 storage device
  directory size SYVM–15, SYVSE–15
  production minidisk size SYVM–8
  service minidisk size SYVM–8
  work minidisk size SYVM–8
3380 storage device SYVM–158,
  SYVSE–10
3380 storage device
  directory size SYVM–15, SYVSE–15
  production minidisk size SYVM–8
  service minidisk size SYVM–8
  work minidisk size SYVM–8
3390 storage device SYVSE–10
3390 storage device
  directory size SYVM–15, SYVSE–15
  production minidisk size SYVM–8
  service minidisk size SYVM–8
  work minidisk size SYVM–8
370 mode SYVM–89
5697F42 MEMO PERF–169
5697F42 MEMO
  loading PERF–169
9332 storage device SYVSE–10
9332 storage device
  directory size SYVM–15, SYVSE–15
  production minidisk size SYVM–8
  service minidisk size SYVM–8
  work minidisk size SYVM–8
9335 storage device SYVSE–10
9335 storage device
  directory size SYVM–15, SYVSE–15
  production minidisk size SYVM–8
  service minidisk size SYVM–8
  work minidisk size SYVM–8
9345 storage device SYVSE–10
9345 storage device
  directory size SYVM–15, SYVSE–15
  production minidisk size SYVM–8
  service minidisk size SYVM–8
  work minidisk size SYVM–8

A

ABNEXIT DIAG–275
ABNEXIT
  considerations SYVM–86
  DB2 Server for VM usage SYVM–86
ABNEXIT macroinstructions DBA–124
abnormal end DBA–124, DBA–125
abnormal end
  CICS code AEY9 SYVM–98,
    SYVM–130, SYVSE–81, SYVSE–112
  CICS code ASP7 SYVM–130,
    SYVM–132, SYVSE–112, SYVSE–114
  CICS code ASRA SYVM–130,
    SYVSE–112
abnormal end (continued)
  exit SYVM–86
  in a field procedure SYVM–370,
    SYVSE–287
  log-full condition SYVM–70,
    SYVSE–62
  recovery from OPER–131
  SLOGCUSH SYVM–70, SYVSE–62
  STXIT exit SYVSE–73
abnormal end user exits DIAG–275
abnormal termination DIAG–81,
  DIAG–271
absolute share PERF–76
ACB control block of VSAM DIAG–281
access
  concurrent APP–254
  filtered database OPER–163
  table belonging to other
    users APP–31
ACCESS
  restriction SYVM–140
access generation DIAG–38
access generation
  description DIAG–38
access generator tracing OPER–147,
  OPER–172
access method services LISTCAT
  command SYVSE–183
access module DIAG–218
access path
  choosing PERF–129
  dbspace scan PERF–111
  disadvantages of indexes PERF–114
  index-only access PERF–113
  index scan PERF–112
  inefficient choices DIAG–151,
    DIAG–187
  influencing PERF–111
  locking PERF–92
  types PERF–111, PERF–112
  unique index with key matching
    predicate PERF–113
  with unclustered index PERF–112
access privilege SQLREF–33
accessing
  checking which application
    server DBA–251
  table belonging to other
    users ISQL–89
ACCESSLIST directory
  statement PERF–172
ACCOUNT
  initialization option OPER–41
  initialization parameter OPER–173,
    OPER–174
ACCOUNT initialization
  parameter SYVM–60, SYVSE–53
accounting
  ALTACCT command OPER–41
  ARIACC1 file OPER–41
  ARIACC2 file OPER–41

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accounting *(continued)*
in DRDA environment SYVSE–190
job control SYVSE–181
measurement tool PERF–9
switching to alternate files OPER–41
tape OPER–41
accounting facility DBA–202
accounting facility
account numbers for users SYVM–337, SYVSE–257
accounting exits SYVM–337, SYVSE–257
converting data SYVSE–203
dbspace SYVM–256, SYVSE–197
displaying statistics SYVM–61, SYVSE–53
enabling SYVM–60, SYVSE–53
exit SYVM–342, SYVSE–262
generating records SYVM–249, SYVSE–189
introduction SYVM–247, SYVSE–181
job control SYVSE–181
loading data SYVM–260, SYVSE–201
maintaining accounting data SYVM–256, SYVSE–197
OPTION statement SYVM–247
records SYVM–251, SYVSE–191
setting up your system SYVSE–181
starting SYVM–248
tables SYVM–257, SYVSE–198
using SYVM–247
accounting file, alternate SYVSE–181
accounting file job control
Native SAM example SYVSE–185
tape example SYVSE–187
VSAM example SYVSE–183
accounting record format
CMS user SYVM–253
DRDA records SYVSE–195
initialization SYVM–252, SYVSE–192
operator/checkpoint SYVM–252, SYVSE–193
remote user SYVM–254, SYVSE–195
termination SYVM–253, SYVSE–193
user SYVSE–194
VSE guest user SYVM–255, SYVSE–196
ACCT operand for accounting
directory entries
for accounting SYVM–247
ACQUIRE
performance problem
index DIAG–137
ACQUIRE DBSPACE DBA–26
ACQUIRE DBSPACE
allocating dbspace storage PERF–62
how it works DIAG–329
minimum lock level PERF–92
ACQUIRE DBSPACE statement
description SQLREF–145
EXECUTE IMMEDIATE statement SQLREF–272
PREPARE statement SQLREF–315
acquiring dbspace
for packages SYVM–153, SYVSE–127
for use DBA–20
PRIVATE dbspace DBA–22
acquiring dbspace *(continued)*
PUBLIC dbspace DBA–22
activate
all keys and constraints on a table DBA–68
primary key DBA–68
unique constraint DBA–68
ACTIVATE ALL clause
of ALTER TABLE statement SQLREF–163
ACTIVATE FOREIGN KEY clause
of ALTER TABLE statement SQLREF–164
ACTIVATE PRIMARY KEY clause
of ALTER TABLE statement SQLREF–163
ACTIVATE UNIQUE clause
of ALTER TABLE statement SQLREF–164
activating
foreign key ISQL–86
primary key ISQL–86
unique constraint ISQL–86
activating and deactivating keys SQLREF–17
active set
DECLARE CURSOR statement SQLREF–237
description SQLREF–11
ACTIVITY sample table DBSU–242, ISQL–172, SQLREF–412
adapter, online resource OPER–15, OPER–17
ADD PERF–47
ADD clause
of ALTER TABLE statement SQLREF–158
ADD DBEXTENT operation
initialization parameters SYVSE–138
ADD DBSPACE operation
control statements SYVSE–124
initialization parameters SYVSE–125
restarting after a failure SYVM–149
SQLADBSP EXEC SYVM–146
adding
a new DB2 user
to DB2 Server for VSE & VM application server DBA–79
to non-DB2 Server for VSE & VM application server DBA–79
alternate HELP text languages DBA–137
column to a table DBA–65, DBA–184, ISQL–83
columns
to a table APP–257
data to a table ISQL–125
dbextent storage OPER–169
dbextents SYVSE–134
dbextents
caution regarding SYVM–166
initialization parameters SYVM–162, SYVSE–138
dbspace DBA–20
adding *(continued)*
dbspaces
initialization parameters SYVM–146, SYVSE–125
dbspaces storage OPER–169
foreign key ISQL–86
HELP text topic DBA–141
in SQL expressions APP–54
index to a table DBA–185
null value to a column ISQL–126
primary key ISQL–85
referential constraint ISQL–86
row to a table
data from another table ISQL–82
storage pools SYVM–157, SYVSE–131
additional databases SYVM–284
additional predicates APP–44
address
alternate tape drive SYVM–75
alternative tape drive OPER–9
SHOW ADDRESS command OPER–60
SHOW ADDRESS example OPER–61
showing address for modules OPER–60
address space
size PERF–45
virtual addressability extension PERF–76
virtual disk PERF–46, PERF–51
addressability extension
virtual PERF–76
addressing PERF–41
addressing type
AMODE initialization parameter SYVM–56, SYVM–78
TRACEBUF initialization parameter SYVM–72, SYVSE–65
ADDRSPACE directory statement PERF–172
adhoc query
isolation level PERF–108
temporary table PERF–108
view PERF–108
adjacent index page locking
possible lock wait problems DIAG–145
adjacent key locking
definition DIAG–145
example DIAG–164
possible lock wait problems DIAG–145
possible problems in catalogs DIAG–163
adjusting bias of dispatcher OPER–162
administration
authority SQLREF–33
advanced program-to-program communication (APPC/VM) DIAG–27
advanced program-to-program communication/virtual machine
application program usage SYVM–96
inter-machine communications SYVM–94
AG trace OPER–147, OPER–172
agent OPER–57

agent
  being held DIAG–148
  checkpoint OPER–57, PERF–84
  definition OPER–13
  deprived PERF–89
  description OPER–57
  determining agent number OPER–46, OPER–57
  dispatching PERF–88
  displaying status OPER–57
  forcing agents OPER–58
  generating OPER–165
  inactive users OPER–121
  increasing DIAG–150
  index on related performance problems DIAG–140
  operator PERF–84
  operator agent OPER–57
  priority SYVM–66, SYVSE–58
  processing at end of an LUW DIAG–24
  pseudo PERF–86
  ready/recovery agent OPER–57
  real PERF–84
  structure
    virtual addressability extension PERF–77
  too many DIAG–230
  tracing OPER–172, OPER–173
  user PERF–84
agent handling DIAG–20
agent handling
  agent processing DIAG–24
  allocating users DIAG–20
  dispatcher components DIAG–21
  dispatching agents DIAG–23
  fair share auditing process DIAG–22
  finding deprived agents DIAG–22
  functional description DIAG–19
  prioritization of agents DIAG–21
  pseudo DIAG–20
  real DIAG–20
  setting fair share interval size DIAG–22
agent identifier OPER–57
agent number OPER–57
agent structure
  checkpoint OPER–57
  definition OPER–13
  description OPER–57
  determining agent number OPER–46, OPER–57
  displaying status OPER–57
  forcing agents OPER–58
  generating OPER–165
  inactive users OPER–121
  operator agent OPER–57
  ready/recovery agent OPER–57
agent structures
  description SYVM–94
AGENT trace OPER–172, OPER–173
ALL
  clause of EXPLAIN statement SQLREF–275
  clause of subselect SQLREF–122
  clause of UPDATE STATISTICS statement SQLREF–346
ALL *(continued)*
  granting to multiple users ISQL–87
  in a quantified predicate SQLREF–80
  keyword
    AVG function SQLREF–91
    column function SQLREF–91
    MAX function SQLREF–93
    MIN function SQLREF–94
    SUM function SQLREF–95
  select-clause APP–31
  SELECT statement ISQL–128
ALL BUT
  FORMAT command ISQL–44
ALL clause
  of GRANT statement SQLREF–294
  of REVOKE statement SQLREF–332
ALL keyword
  subqueries APP–80
ALL PRIVILEGES clause
  of GRANT statement SQLREF–294
  of REVOKE statement SQLREF–332
ALLOCATE CURSOR statement
  description SQLREF–147, SQLREF–148
ALLOCATE statement of PL/I APP–386
allocating dbextent data sets SYVSE–132
allocating dbextent minidisks SYVM–158
allocating users to agent structures DIAG–20
allocating users to agents PERF–85
ALLUSERS DBA–101
ALLUSERS
  authorization ID DBA–101
  in CONNECT clause of GRANT statement SQLREF–291, SQLREF–292
  in CONNECT clause of REVOKE statement SQLREF–330
alphabetic extender
  basic symbol SQLREF–35
ALT option
  FILEDEF command SYVM–75
ALT option of FILEDEF command OPER–9
ALTACCT command OPER–42, SYVSE–181
ALTER
  performance problem index DIAG–137
  restriction for view DBA–45
ALTER clause
  of GRANT statement SQLREF–294
  of REVOKE statement SQLREF–332
ALTER DBSPACE
  free space in a data page PERF–59
  how it works DIAG–330
  lock escalation PERF–95
ALTER DBSPACE statement
  description SQLREF–149
  EXECUTE IMMEDIATE statement SQLREF–272
  PREPARE statement SQLREF–315
ALTER privilege
  in ALTER TABLE statement SQLREF–158
ALTER PROCEDURE
  how it works DIAG–330
ALTER PROCEDURE statement
  description SQLREF–151
  EXECUTE IMMEDIATE statement SQLREF–272
ALTER PSERVER
  how it works DIAG–330
ALTER PSERVER statement
  description SQLREF–156, SQLREF–217, SQLREF–261, SQLREF–262
  EXECUTE IMMEDIATE statement SQLREF–272
ALTER TABLE ISQL–83
ALTER TABLE
  activating keys and constraints DBA–67
  adding column to a table DBA–184
  inactive key, table, constraint DBA–65
  privileges APP–288
ALTER TABLE statement SYVM–370, SYVSE–287
ALTER TABLE statement
  description SQLREF–158
  EXECUTE IMMEDIATE statement SQLREF–272
  GRANT statement SQLREF–294, SQLREF–295
  PREPARE statement SQLREF–315
ALTERAUTH column SQLREF–371
ALTERAUTH column
  of SYSTABAUTH SQLREF–406
altering
  sorting sequence of a column SYVM–367, SYVSE–284
  SQL line ISQL–36
  SQL statement ISQL–37
  table APP–257
  table
    activating keys and constraints DBA–68
    adding foreign key ISQL–86
    adding primary key ISQL–85
    authorization DBA–64
    deactivate primary/foreign key DBA–68
    deactivating foreign key ISQL–86
    deactivating primary key ISQL–86
    deactivating unique constraint ISQL–86
    design DBA–64
    inactive key, table, constraint DBA–66
alternate accounting file SYVSE–181
alternate accounting files OPER–41
alternate tape drive
  virtual device address SYVM–75
alternative character sets SYVM–306, SYVSE–228
alternative tape drive, virtual device number OPER–9
ALTNAME column SQLREF–371
ALTNAME column
  of SYSSYNONYMS SQLREF–404

ambiguous reference
column name SQLREF–66
AMODE(24) parameter
SQLSTART EXEC SYVM–78
AMODE(31) parameter
SQLSTART EXEC SYVM–78
AMODE parameter
in the SQLDBN file SYVM–289
SQLDBGEN SYVM–286
SQLDBINS SYVM–285
SQLLOG SYVM–229
SQLSTART SYVM–56
AMXT/MXT
CICS PERF–77
AMXTASK
increasing DIAG–229
analyzing
SQL statements PERF–135
analyzing the AXE error log DIAG–305
anatomy of a keyword string DIAG–79
anatomy of a keyword string
developing the first two DIAG–80
AND
in a search condition SQLREF–89
truth table SQLREF–89
AND operator APP–43
ANSI APP–133, APP–166
answers to the exercises ISQL–161
ANY APP–80
ANY
in a quantified predicate SQLREF–80
in USING clause
of DESCRIBE
statement SQLREF–248
of Extended DESCRIBE
statement SQLREF–252
API (see Application Programming Interface) DBSU–114, DBSU–115
APOST preprocessor
parameter APP–122, APP–159
apostrophe
parameter value DBSU–138
APPC-TO-XPCC Exchange Transaction (AXE)
overview DIAG–11
protected conversation DIAG–11
APPC/VM
synchronous DIAG–228
APPCVM OPER–15
APPL (batch application)
definition OPER–57
application
CMS APP–15
default CCSID in server and requester SQLREF–32
process SQLREF–18
requester SQLREF–22
server SQLREF–22
application considerations
database DBA–162
development
database support DBA–162
PRIVATE dbspace DBA–162
PUBLIC dbspace DBA–163
maintenance DBA–172
application design
changing to avoid DIAG–146
application design *(continued)*
changing to avoid
catalog conflicts DIAG–182
DBSPACE scans DIAG–201
I/O's DIAG–158, DIAG–196, DIAG–225, DIAG–233
key lock contention DIAG–146
application development
configuration SYVSE–4
support in DB2 Server for VSE DBA–200
use of synonyms DBA–169
application epilog
batch applications APP–16
CICS/VSE applications APP–17
ICCF applications APP–16
application function
definition of DIAG–130
performance problem index DIAG–133
application program
adhoc query PERF–107
backing out data DBA–129
batch, multiple user mode SYVSE–69
building source code files DBA–161
capability DBA–159
checking code DBA–170
code development DBA–161
database consideration DBA–162
DB2 Server for VSE & VM implementation DBA–147
DBS utility considerations PERF–109
deadlock PERF–97
design
implementation alternatives DBA–147
implementation considerations DBA–164
prototyping DBA–159
development capability DBA–159
development consideration DBA–168
distributed database PERF–80
embedding statements SQLREF–141
example APP–21
eye-catcher usage SYVM–88, SYVSE–74
function prototyping DBA–160
ISQL considerations PERF–107
maintenance consideration DBA–172
multiple user mode SYVM–80, SYVSE–69
privilege DBA–94
recovery from failure DBA–121
report writing DBA–154
response time PERF–4
runner DBA–108
running in single user mode SYVM–80, SYVSE–71
VSE/ICCF SYVSE–69
application program, FORCE command OPER–48
Application Programming Interface (API)
calling program to DBSU DBSU–114
control parameters DBSU–115
application requester OPER–7
application requester
CCSID conversion SYVM–317
application requester *(continued)*
components DIAG–8
configuring PERF–81
default CCSID SYVM–324, SYVSE–246, SYVSE–249
description DBA–13
determining CCSID SYVM–320, SYVSE–242
DRDA PERF–78
PROTOCOL parameter PERF–104
setting DBCS option SYVM–326, SYVM–327
setting default CHARNAME SYVM–324, SYVSE–246
setting default DBCS SYVSE–249
application requester defaults
choosing CCSID after migration SYVM–36, SYVSE–45
choosing CHARNAME after migration SYVM–36, SYVSE–45
application server OPER–2
application server
access protocols DBA–237, DBA–246
CCSID conversion SYVM–317
components DIAG–8, DIAG–10
configuring PERF–81
connecting implicitly DBA–95
connecting to DBA–95, DBA–98
controlling access to DBA–88
default DBA–82, DBA–95, SYVM–23, SYVSE–30
default subtype uses SYVM–24, SYVSE–31
description DBA–13
DRDA PERF–78
name SYVM–23, SYVSE–23
PROTOCOL parameter PERF–104
response time PERF–4
setting DBCS option SYVM–326, SYVSE–248
setting default CCSID SYVM–321, SYVSE–243
setting default character subtype SYVM–325, SYVSE–247
setting default CHARNAME SYVM–321, SYVSE–243
switching DBA–97, DBA–103
Application server
identifying DBSU–20
switching DBSU–20
application server defaults
choosing CCSID after migration SYVM–33, SYVSE–40
choosing CHARNAME after migration SYVM–33, SYVSE–40
APPLID
See basic dbname SYVSE–23
applying the select list SQLREF–123
archive PERF–172
archive
ARCHIVE operator command OPER–42
automatic OPER–164
checkpoint PERF–99

archive *(continued)*
database PERF–47, PERF–51, PERF–52, PERF–55
database archive OPER–11
LARCHIVE command OPER–45
log PERF–101
log archive OPER–11
log archive to disk OPER–45
log archive to tape OPER–45
log cushion percent OPER–168
log size OPER–101
online database archive OPER–42
output file (ARIARCH) OPER–9
percent OPER–161
selective PERF–101
specifying restore at startup OPER–169
SQLEND UARCHIVE command OPER–44
summary OPER–12
taking an archive at shutdown OPER–11
user archive OPER–11, OPER–43
verifying the directory OPER–11
VSE/VSAM user archive OPER–44
archiving
after ADD DBEXTENT SYVM–168, SYVSE–137
after COLDLOG operation SYVSE–165
after DELETE DBEXTENT SYVM–168, SYVSE–137
ARCHIVE command SYVM–199, SYVSE–150
ARCHPCT initialization parameter SYVM–70, SYVM–200, SYVSE–62, SYVSE–150
as overhead PERF–12
caution regarding SYVM–166
commands SYVM–199, SYVSE–150
concurrently SYVM–71, SYVSE–63
database SYVM–194, SYVM–199, SYVM–203, SYVSE–144, SYVSE–150, SYVSE–151
DBSS DIAG–62
default FILEDEF SYVM–79
device address SYVM–92
disk SYVM–206
disk
before starting the application server SYVM–208
disadvantages SYVM–206
during an archive SYVM–207
maintaining SYVM–209
restoring SYVM–215
risks SYVM–206
with shared file system (SFS) SYVM–206
effects on nonrecoverable data SYVM–239, SYVSE–174
facilities SYVM–194, SYVSE–144
LARCHIVE command SYVM–204, SYVSE–152
log DIAG–62
log archive
disk SYVM–206, SYVM–207
archiving *(continued)*
log archive *(continued)*
introduction SYVM–195, SYVSE–145
process SYVM–204, SYVSE–152
log continuity SYVM–226, SYVSE–164
log size impact SYVM–17, SYVSE–16
LOGMODE initialization parameter
description SYVM–69, SYVSE–61
of unallocated pages SYVM–195, SYVSE–145
procedures SYVM–199, SYVSE–149
processing SYVM–194, SYVSE–144
restart procedures SYVM–211, SYVSE–155
restore set and history area SYVM–233, SYVSE–169
restoring the database SYVM–211, SYVSE–155
shutdown SYVM–91
SQLEND ARCHIVE command SYVM–199, SYVSE–150
SQLEND LARCHIVE command SYVM–204, SYVSE–152
SQLEND UARCHIVE command SYVM–203, SYVSE–151
tape damage SYVM–216
tape requirements SYVM–9, SYVSE–11
tape support for SYVSE–67
user
example backup command SYVSE–152
example RESTORE command SYVSE–157
user archive DIAG–62, SYVM–203, SYVSE–151
using database manager facilities SYVM–194, SYVSE–144
using user facilities SYVM–194, SYVSE–144
ARCHPCT
initialization option OPER–101
initialization parameter
archiving SYVM–200, SYVSE–150
description SYVM–70, SYVSE–62
log archiving SYVM–204, SYVSE–153
initialization parameters OPER–161
log activity SYVM–70, SYVSE–63
log size OPER–101
tuning parameter PERF–103
ARI0087D prompt OPER–146
ARI0126E message DIAG–237
ARI0503E message ISQL–10
ARI0504I message ISQL–10
ARI0505I message ISQL–10
ARI7040I message ISQL–91
ARI7043I message ISQL–91
ARI7044I message ISQL–11, ISQL–15, ISQL–105
ARI7061I message ISQL–38
ARI7601I message ISQL–8
ARI7960I message ISQL–21
ARIACC1 accounting file OPER–41
ARIACC2 accounting file OPER–41
ARIARCH, database archive file output OPER–9
ARIARCH file name for database archive tape SYVSE–212
ARIBFPPB mapping macro SYVM–372, SYVSE–288
ARIDBS APP–143
ARIDDFP APP–177, DBSU–112
ARIDSQLA APP–177, DBSU–112
ARILARC, log archive file output OPER–9
ARILARC file name for log archive tape SYVSE–212
ARIMEXBD utility SYVSE–126
ARIMLBK member SYVSE–255
ARINEWUS DBA–80
ARIPADR4 APP–143, APP–177
ARIPEIFA APP–143
ARIPRDID
DB2 Server for VSE linkage module APP–177
ARIPRPA preprocessor APP–153
ARIPRPC preprocessor APP–153
ARIPRPF preprocessor APP–153
ARIPRPP preprocessor APP–153
ARIPSTR APP–143
ARIRCAN APP–16
ARIRCAN MACRO SYVM–366
ARIRRTED, DB2 Server for VSE linkage module APP–177
ARIS080D procedure OPER–16
ARIS250D procedure SYVSE–134
ARIS341D procedure SYVSE–43
ARIS41DB PERF–20
ARIS6ASC
sample program APP–304
ARIS6ASD
sample program APP–304
source code APP–304
ARIS6CBC
sample program APP–348
source code APP–348
ARIS6CBD
sample program APP–348
source code APP–348
ARIS6CC
sample program APP–326
source code APP–326
ARIS6CD
sample program APP–326
source code APP–326
ARIS6FTC APP–366
ARIS6FTC
sample program APP–366
source code APP–366
ARIS6FTD APP–366
ARIS6FTD
sample program APP–366
source code APP–366
ARIS6PLC
sample program APP–378
source code APP–378
ARIS6PLD
sample program APP–378
source code APP–378

ARIS71HD job control member
used in ADD DBEXTENT operation SYVSE–134
used in DELETE DBEXTENT operation SYVSE–134
ARIS71PL DBSU–106
ARISADD member
used in ADD DBEXTENT operation SYVSE–135
used in DELETE DBEXTENT operation SYVSE–135
ARISAVES EXEC
SQLDBA bootstrap SYVM–178
syntax SYVM–471
ARISCCS macro SYVM–58
ARISCCSD phase file SYVSE–374
ARISDBG MACRO V SYVM–290
ARISDBMA EXEC PERF–173, SYVM–396, SYVM–468
ARISDBU member SYVSE–214
ARISDTM MACRO SYVM–351, SYVM–360
ARISDTM member SYVSE–270, SYVSE–278
ARISFDEF EXEC SYVM–289
ARISFPKY EXEC SYVM–36
ARISISBT MODULE DBA–241
ARISNLSC MACRO SYVM–172, SYVM–189, SYVM–333
ARISPDFC SYVM–473
ARISPDFC EXEC SYVM–277
ARISPRC utility DBA–204
ARISQLDS PERF–20
ARISQLDS EXEC SYVSE–125
ARISQLLD LOADLIB SYVM–7
ARISRMBT MODULE DBA–241, DBA–243
ARISRMKC TEXT Q DBA–243
ARISRST procedure SYVSE–156
ARISSCRD phase file SYVSE–374
ARISSEGC MACRO SYVM–185, SYVM–186
ARISSEGC MACRO
SQLBOOTS EXEC SYVM–472
ARISSMA APP–143
ARISSMF APP–143
ARISSTRD phase file SYVSE–374
ARISYSDD APP–177, DBSU–112
arithmetic
date SQLREF–76
datetime SQLREF–75
decimal SQLREF–74
exception DBSU–145, DBSU–172
exception
formatting with an arithmetic error ISQL–55
floating-point SQLREF–74
integer SQLREF–73
operators SQLREF–73
time SQLREF–77
timestamp SQLREF–78
arithmetic error
outer select APP–275
arithmetic expression
ISO-ANS SQL(89) equivalent term SQLREF–425
arithmetic operation
binary DBA–175
date/time arithmetic
performing operations DBA–176
rules DBA–176
using labeled duration expressions in DBA–176
decimal DBA–174
floating point DBA–175
arithmetic operator
in syntax diagrams APP–x, DBA–xv, DBSU–xiii, DIAG–xii, ISQL–xii, OPER–xi, PERF–xi, SQLREF–3, SYVM–xii, SYVSE–xii
ARITRAC, tracing file output OPER–9
ARITRAC file name for trace tape SYVSE–212
ARIUEXI
parameter list SYVM–339, SYVSE–259
ARIUEXI parameter list
associated areas SYVM–342, SYVSE–262
ARIUSRDD SYVM–82
ARIUXDT
IBM-supplied version SYVM–355, SYVSE–274
job control SYVSE–278
parameter list SYVM–352, SYVSE–271
ARIUXIT module
branching SYVM–338, SYVSE–258
example user version SYVM–346, SYVSE–266
IBM-supplied version SYVM–343, SYVSE–263
installing SYVM–348, SYVSE–268
job control for installing SYVSE–269
service considerations SYVM–350, SYVSE–269
ARIUXTM
IBM-supplied version SYVM–357, SYVSE–276
job control SYVSE–278
parameter list SYVM–352, SYVSE–271
AS clause
of CREATE VIEW statement SQLREF–233
ASC clause
of ALTER TABLE statement SQLREF–161, SQLREF–163
of CREATE INDEX statement SQLREF–200
of CREATE TABLE statement SQLREF–225, SQLREF–227
select-statement SQLREF–133
ASCII
mixed data SQLREF–46
ASM preprocessor parameter APP–120
assembler
acquiring the SQLDSECT area APP–304
assembler *(continued)*
application program
BEGIN DECLARE SECTION statement SQLREF–170
host variable SQLREF–68, SQLREF–271
INCLUDE SQLCA SQLREF–359, SQLREF–367
INCLUDE SQLDA SQLREF–361
INCLUDE statement SQLREF–298
PREPARE statement SQLREF–314
SQLCA SQLREF–355
varying-length string variables SQLREF–44
data types APP–313
declaring host variables APP–308
declaring the SQLCA APP–312
declaring the SQLDA APP–312
embedding SQL statements example APP–9, APP–310
sample program APP–304
stored procedures APP–320
Assembler
preprocessor SYVM–6, SYVM–426, SYVSE–335
release level SYVM–4, SYVSE–6
assembler calling program
example DBSU–127
assembler load program
example DBSU–124
assignment
datetime
DATE SQLREF–57
TIME SQLREF–57
TIMESTAMP SQLREF–57
numbers SQLREF–53, SQLREF–55
operation rules SQLREF–53
strings
bit SQLREF–56
mixed SQLREF–56
SBCS SQLREF–56
SQLCA SQLREF–55
SQLWARN1 SQLREF–55, SQLREF–56
truncation SQLREF–56
ASSOCIATE LOCATORS statement
description SQLREF–167, SQLREF–169
asterisk
in COUNT function SQLREF–93
in subselect SQLREF–122
asynchronous
communication PERF–107
page fault processing PERF–191
writes PERF–192
atomic integrity APP–283, SQLREF–11
atomic operation DBA–120, DBA–129
attribute
CCSID SQLREF–32
length
column SQLREF–44
host variable SQLREF–79
AU trace OPER–172
auditing
fair share PERF–89

auditing security
loading information into a table DBA–112
printing information DBA–116
through the catalog tables DBA–109
tracing DBA–109, OPER–147, SYVSE–65
augmented OS QSAM support SYVM–74
AUTHOR column SQLREF–371
AUTHOR column
of SYSUSERAUTH and SYSUSERLIST SQLREF–408
authority
administration SQLREF–33
changing DBA–186
connect SQLREF–33
CREATE TABLE DBA–88
DBA SQLREF–33
DBA (database administrator) ISQL–4
GRANT statement SQLREF–291
granting APP–264, DBA–90
overview APP–266
resource ISQL–79, SQLREF–33
revoking DBA–92
revoking from others APP–266
type
CONNECT DBA–88
DBA DBA–41, DBA–87, DBA–90, DBA–163
RESOURCE DBA–41, DBA–88, DBA–163
SCHEDULE DBA–88
authorization
change DBA–186
check DBA–110
checking DIAG–41
description SQLREF–33
retrieving catalog information about DBA–54
authorization, checking DBSU–19, DBSU–20
authorization id
description SQLREF–41
authorization ID
ALLUSERS DBA–101
CHECKPT OPER–84, OPER–95, OPER–98
authorization-ID
naming conventions APP–27
authorization_name
description SQLREF–38
in CONNECT statement SQLREF–186, SQLREF–192
in GRANT statement SQLREF–289, SQLREF–291, SQLREF–292, SQLREF–294, SQLREF–295
in REVOKE statement SQLREF–328, SQLREF–330, SQLREF–332
length limitation SQLREF–351
authorization tracing OPER–147, OPER–172
AUTO PROTOCOL option PERF–105
AUTOCOMMIT DBA–129
AUTOCOMMIT
AUTOCOMMIT OFF DIAG–149, ISQL–31, ISQL–147
AUTOCOMMIT OFF
implications on catalog locking DIAG–182
possible link wait problems DIAG–149
possible lock wait problems DIAG–205
use in routines DIAG–151, DIAG–178
AUTOCOMMIT ON DIAG–151, ISQL–31, ISQL–147
AUTOCOMMIT ON
use to avoid lock waits DIAG–178
use to reduce link waits DIAG–151
CANCEL command ISQL–16, ISQL–31, ISQL–32
command PERF–108
DATALOAD COMMITCOUNT processing DBSU–166
ISQL PERF–107
LIST command ISQL–134
SET command ISQL–61, ISQL–147
automatic
locking override DBSU–227
revocation of privileges APP–267
automatic archive OPER–164
automatic restart resynchronization SYVM–109, SYVM–114, SYVSE–91, SYVSE–96
automatic rollback
data definition statements APP–256
deadlocks APP–254
automatic statistics collection PERF–109
automatic statistics collection
suppressing PERF–109
automatically committing data ISQL–32, ISQL–147
auxiliary storage
CICS temporary PERF–78
expanded storage PERF–41
system paging DASD PERF–41
availability PERF–1, PERF–5
average row length PERF–36
AVG function SQLREF–91
AVG function
precision SQLREF–92
scale SQLREF–92
AVGCOLLEN DBA–218
AVGCOLLEN column SQLREF–371
AVGCOLLEN column
of SYSCOLUMNS SQLREF–384
AVGROWLEN DBA–217, PERF–36
AVGROWLEN column SQLREF–371
AVGROWLEN column
of SYSCATALOG SQLREF–378
AVS session limit
exceeded DIAG–226
AVS session limit considerations SYVM–268
AXE error log
analyzing DIAG–305

B

back-up
file PERF–48
virtual disk PERF–50
VSAM PERF–73
back-up copy of a database DBA–133
backing out
changes APP–19
backing out data during an ISQL session DBA–128
BACKOUT ISQL–102
backout
definition APP–254
nonrecoverable data SYVM–238, SYVSE–173
backslash
hex value APP–327
BACKWARD ISQL–24, ISQL–103, ISQL–179
bad data distribution DIAG–151
bad records skipping DBSU–45
balancing
DASD PERF–72
BALR instruction SYVM–82
base table SQLREF–11
based structures APP–212
basic DBCS support DBSU–230
basic DBNAME SYVSE–23
basic form
description APP–4
basic index structure DIAG–49
basic predicate SQLREF–79
basic predicate
description SQLREF–79
ISO-ANS SQL(89) equivalent term SQLREF–425
batch
possible link wait problems DIAG–149
possible lock wait problems DIAG–205
batch, application programs
remote CICS/VSE transactions APP–152
batch application programs SYVSE–69
batch applications, modules required APP–177
batch/interactive
application consideration DBA–165
application processing DBA–197, SYVSE–1
application security DBA–165
capability DBA–147
error handling DBA–165
recovery DBA–165
batch/interactive configuration SYVSE–1
batch job DBA–147
batch partition DBA–147
batch program termination APP–16
batch storage requirements SYVSE–335
batch user, VSE PERF–85
BCREATOR column SQLREF–371
BCREATOR column
of SYSUSAGE SQLREF–407
before starting ISQL ISQL–5
BEGIN DECLARE SECTION APP–8

BEGIN DECLARE SECTION
statement SQLREF–170, SQLREF–171
BEGINLUW counter OPER–51, PERF–22
beginning a DB2 Server for VSE & VM session ISQL–5
beginning a DB2/VM session ISQL–4
beginning online support OPER–15
BETWEEN, possible path selection problems DIAG–222
BETWEEN predicate
description SQLREF–81
NOT keyword SQLREF–81
bias of dispatcher, adjusting OPER–162
bias of the dispatcher, adjusting SYVM–66, SYVSE–58
binary arithmetic operation DBA–175
binary-output data DBSU–176
BIND preprocessor parameter APP–160
BINDERROR column SQLREF–371
binding statements SQLREF–9
bit data
CREATE TABLE statement SQLREF–224
description SQLREF–44
SQLDA SQLREF–364
BIT data
choosing subtype DBA–34
blank
DBCS SQLREF–55
in column with a field procedure SYVM–369, SYVSE–286
SBCS SQLREF–55
blanks
within identifiers DBSU–111
BLANKS
SET command ISQL–61
blanks, initialization options OPER–4
BLKSIZE option SYVM–76
BLKSIZE option
FILEDEF commands OPER–9
BLocK
preprocessor parameter APP–122
BLOCK
initialization parameter PERF–105
block dump, specifying OPER–162
BLOCK option
of CREATE PACKAGE statement SQLREF–204
block size, FILEDEF commands OPER–9
blocking APP–139, APP–173, PERF–187, PERF–192
blocking
backouts initiated by application programs DBA–130
CLOSE statement SQLREF–176
cursor SQLREF–323
DELETE statement SQLREF–247
description SQLREF–247
disadvantages PERF–107
DRDA protocol PERF–105
fetch and insert PERF–105
ISQL PERF–107
long string restriction SQLREF–44
maximum row length PERF–106
OPEN statement SQLREF–308
preprocessor BLOCK option DBA–127
blocking *(continued)*
remote unit of work APP–123, APP–141
single user mode (SUM) PERF–106
specifying SYVM–76
suppressed PERF–106
blocking suppression DIAG–154
blocks
number of lock requests OPER–166
pages APP–252
BNAME column SQLREF–371
BNAME column
of SYSUSAGE SQLREF–407
bootstrap module DBA–243
bootstrap module, contents PERF–176, SYVM–187
bootstrap package
contents PERF–176, SYVM–187
copied to A-disk PERF–177, SYVM–188
creating PERF–176, SYVM–187
definition SYVM–172
BOTH
in USING clause
of DESCRIBE statement SQLREF–248
of Extended DESCRIBE statement SQLREF–252
bottom title for printed report ISQL–53, ISQL–114
BTITLE
FORMAT command ISQL–53, ISQL–114
BTYPE column SQLREF–371
BTYPE column
of SYSUSAGE SQLREF–407
buffer
data pages OPER–167
data pages in storage SYVM–63, SYVSE–56
number of directory buffers OPER–165
SHOW BUFFERS command OPER–61
SHOW BUFFERS example OPER–62
buffer hit ratio
definition of DIAG–131
large buffers DIAG–155
possible CPU usage problem DIAG–212
possible paging problem DIAG–213
small buffers DIAG–157
too many agents DIAG–231
buffer pool PERF–191, SYVSE–8
buffer pool
checkpoint PERF–99
contention DIAG–230
data page PERF–81
decreasing DIAG–156
flooding DIAG–157, DIAG–224
increasing DIAG–158, DIAG–185, DIAG–192
management DIAG–49
NCUSERS PERF–83, PERF–85
size PERF–83
thrashing DIAG–131, DIAG–157, DIAG–230
buffer pool *(continued)*
too big DIAG–155
too small DIAG–156
build the database manager PERF–173
building
control file DBSU–13
building an input control card file DBSU–9
building source code files DBA–161
built-in function SQLREF–91
bypassing UNDO WORK failure DIAG–252

C

C
application program
BEGIN DECLARE SECTION statement SQLREF–170
host structure SQLREF–69
host variable SQLREF–68, SQLREF–271
INCLUDE SQLCA SQLREF–359
INCLUDE SQLDA SQLREF–367
INCLUDE statement SQLREF–298
PREPARE statement SQLREF–314
SQLCA SQLREF–355
SQLDA SQLREF–361
varying-length string variables SQLREF–44
preprocessor SYVM–6, SYVM–426
release level SYVM–4
C programming language
C APP–342
C compiler preprocessor APP–328
case sensitivity APP–327
character constants in SQL statements APP–327
considerations APP–326
data conversion considerations APP–336
data types APP–342
date calculations APP–336
DBCS data APP–337
declaring host variables APP–328
declaring SQLCA APP–340
declaring SQLDA APP–341
delimiting SQL statements APP–327
dynamic allocation of SQLDA APP–341
embedding SQL statements example APP–9
INCLUDE statement APP–327
invoking the Database Services Utility DBSU–114
NUL-terminated strings and truncation APP–336
placement of SQL statements APP–326
preprocessor generated statements APP–337
preprocessor parameter APP–120
reentrant programs APP–344
stored procedures APP–344
trigraphs APP–337
cache (see data caching) DIAG–167
caching
minidisk PERF–75

caching *(continued)*
package PERF–84
package
NCUSERS PERF–85
calculated
column heading ISQL–45
calculations
resource utilization SYVM–423, SYVSE–331
storage space SYVM–429, SYVSE–337
CALL assembler macro DBSU–113
call processing
access generation DIAG–37
optimization DIAG–37
parsing DIAG–37
statement generation DIAG–37
CALL/RETURN protocols for application programs in single user mode SYVM–86, SYVSE–72
CALL statement
description SQLREF–172
call tracing OPER–146, OPER–171
CANCEL DBA–127, DBA–129
CANCEL
ISQL PERF–107
synchronous communication PERF–107
CANCEL command
command in progress ISQL–15
description ISQL–31
locked data ISQL–91
reference ISQL–104
cancel exit SYVM–363, SYVSE–281
cancelling a command in progress ISQL–104
capacities of a starter database SYVSE–10
capacity planning SYVM–13, SYVSE–13
capacity planning
planning SYVM–31, SYVSE–39
cascade
delete rule SQLREF–13
DELETE statement SQLREF–245
ON DELETE clause
of ALTER TABLE statement SQLREF–162
of CREATE TABLE statement SQLREF–226
CASCADE
DELETE considerations DBA–7
cascading REVOKE DBA–94
cascading REVOKE
locking done DIAG–181
CASE keyword
LIST command ISQL–134
SET command ISQL–147
case sensitivity
C APP–327
catalog
description SQLREF–18
procedure
virtual disk PERF–49
read and update access ISQL–150
row length SYVM–436, SYVSE–341
table PERF–36
used in database design DBA–17, DBA–52
catalog indexing, possible lock wait problems DIAG–163
catalog locking
because of catalog queries DIAG–182
because of naming conventions DIAG–162
because of preprocessing DIAG–215
exclusive locking in tables DIAG–179
hot spot problems DIAG–179
key conflicts DIAG–162
catalog statistics
inaccurate values DIAG–187
misleading values DIAG–151
possible accuracy problems DIAG–187
updating DIAG–189
catalog table
authorities and privileges DBA–87, DBA–89
automatic statistics collection PERF–109
average row lengths SYVM–436, SYVSE–341
column information PERF–37
dbspace information PERF–37
description PERF–8
index information PERF–38
information about privileges DBA–54
isolation level setting ISQL–93
locking PERF–94, PERF–108
modified by CHARNAME SYVM–59, SYVSE–51
placement PERF–74
reorganizing the indexes on DBA–76
securing DBA–107
statement PERF–131
statistics PERF–131
statistics
influencing data access PERF–133
updating PERF–133
support DBA–172
SYSCATALOG DBA–52
SYSCHARSETS ISQL–147
SYSTEM.SYSCATALOG PERF–36, PERF–60
SYSTEM.SYSCOLUMNS PERF–37
SYSTEM.SYSDBSPACES PERF–37, PERF–58, PERF–60
SYSTEM.SYSINDEXES PERF–38
table information PERF–36
UPDATE STATISTICS PERF–131
used in database design DBA–52, DBA–160
using ISQL–79
view DBA–54
catalog table rows SYVM–438, SYVSE–344
catalog tables APP–269, SQLREF–371
catalog tables
DB2 Server for VSE & VM database manager SQLREF–371
description SQLREF–18
generation OPER–169
index reorganization OPER–169
migration OPER–169
owner of (SYSTEM) SQLREF–371
roadmap SQLREF–372
catalog tables *(continued)*
SYSACCESS SQLREF–375, SQLREF–377
SYSCATALOG SQLREF–377, SQLREF–380
SYSCCSIDS SQLREF–380
SYSCHARSETS SQLREF–380, SQLREF–381
SYSCOLAUTH SQLREF–381, SQLREF–382
SYSCOLSTATS SQLREF–382, SQLREF–383
SYSCOLUMNS SQLREF–383, SQLREF–386
SYSDBSPACES SQLREF–386, SQLREF–388
SYSDROP SQLREF–388
SYSFIELDS SQLREF–388, SQLREF–390
SYSFPARMS SQLREF–390
SYSINDEXES SQLREF–390, SQLREF–392
SYSKEYCOLS SQLREF–392, SQLREF–393
SYSKEYS SQLREF–393, SQLREF–395
SYSLANGUAGE SQLREF–395
SYSOPTIONS SQLREF–395, SQLREF–397
SYSPARMS SQLREF–397
SYSPROGAUTH SQLREF–398, SQLREF–399
SYSPSERVERS SQLREF–399
SYSROUTINES SQLREF–400
SYSSTRINGS SQLREF–402, SQLREF–404
SYSSYNONYMS SQLREF–404
SYSTABAUTH SQLREF–405, SQLREF–407
SYSUSAGE SQLREF–407, SQLREF–408
SYSUSERAUTH and SYSUSERLIST SQLREF–408, SQLREF–409
SYSUSERLIST view SQLREF–408
SYSVIEWS SQLREF–409, SQLREF–411
cataloging
database SYVSE–212
cataloging a source member OPER–5
CBND
description DIAG–8
CBND transaction APP–184
CCSID SQLREF–32, SQLREF–49
CCSID
CHARNAME PERF–126
column PERF–37
conversion PROTOCOL PERF–105
DRDA handshaking PERF–105
impact on sargability PERF–125
CCSID (coded character set identifier)
application programming for distributed data DBA–14
moving data between application servers DBA–71
performance overhead DBA–14

CCSID (coded character set identifier) *(continued)*
specifying for a column DBA–30, DBA–34
CCSID column SQLREF–371
CCSID column
of SYSCCSIDS SQLREF–380
of SYSCOLUMNS SQLREF–385
of SYSKEYCOLS SQLREF–393
CCSID conversion tracing OPER–173
CCSID keyword
of CREATE TABLE statement SQLREF–224
CCSID-related
reloading package SYVSE–220
CCSIDGRAPHIC option
of CREATE PACKAGE statement SQLREF–203
CCSIDGraphic preprocessor parameter APP–123
CCSIDMIXED option
of CREATE PACKAGE statement SQLREF–202
CCSIDMixed preprocessor parameter APP–123, APP–160
CCSIDSBCS option
of CREATE PACKAGE statement SQLREF–202
CCSIDSbcs preprocessor parameter APP–123, APP–160
CCW
fast translation PERF–76
CDLOAD instruction DBSU–112
CDRA SQLREF–32
CEMT transaction SYVM–132, SYVSE–114
CESN transaction APP–151
CHANGE command
current statement ISQL–36, ISQL–37, ISQL–65
reference ISQL–106
stored statement ISQL–66
change settings, initialization parameters OPER–55
changing
current SQL statement ISQL–36, ISQL–106
data relationships DBA–185
data type of a column APP–257
decimal places displayed for a numeric column ISQL–115
displayed
column heading ISQL–45, ISQL–115
length attribute of a column ISQL–47
width of a column ISQL–115
number of decimal places displayed ISQL–46
referential integrity relationships DBA–185
separation displayed between columns ISQL–42, ISQL–58, ISQL–119
stored SQL statement ISQL–66
table design DBA–64, DBA–65
the log SYVM–228
changing *(continued)*
unique contraints DBA–186
user passwords DBA–107
users of data DBA–186
channel PERF–72
channels
adding more DIAG–185
balancing usage DIAG–187
char SQLREF–7
CHAR
choosing rather than VARCHAR DBA–33
data type SQLREF–44, SQLREF–223
function
EUR SQLREF–96
ISO SQLREF–96
JIS SQLREF–96
LOCAL SQLREF–96
USA SQLREF–96
CHAR data type DBSU–152
CHAR data type
assembler APP–313
COBOL APP–360
FORTRAN APP–374
PL/I APP–387
character SQLREF–35
character
data APP–58
string
constant APP–58
subtype
default SQLREF–45
CHARACTER
data type SQLREF–159
character constant
SQL statements
C APP–327
character_constant
in LIKE predicate SQLREF–86
character conversion
character set SQLREF–30
code page SQLREF–30
code point SQLREF–30
coded character set SQLREF–30
description SQLREF–132
DRDA SQLREF–29
encoding scheme SQLREF–30
rules for comparison SQLREF–58
rules for operations combining strings SQLREF–130
substitution character SQLREF–31
character data SYVM–317, SYVSE–239
character data
choosing between VARCHAR and CHAR DBA–33
character data representation architecture (CDRA) SQLREF–32
character set SQLREF–30
character set
alternative SYVM–306, SYVSE–228
classification and translation SYVM–460, SYVSE–366
classification table SYVM–456, SYVSE–362
defining your own SYVM–453, SYVSE–359
ENGLISH SYVM–308, SYVSE–230
character set *(continued)*
example SYVM–306, SYVM–455, SYVSE–228, SYVSE–361
FRENCH SYVM–309, SYVSE–231
GERMAN SYVM–309, SYVSE–231
ITALIAN SYVM–311, SYVSE–233
PORTUGUESE SYVM–454, SYVSE–360
selection SYVM–57, SYVSE–50
SPANISH SYVM–313, SYVSE–235
specifying OPER–161
starting application server SYVM–314, SYVSE–236
character sets
JAPANESE (Katakana) SYVM–312, SYVSE–234
character string
assignment SQLREF–55
bit data SQLREF–44
comparison SQLREF–58
constant SQLREF–60
constants SYVM–314, SYVM–316, SYVSE–237, SYVSE–238
description SQLREF–44
empty SQLREF–44
fixed-length SQLREF–44
host variable SQLREF–44
MBCS SQLREF–45
mixed data SQLREF–45
planes SQLREF–46
SBCS data SQLREF–44
varying-length SQLREF–44
character subtype DBSU–64, DBSU–73
character subtype
application server default SYVM–25, SYVSE–32
CCSID APP–48
changing default SYVM–297, SYVSE–221
changing existing column attributes SYVM–323, SYVSE–245
CHARSUB SYVM–24, SYVM–25, SYVSE–31, SYVSE–32
choosing BIT DBA–34
choosing default SYVM–24, SYVSE–31
choosing MIXED DBA–34
choosing SBCS DBA–34
constant APP–59
default values APP–48
description SQLREF–44
overriding defaults APP–49
setting application server default SYVM–325, SYVSE–247
specifying for a column DBA–30
SQLDA SQLREF–364
CHARCLASS column SQLREF–371
CHARCLASS column
of SYSCHARSETS SQLREF–381
CHARNAME
application requester default SYVM–303, SYVSE–225
application server default SYVM–303, SYVSE–225
catalog tables modified SYVM–59, SYVSE–51
CCSID PERF–126

CHARNAME *(continued)*
change to catalog tables
SQLDBA.ROUTINE SYVM–58, SYVSE–51
SQLDBA.STORED QUERIES SYVM–58, SYVSE–51
SQLDBA.SYSLANGUAGE SYVM–58, SYVSE–51
SQLDBA.SYSTEXT2 SYVM–58, SYVSE–51
SQLDBA.SYSUSERLIST SYVM–58, SYVSE–51
changing SYVM–59, SYVSE–51
changing default SYVM–297
changing default
considerations SYVM–304, SYVSE–226
during database generation SYVSE–220
changing pre-Euro SYVM–305, SYVSE–227
choosing application requester default SYVM–26, SYVSE–33
choosing application requester default after migration SYVM–36, SYVSE–45
choosing application server default SYVM–23, SYVSE–30
choosing application server default after migration SYVM–33, SYVSE–40
default CCSIDs SYVM–58, SYVSE–50
differences between international and english code pages SYVM–322, SYVSE–244
initialization parameter SYVM–57, SYVM–313, SYVSE–50, SYVSE–235
INTERNATIONAL SYVM–321, SYVSE–243
not set correctly DIAG–159
setting for application requester
all application requesters SYVM–324, SYVSE–246
an application requester SYVM–324, SYVSE–246
hierarchy used SYVM–323, SYVSE–245
using DSQU SYVSE–246
using SQLGLOB EXEC SYVM–324
using SQLGLOB VSAM file SYVSE–246
using SQLINIT EXEC SYVM–324
setting for application server SYVM–321, SYVSE–243
CHARNAME column SQLREF–371
CHARNAME column
of SYSCCSIDS SQLREF–380
CHARNAME initialization parameters OPER–161
CHARNAME parameter of exec DBA–238, DBA–247
CHARSUB option
of CREATE PACKAGE statement SQLREF–203
CHARSUB preprocessor parameter APP–123, APP–161
CHARTRANS column SQLREF–371
CHARTRANS column
of SYSCHARSETS SQLREF–381
CHECK option
of CREATE PACKAGE statement SQLREF–205
CHECK option of preprocessor DBA–170
CHECK preprocessor parameter APP–161
checking
application code DBA–170
SQLCA APP–197
checklist
enable PERF–170
pre-enable PERF–170
checklist for database generation SYVM–27, SYVSE–34
checkpoint
"snapshot" of database DIAG–57
accounting SYVM–251, SYVSE–192
agent OPER–57, PERF–84
and high logging volume on load DIAG–207
as overhead PERF–11
before an online log archive SYVM–204, SYVSE–153
being forced DIAG–159
caused by nonrecoverable storage pools SYVM–238, SYVSE–173
caused by SOSLEVEL DIAG–178
CHKINTVL initialization parameter SYVM–69, SYVSE–62
CHKINTVL too big DIAG–160
CHKINTVL too small DIAG–160
counter OPER–51
definition SYVM–69, SYVSE–62
delayed by DBSS calls DIAG–208
forcing PERF–61, PERF–100
frequent DIAG–178
functional description DIAG–57
interval OPER–161, PERF–99
interval
choosing PERF–196
default value PERF–197
interval too big DIAG–160
interval too small DIAG–160
invalid index PERF–71
load measurement PERF–22
log archive OPER–59, OPER–60, SYVM–204, SYVSE–153
logical unit of work OPER–59, OPER–60
managing PERF–196
need for in "soft" failure DIAG–57
occurrence PERF–99
overview PERF–98
performance implication PERF–99
process PERF–61
records on the log SYVM–193, SYVSE–143
save interval PERF–197
shadow page PERF–60, PERF–98
short on storage PERF–57
storage queue PERF–44
checkpoint interval
understanding PERF–160
CHECKPT authorization ID OPER–84, OPER–95, OPER–98
CHKINTVL OPER–161
CHKINTVL
checkpoint PERF–99
choosing a value PERF–99
decreasing DIAG–160
increasing DIAG–161, DIAG–207, DIAG–208
initialization parameter SYVM–69, SYVSE–62
too big DIAG–160
too small DIAG–160
CHKPOINT counter OPER–51, PERF–22
choose
in syntax diagrams APP–xi, DBA–xvi, DBSU–xiv, DIAG–xii, ISQL–xii, OPER–xii, PERF–xii, SQLREF–3, SYVM–xiii, SYVSE–xii
choosing
application requester default CHARNAME SYVM–26, SYVSE–33
application server default CHARNAME SYVM–23, SYVSE–30
application server default coded character set identifier (CCSID) SYVM–23, SYVSE–30
default character subtype SYVM–24, SYVM–25, SYVSE–31, SYVSE–32
default coded character set identifier (CCSID) SYVM–26, SYVSE–33
CICS OPER–15
CICS
CICS/VS monitoring facility OPER–50
CICS/VSE OPER–vii
DBDCCICS OPER–16
GRANT statement SQLREF–292
in-doubt logical units of work OPER–135
remote DRDA application server DIAG–36
restart resynchronization facility OPER–135
terminal OPER–15, OPER–40
transactions that access the application server OPER–18
CICS (Customer Information Control System)
CISQ transaction DBA–126
CONNECT considerations DBA–101
CSSN transaction DBA–101
DFHPCT macroinstruction DBA–126
DFHSIT macroinstruction DBA–126
dynamic transaction backout program DBA–120, DBA–168
GCBE abend code DBA–126
implicit CONNECT support DBA–101
interactive application support DBA–200
ISQL support DBA–201
multiple application servers DBA–125
option DBA–199

CICS (Customer Information Control System) *(continued)*
pseudoconversational transaction DBA–168
recovery processing DBA–168
sign on DBA–167
synchronization points DBA–125
SYNCPOINT DBA–167
transaction processing DBA–148, DBA–198
transaction program DBA–148
user identification and verification DBA–167
CICS macroinstruction
DFHPCT DBA–126
DFHSIT DBA–126
CICS/VSE
CONNECT considerations APP–13, APP–151
DB2 Server for VSE linkage module APP–177
logical unit of work considerations APP–18
product options SYVSE–3
program termination APP–17
running in batch APP–152
table entries required APP–18
use of WHENEVER APP–202
CICS/VSE default rules
user IDs APP–151
CICSPARS PERF–8, PERF–17
CICSUSER default user ID APP–151, DBA–101
CICSUSER option, CIRA transaction OPER–30
CICSUSER option, CIRB transaction OPER–17
CIRA syntax SYVM–106, SYVSE–88
CIRA transaction SYVM–110, SYVM–112, SYVSE–92, SYVSE–94
CIRB
decreasing NOLINKS DIAG–231
increasing NOLINKS DIAG–150
initiated CICS connections concurrency PERF–88
too few agents DIAG–228
transaction PERF–86
CIRB syntax SYVM–99, SYVSE–81
CIRB transaction APP–151, SYVM–110, SYVM–112, SYVM–118, SYVM–119, SYVSE–92, SYVSE–94, SYVSE–100, SYVSE–101
CIRB transaction
CICSUSER option OPER–16
description OPER–16
CIRC syntax SYVM–115, SYVSE–97
CIRC transaction OPER–32, SYVM–118, SYVM–119, SYVSE–100, SYVSE–101
CIRD transaction OPER–18, PERF–8, PERF–21, SYVM–119, SYVSE–101
CIRD transaction
example OPER–20, OPER–21, OPER–22, OPER–23, OPER–24, OPER–25
CIRR syntax SYVM–116, SYVSE–98
CIRR transaction OPER–23, SYVM–102, SYVM–125, SYVSE–84, SYVSE–107
CIRT
too few agents DIAG–228
CIRT syntax SYVM–128, SYVSE–110
CIRT transaction OPER–26, PERF–86, SYVM–102, SYVM–125, SYVSE–84, SYVSE–107
CISQ
transaction name PERF–77
CISQ transaction DBA–126, SYVSE–70
CL_SCHED sample table DBSU–247, ISQL–177, SQLREF–413
CLABEL column SQLREF–371
CLABEL column
LABEL ON statement SQLREF–305
of SYSCOLUMNS SQLREF–385
CLASS keyword
LIST command ISQL–134
PRINT command ISQL–137
SET command ISQL–147
classification, character SYVM–456, SYVSE–362
classification table
character sets SYVM–460, SYVSE–366
coded character set identifier (CCSID) SYVM–330, SYVSE–253
identifying SYVM–58, SYVSE–50
clause
FROM ISQL–129
GROUP BY ISQL–130
HAVING ISQL–130
order APP–75
ORDER BY ISQL–131
SELECT ISQL–127
WHERE SELECT statement ISQL–130
clearing the log SYVM–228, SYVM–229, SYVSE–165, SYVSE–167
CLOSE
format APP–39
CLOSE option of TRACE command OPER–148
CLOSE SCAN DIAG–71
CLOSE statement
description SQLREF–176
CLOSE statement, Extended SQLREF–178
closed state of cursor APP–35, SQLREF–310
closing a trace file OPER–149
CLUSTER column SQLREF–371
CLUSTER column
of SYSINDEXES SQLREF–391
cluster ratio
catalog table PERF–38
evaluating PERF–65
clustered
catalog table PERF–38
index PERF–63
index access path PERF–112
unclustered index PERF–65
CLUSTERED index DBA–48
clustering
creating DIAG–212
index DIAG–52
need for DIAG–211
clustering *(continued)*
to avoid DBSPACE scans DIAG–201
to avoid I/O's DIAG–158, DIAG–225
clustering index DBSU–63, PERF–64
clustering index
catalog table PERF–38
changing
while reorganizing a dbspace PERF–68
while reorganizing a table PERF–68
without dropping indexes PERF–69
data PERF–63
description DBA–25, DBA–48
PCTFREE PERF–59
reorganize index PERF–71
unclustered PERF–65
view PERF–66
when to create DBA–51
CLUSTERRATIO column SQLREF–371
CLUSTERRATIO column
of SYSINDEXES SQLREF–391, SQLREF–392
CLUSTERROW column SQLREF–371
CLUSTERROW column
of SYSCATALOG SQLREF–378
CLUSTERTYPE
clustering PERF–64
CLUSTERTYPE column SQLREF–371
CLUSTERTYPE column
of SYSCATALOG SQLREF–378
CMS
abnormal end routine SYVM–86
applications APP–15
commands use of ISQL–95
file manipulation commands SYVM–288
FILEDEF, ALT option SYVM–75
FILEDEF commands for DB2 Server for VM tracing OPER–149
files, initialization options OPER–4
files, initialization parameters OPER–167
files for initialization parameter SYVM–88
files for initialization parameters SYVM–88
HELP text files SYVM–333
initialization parameter files SYVM–56
OS QSAM SYVM–74
restrictions SYVM–140
subset mode ISQL–95
subset mode entering ISQL–95
leaving ISQL–95
work units APP–280
CMS (Conversational Monitor System)
subset mode DBA–150
work unit DBA–120
CMS communications directory
installation process SYVM–11
reloading SYVM–12
CMS subset ISQL–95

CMS SUBSET
  LUW APP–282
  SQLRMEND EXEC APP–282
CMS work unit SYVM–364
CMS work unit
  accounting exit SYVM–340
  accounting exit
    DB2 Server for VM
      tables SYVM–259
    work unit ID SYVM–254, SYVSE–195
  storage requirements SYVM–6
  supported operating systems SYVM–1
  VM/ESA features supported SYVM–1
CMS work unit support DIAG–162
CNAME column SQLREF–371
CNAME column
  of SYSCOLSTATS SQLREF–382
  of SYSCOLUMNS SQLREF–383
  of SYSFIELDS SQLREF–389
  of SYSFPARMS SQLREF–390
  of SYSKEYCOLS SQLREF–393
CNVSZ parameter of VSAM DEFINE command SYVSE–209, SYVSE–210
COB2 preprocessor parameter APP–161, APP–354
COBOL
  31-bit addressing APP–114
  application program
    BEGIN DECLARE SECTION statement SQLREF–171
    host structure SQLREF–69
    host variable SQLREF–68, SQLREF–271
    INCLUDE SQLCA SQLREF–360
    INCLUDE statement SQLREF–298
    integers SQLREF–55
    PREPARE statement SQLREF–314
    SQLCA SQLREF–355
    varying-length string variables SQLREF–44
  COB2 compiler option consideration APP–354
  COBRC compiler option consideration APP–355
  column 7 APP–356
  continuation of SQL statements APP–348
  COPYBOOKs APP–355
  data conversion considerations APP–356
  data types APP–360
  DBCS data APP–356
  declaring host variables APP–350
  declaring SQLCA APP–357
  delimiting SQL statements APP–349
  DYNAM compiler option APP–363
  dynamic statement restrictions APP–358
  embedding SQL statements example APP–9
  module required APP–177
  placement of SQL statements APP–348
COBOL *(continued)*
  preprocessor SYVM–6, SYVM–426, SYVSE–335
  preprocessor parameter APP–120
  QUOTE compiler option consideration APP–353
  release level SYVM–4, SYVSE–6
  sample program APP–348
  stored procedures APP–363
  using the COB2 parameter APP–354
  using the COBRC parameter APP–355
  using the INCLUDE statement APP–355
COBOL, invoking the Database Services Utility DBSU–114
COBOL program example DBSU–124
COBRC preprocessor parameter APP–162, APP–355
code development DBA–161
code page SQLREF–30
code point SQLREF–30, SYVM–317, SYVSE–239
CODE trace OPER–147
coded character set identifier (CCSID)
  application requester default SYVM–26, SYVM–323, SYVSE–33, SYVSE–245
  application server default SYVM–23, SYVM–58, SYVM–321, SYVSE–30, SYVSE–51, SYVSE–243
  attribute SYVSE–239
  catalog tables modified SYVM–59, SYVSE–51
  changing CHARNAME repreprocess SYVM–59, SYVSE–51
  changing defaults summary SYVM–304, SYVSE–226
  CHARNAME change
    SQLDBA.ROUTINE SYVM–58, SYVSE–51
    SQLDBA.STORED QUERIES SYVM–58, SYVSE–51
    SQLDBA.SYSLANGUAGE SYVM–58, SYVSE–51
    SQLDBA.SYSTEXT2 SYVM–58, SYVSE–51
    SQLDBA.SYSUSERLIST SYVM–58, SYVSE–51
  CHARNAME mapping SYVM–317, SYVSE–239
  choosing a national language SYVM–303, SYVSE–225
  choosing application requester default after migration SYVM–36, SYVSE–45
  choosing application server default after migration SYVM–33, SYVSE–40
  constants SQLREF–61
  conversion SYVM–317
  conversion selection table SQLREF–32
  DBCS conversion SYVM–361, SYVSE–279
  default SQLREF–32
coded character set identifier (CCSID) *(continued)*
  default CCSIDs SYVM–58, SYVSE–50
  default override SQLREF–365
  defining character sets SYVM–303, SYVSE–225
  description ISQL–81, SQLREF–32
  determining for an application requester SYVM–320, SYVSE–242
  graphic constants SQLREF–62
  identifying classification table SYVM–330, SYVSE–253
  identifying translation table SYVM–330, SYVSE–253
  loading information to CMS files SYVM–468, SYVSE–374
  maximum number of overrides SQLREF–352
  MCCSIDGRAPHIC SYVM–34, SYVM–35, SYVM–321, SYVSE–41, SYVSE–42, SYVSE–243
  MCCSIDMIXED SYVM–34, SYVM–35, SYVM–321, SYVSE–41, SYVSE–42, SYVSE–243
  MCCSIDSBCS SYVM–34, SYVM–35, SYVM–321, SYVSE–41, SYVSE–42, SYVSE–243
  migration considerations SYVM–33, SYVM–321, SYVSE–40, SYVSE–243
  mixed SYVM–320, SYVSE–241
  performance overhead SYVM–24, SYVM–303, SYVM–322, SYVSE–31, SYVSE–225, SYVSE–243
  SBCS SYVM–318, SYVSE–240
  setting for application server SYVM–321, SYVSE–243
  setting for application server differences between international and english code pages SYVM–322, SYVSE–244
  string representation of datetime values SQLREF–49
  SYSOPTIONS catalog table SQLREF–395
  uses SYVM–24, SYVSE–31
  uses for application requester default SYVM–26, SYVSE–33
coding data by field procedures SYVM–367, SYVSE–284
coding your own exit
  accounting SYVM–342, SYVSE–262
  requirements SYVM–354, SYVSE–273
  TRANSPROC SYVM–361, SYVSE–279
coexistence
  considerations SYVM–38, SYVSE–45
  VSE and VM SYVM–40
COLCOUNT
  use in determining column selectivity DIAG–152
COLCOUNT column SQLREF–371
COLCOUNT column
  of SYSCOLUMNS SQLREF–384
cold start OPER–169
cold start of database manager SYVSE–213

COLDLOG operation SYVM–212, SYVM–229, SYVSE–165
COLDLOG operation
archiving considerations SYVSE–165
example job control SYVSE–165
increasing log size SYVSE–166
log reconfiguration and reformatting SYVM–228, SYVSE–166
no recovery SYVM–211
reconfiguration SYVSE–165
reformatting SYVSE–165
restarting from a failure SYVM–217, SYVSE–161
coldstart SYVM–289
COLINFO column SQLREF–371
COLINFO column
of SYSCOLUMNS SQLREF–385
collection DBA–187
collection
national language support SYVM–269, SYVM–270
service machines SYVM–268
collection_id
description SQLREF–38
COLNAME column SQLREF–371
COLNAME column
of SYSCOLAUTH SQLREF–381
COLNAMES column SQLREF–371
COLNAMES column
of SYSINDEXES SQLREF–390
COLNO column SQLREF–371
COLNO column
of SYSCOLUMNS SQLREF–383
of SYSFIELDS SQLREF–389
COLNUMBERS column SQLREF–371
COLNUMBERS column
of SYSINDEXES SQLREF–391
colon SQLREF–68
colon
used in indicator variables APP–61
COLTYPE column SQLREF–371
COLTYPE column
of SYSCOLUMNS SQLREF–383
column
> 254 PERF–107
adding DBA–184
adding to a table ISQL–83
catalog information PERF–37
changing name in a view DBA–44
correlation function APP–85
data storage DBA–217
data types for DBA–31
description ISQL–1
displayed
decimal place, changing ISQL–46, ISQL–115
heading, changing ISQL–45, ISQL–115
length attribute, changing ISQL–47
width, changing ISQL–115
displaying more than 45 columns ISQL–128
dropping DBA–184
excluding from a display ISQL–43, ISQL–115
column *(continued)*
grouping SQLREF–125
heading
calculated values ISQL–45
in tables SQLREF–10
including
excluded columns ISQL–44, ISQL–117
join considerations APP–68
label DBSU–22
leading zeros ISQL–115
length PERF–37
length attribute SQLREF–44
long string SQLREF–44
maximum number in a query DBA–263
maximum number in a table SQLREF–352
maximum number in a view SQLREF–352
maximum number in an index key SQLREF–352
more than 254 bytes DBA–51
multicolumn key DBA–5
name
changing ISQL–45
creating ISQL–81
of a result column SQLREF–123
qualifier SQLREF–64
naming DBA–4
naming convention APP–27, DBA–31
null type PERF–37
null value DBA–4
order of display ISQL–128
overhead DBA–217
primary key DBA–4
retrieving catalog information DBA–53
rules for UNION SQLREF–128
selecting
expression ISQL–128
more than 45 columns ISQL–128
specific column ISQL–21
selectivity, false sense of DIAG–152
separator
setting for a session ISQL–58, ISQL–152
setting for current query result ISQL–42, ISQL–119
sequencing, for storage efficiency DIAG–171
short string SQLREF–44
specifying
CCSID DBA–30, DBA–34
character subtype DBA–30
data type DBA–30
field procedure DBA–31
name DBA–30
type PERF–37
UNIQUE attribute DBSU–64
unnamed SQLREF–132
valid data type DBA–4
variable character
setting width displayed for a session ISQL–152
setting width displayed for current query result ISQL–119
column *(continued)*
virtual APP–64
COLUMN
command ISQL–27
FORMAT command ISQL–45
keyword in FORMAT command ISQL–48
COLUMN clause
of COMMENT ON statement SQLREF–179
of LABEL ON statement SQLREF–304
COLUMN command ISQL–107
column function SQLREF–91
column function
ISO-ANS SQL(89) equivalent term SQLREF–425
column in a GROUP BY clause
ISO-ANS SQL(89) equivalent term SQLREF–426
column name
ambiguous reference SQLREF–66
undefined reference SQLREF–66
column_name
description SQLREF–38, SQLREF–180
in ALTER TABLE statement SQLREF–159, SQLREF–163
in COMMENT ON PROCEDURE statement SQLREF–181
in COMMENT ON statement SQLREF–179
in CREATE INDEX statement SQLREF–199, SQLREF–200
in CREATE TABLE statement SQLREF–221, SQLREF–227
in CREATE VIEW statement SQLREF–232
in FOR UPDATE clause SQLREF–133
in GRANT statement SQLREF–294, SQLREF–295
in GROUP BY clause SQLREF–125
in INSERT statement SQLREF–299, SQLREF–300
in LABEL ON statement SQLREF–304
in LIKE predicate SQLREF–86
in NULL predicate SQLREF–89
in ORDER BY clause SQLREF–132
in UPDATE statement SQLREF–341
length limitation SQLREF–351
column name qualification
correlation name SQLREF–64
synonym SQLREF–64
table name SQLREF–64
view name SQLREF–64
COLUMN option of FORMAT command
changing heading ISQL–55, ISQL–115
changing width ISQL–48
reference ISQL–114
COM trace OPER–172
combining
queries APP–91

combining columns DIAG–154
combining records to load multiple rows DBSU–41
COMDIR
definition SYVM–12
installation process SYVM–11, SYVM–12
namefind SYVM–12
reloading SYVM–12
COMma preprocessor parameter APP–127
command
ARCHIVE SYVM–199, SYVSE–150
AUTOCOMMIT DBA–129
CANCEL DBA–127, DBA–129
CMS ISQL–95
COMMIT WORK SYVM–249, SYVSE–189
correcting typing error
description ISQL–14
IGNORE command ISQL–37
START command ISQL–33
COUNTER SYVM–65, SYVSE–57
CP (control program)
SPOOL ISQL–96
TAG ISQL–96
DBS SET LINEWIDTH DBA–148
DISCONN SYVM–90, SYVM–140
DISPLAY ISQL–75
entering
description ISQL–10
while executing another command ISQL–12
while processing routine ISQL–13
while viewing query result ISQL–13
erasing one previously stored ISQL–111
FORCE DBA–133, SYVM–114, SYVSE–96
FORMAT DBA–153, SYVM–288
INPUT DBA–45, DBA–60
ISQL
CANCEL ISQL–15
CHANGE ISQL–36, ISQL–66
description ISQL–2
END ISQL–28
ERASE ISQL–67
HELP ISQL–16, ISQL–17
HOLD ISQL–38
IGNORE ISQL–37
LIST ISQL–61, ISQL–67
RECALL ISQL–65
RENAME ISQL–67
RUN ISQL–73
SET ISQL–31, ISQL–32, ISQL–61
START ISQL–64
STORE ISQL–63
ISQL display
BACKWARD ISQL–24, ISQL–103
COLUMN ISQL–27, ISQL–107
DISPLAY ISQL–109
END ISQL–28, ISQL–110
FORMAT ISQL–41, ISQL–57, ISQL–113
FORWARD ISQL–22, ISQL–121
LEFT ISQL–27, ISQL–133
command *(continued)*
ISQL display *(continued)*
PRINT ISQL–28, ISQL–136
RIGHT ISQL–26, ISQL–142
TAB ISQL–27, ISQL–159
LARCHIVE SYVM–204, SYVSE–152
length maximum in ISQL DBA–263
listing a stored SQL statement ISQL–134
maximum length ISQL–14
operator OPER–177
preventing immediate processing ISQL–123
PRINT DBA–154
processing
description DBSU–137
SQL DBSU–145
summary DBSU–146
protecting existing stored ISQL–63
recalling a stored SQL statement ISQL–140
renaming stored SQL statement ISQL–141
REPRO (VSAM) DBA–61
RESERVE SYVM–288
reusing ISQL–36, ISQL–37
ROLLBACK WORK SYVM–249, SYVSE–189
SET ERRORMODE DBA–166
SHOW ACTIVE SYVM–114, SYVSE–96
SHOW DBSPACE DBA–76
SHOW LOCK MATRIX SYVM–65, SYVSE–57
SHOW LOG
scheduling archives SYVM–200, SYVSE–151
scheduling log archives SYVM–205, SYVSE–154
scheduling user archives SYVM–203, SYVSE–152
SHOW USERS SYVM–92, SYVM–95, SYVSE–77
specifications DBSU–137
SQL
ALTER TABLE ISQL–83
changing ISQL–36
COMMENT ISQL–80
COMMIT ISQL–31
CREATE INDEX ISQL–90
CREATE SYNONYM ISQL–89
CREATE TABLE ISQL–81, ISQL–82
DROP INDEX ISQL–90
DROP SYNONYM ISQL–90
DROP TABLE ISQL–82
GRANT ISQL–87
INSERT ISQL–82
placeholder ISQL–38
preventing immediate processing ISQL–38
previous ISQL–63, ISQL–65
recalling ISQL–65
reusing ISQL–33
ROLLBACK ISQL–31
SELECT ISQL–21
starting stored statement ISQL–64
command *(continued)*
SQL *(continued)*
storing ISQL–63
UPDATE STATISTICS ISQL–91
SQLEND SYVM–91, SYVSE–76
SQLEND ARCHIVE SYVM–199, SYVSE–150
SQLEND DVERIFY SYVM–90, SYVSE–76
SQLEND LARCHIVE SYVM–204, SYVSE–152
SQLEND QUICK SYVM–90, SYVSE–76
SQLEND UARCHIVE SYVM–203, SYVSE–151
stacking ISQL–13
typing ISQL–122
command, operator
ALTACCT OPER–41
ARCHIVE OPER–42
COUNTER OPER–50
COUNTER POOL OPER–177
FORCE OPER–47, OPER–58
FORCE RMTUSER OPER–48
issuing OPER–39
LARCHIVE OPER–45
RESET OPER–54
RESET CRR LOGNAMES OPER–54
RESET HIGHSTOR OPER–54
RESET INDOUBT OPER–55
RESET POOL OPER–179
SET OPER–55
SET APPCVM OPER–15
SET LANGUAGE OPER–50
SET POOL OPER–180
SET SAVEINTV OPER–182
SET TARGETWS OPER–182
SHOW ACTIVE OPER–56, OPER–183
SHOW ADDRESS OPER–60
SHOW BUFFERS OPER–61, OPER–184
SHOW CONNECT OPER–64
SHOW CRR LOGNAMES OPER–71
SHOW DBCONFIG OPER–72
SHOW DBEXTENT OPER–74
SHOW DBSPACE OPER–76
SHOW INDOUBT OPER–77
SHOW INITPARM OPER–79
SHOW INVALID OPER–81
SHOW LOCK ACTIVE OPER–84, OPER–185
SHOW LOCK DBSPACE OPER–86
SHOW LOCK GRAPH OPER–88, OPER–185
SHOW LOCK MATRIX OPER–92
SHOW LOCK USER OPER–95
SHOW LOCK WANTLOCK OPER–97
SHOW LOG OPER–45, OPER–101
SHOW LOGHIST OPER–102
SHOW POOL OPER–106, OPER–186
SHOW SAVINTV OPER–188
SHOW STORAGE OPER–115
SHOW SYSTEM OPER–118
SHOW TARGETWS OPER–189
SQLEND OPER–10

command, operator *(continued)*
syntax OPER–x
TRACE OPER–144
command buffer
how used ISQL–33
command file
errors DBSU–224
command reference topics
blanks within identifiers DBSU–111
COMMENT reference DBSU–139
data object DBSU–110
Database Services Utility reserved words DBSU–111
DATALOAD TABLE reference DBSU–147
DATAUNLOAD reference DBSU–171
load-data commands DBSU–147
load-program command processing DBSU–208
loading data DBSU–147
loading programs DBSU–208
names and identifiers DBSU–110
naming data objects DBSU–110
object name DBSU–110
processing DBSU–137
program-load commands DBSU–208
qualifying object names DBSU–110
REBIND PACKAGE reference DBSU–214
RELOAD DBSPACE reference DBSU–194
RELOAD PACKAGE reference DBSU–209
RELOAD TABLE reference DBSU–198
REORGANIZE reference DBSU–140
reserved words DBSU–111
reserved words as identifiers DBSU–111
SCHEMA reference DBSU–142
SET AUTOCOMMIT reference DBSU–215
SET ERRORMODE reference DBSU–216
SET FORMAT reference DBSU–218
SET ISOLATION reference DBSU–219
set-item commands DBSU–215
SET LINECOUNT, SET LINEWIDTH reference DBSU–220
SET UPDATE STATISTICS reference DBSU–221
setting items DBSU–215
special character within identifier DBSU–111
SQL reserved words DBSU–111
UNLOAD DBSPACE reference DBSU–203
UNLOAD PACKAGE reference DBSU–212
UNLOAD TABLE reference DBSU–206
command-set sequence DBSU–52
commands, control DBSU–137
commands and syntax, Database Services Utility DBSU–137
commas, initialization options OPER–4, OPER–6
COMMENT ISQL–80
comment
Database Services Utility COMMENT command DBSU–139
in SQL statements DBSU–23
retrieving from catalog tables DBA–55
storing DBA–54
COMMENT command DBSU–139
COMMENT ON APP–258
COMMENT ON
how it works DIAG–333
COMMENT ON PROCEDURE
how it works DIAG–333
COMMENT ON PROCEDURE statement
description SQLREF–181
COMMENT ON statement DBA–55
COMMENT ON statement
column name qualification SQLREF–64
description SQLREF–179
EXECUTE IMMEDIATE statement SQLREF–272
PREPARE statement SQLREF–315
COMMENT PROCEDURE
how it works DIAG–334
COMMENT PSERVER
how it works DIAG–334
comments
host language SQLREF–36
in catalog SQLREF–179, SQLREF–181
in static SQL statements SQLREF–36, SQLREF–144
comments, CMS files for starting the application server OPER–5
comments, source members for starting the application server OPER–6
commit SQLREF–18
COMMIT APP–19
COMMIT
recommendations APP–16
using ISQL–31
COMMIT operation
command processing DBSU–23
LUW determination by Database Services Utility DBSU–23
message example DBSU–45
COMMIT statement
description SQLREF–183
COMMIT WORK DBA–119, SYVM–192, SYVM–249, SYVSE–142, SYVSE–189
COMMIT WORK
checkpoint PERF–99
in application programs DBA–167
ISQL PERF–107
lock escalation PERF–96
log cushion PERF–103
performance problem index DIAG–139
statement PERF–98
to avoid lock waits DIAG–178, DIAG–206
to reduce link waits DIAG–150
use to avoid lock wait problems DIAG–147
COMMITCOUNT
locking PERF–109
use to avoid link waits DIAG–151
COMMITCOUNT parameter
description DBSU–44
example DBSU–45
reference DBSU–166
RELOAD DBSPACE command DBSU–196
RELOAD TABLE command DBSU–201
committing
changes
automatically ISQL–32
logical units of work ISQL–31
data
automatically ISQL–147
records while loading DBSU–44
committing changes
COMMIT option of FORCE command OPER–47
SET AUTOCOMMIT DBSU–23
tables APP–19
committing changes, nonrecoverable data SYVM–238, SYVSE–173
common column names APP–68
common operator SYVM–53
communication
blocking PERF–105
DRDA protocol PERF–104
synchronous PERF–107
tracing OPER–172
wait OPER–92
communication concepts
DRDA data streams DIAG–24
mailbox functions DIAG–24
resource adapter interaction DIAG–24
communication protocol
DRDA SQLREF–25
SQLDS SQLREF–25
communication protocol, specifying SYVM–57
COMMUNICATION WAIT
definition of DIAG–131
holding agents DIAG–148
indicator, definition of DIAG–130
performance problem index DIAG–140
when locks held long time DIAG–205
comparison
compatibility rules SQLREF–53
datetime values SQLREF–59
numbers SQLREF–57
operation SQLREF–53
operator APP–43
predicate
DB2 Server for VSE & VM equivalent term SQLREF–425
predicate subquery
DB2 Server for VSE & VM equivalent term SQLREF–425
strings SQLREF–58
comparison operator
in a basic predicate SQLREF–79
in a quantified predicate SQLREF–80

compatibility
data type SQLREF–53
lock DIAG–70, PERF–91
rules SQLREF–53
compile partition size PERF–77
compiling
program APP–142, APP–176
component identification DIAG–80
components of DB2 Server for VSE & VM DIAG–5
components of the DB2 Server for VSE & VM RDBMS, definitions DBSU–viii
composite key SQLREF–11
CONCAT operator SQLREF–71
concatenation
EXECUTE IMMEDIATE APP–210
field procedure SQLREF–72
operator APP–56, SQLREF–72
shift-in character SQLREF–72
shift-out character SQLREF–72
symbol APP–56
symbol for DB2 Server for VSE & VM DBSU–110
concepts
authorization DIAG–327
authorization
catalog updates DIAG–327
grant authorities DIAG–327
grant run privileges DIAG–328
grant table privileges DIAG–327
revoke authorities DIAG–329
revoke run privilege DIAG–329
revoke table privilege DIAG–329
interpretive commands DIAG–329
interpretive commands
ACQUIRE DBSPACE DIAG–329
ALTER DBSPACE DIAG–330
ALTER PROCEDURE DIAG–330
ALTER PSERVER DIAG–330
COMMENT ON DIAG–333
COMMENT ON PROCEDURE DIAG–333
COMMENT PROCEDURE DIAG–334
COMMENT PSERVER DIAG–334
CREATE INDEX DIAG–333
CREATE SYNONYM DIAG–334
CREATE TABLE DIAG–334
CREATE VIEW DIAG–335
DROP DBSPACE DIAG–336
DROP INDEX DIAG–336
DROP PACKAGE DIAG–337
DROP PROCEDURE DIAG–337
DROP PSERVER DIAG–337
DROP SYNONYM DIAG–337
DROP TABLE DIAG–338
DROP VIEW DIAG–338
how they work DIAG–329
LABEL ON DIAG–339
UPDATE STATISTICS DIAG–339
overview DIAG–5
concurrency
agent PERF–84
allocating agent structure PERF–85
as overhead PERF–11
CICS PERF–86
CICSPARS PERF–86
concurrency *(continued)*
CIRB transaction PERF–86
concurrent ISQL users PERF–77
cost of additional real agents PERF–85
description PERF–84
differences between real and pseudo agents PERF–87
dispatching agents PERF–88
DISPBIAS PERF–89
fair share auditing PERF–89
guest sharing PERF–87
LOCK DBSPACE statement SQLREF–306
LOCK TABLE statement SQLREF–307
long versus short LUW PERF–89
MAXCONN PERF–87
NCUSERS PERF–85
operator SHOW commands PERF–27
prioritization PERF–88
privileged remote DRDA user PERF–88
pseudo-agents PERF–86
RMTUSERS PERF–87
SHOW CONNECT PERF–86
SHOW USERS PERF–86, PERF–88
startup mode PERF–89
VM user PERF–85
VSE batch user PERF–85
VSE interactive user PERF–85
VSE remote DRDA user PERF–85
concurrency level DIAG–230
concurrent
access APP–254
archive SYVM–71, SYVSE–63
scans OPER–165
specifying users SYVM–62, SYVSE–54
users OPER–165
users, limit SYVM–62, SYVSE–54
conditional JCL
startup for virtual disk PERF–50
configuration
application development SYVSE–4
application server OPER–72
batch/interactive SYVSE–1
concepts SYVM–263, SYVSE–205
consideration, distributed PERF–78
database manager SYVM–263
multiple database machines and multiple databases SYVM–265
multiple database partitions and multiple databases SYVSE–207
national language support SYVM–269, SYVM–270
one database machine and one database SYVM–264
one database partition and one database SYVSE–206
online transaction processing SYVSE–2
primary database machine SYVM–272
query/report writing SYVSE–5
secondary database machine SYVM–272
configuration *(continued)*
secondary production minidisk SYVM–271
service machine and processor SYVM–269
VSE guest sharing SYVM–299
configurations of the DB2 Server for VM system DBA–187, DBA–196
CONNECT DBA–97, DBA–167
connect
authority SQLREF–33
CONNECT
application programs APP–12
connecting to Database Services Utility DBSU–19
explicit DBA–87
implicit DBA–87
processing DBSU–19
statement APP–115
to switch databases DBA–191
user identification DBSU–19
CONNECT (for VM)
statement SQLREF–186, SQLREF–191
CONNECT (for VSE)
statement SQLREF–192, SQLREF–197
CONNECT authority DBA–88
CONNECT authority
description APP–264
granting APP–264
CONNECT clause
of GRANT statement SQLREF–291
of REVOKE statement SQLREF–330
connected users, displaying OPER–110, OPER–113, OPER–120, OPER–122, OPER–123, OPER–126, OPER–128
connecting
another application server DBSU–20
database manager DBSU–20
to an application server DBA–95, DBA–98
to application server
CICS transactions DBA–101
explicitly DBA–97
implicitly DBA–95, DBA–97
connecting DB2 Server for VSE & VM DBSU–19
connecting DB2 Server for VSE & VM
application programs APP–12
connecting to the application server
CICS/VSE transactions APP–151
connecting to the DB2 Server for VSE & VM system DBA–167
connection states SQLREF–188, SQLREF–196
consecutive keys, possible lock wait problems DIAG–145
considerations for
application database DBA–162
creating a table DBA–38
creating indexes DBA–50
deferred constraint enforcement DBA–69
DELETE, INSERT, UPDATE DBA–7
normalization DBA–29
referential integrity DBA–38
row size DBA–29
unique constraints DBA–38

consistency
of data APP–18
points of SQLREF–19
token APP–124, APP–145, APP–148, APP–162, APP–178, APP–183
consistently high response time
DRDA usage DIAG–174
query block size too small DIAG–222
CONSISTENTLY HIGH RESPONSE TIME INDICATOR
definition of DIAG–130
console
disconnecting OPER–10
how to access OPER–39
issuing commands OPER–40
issuing operator commands OPER–39
SHOW PROC command OPER–110
SHOW PSERVER command OPER–113
SHOW USERS command OPER–120
signing off OPER–10
START PROC command OPER–122
START PSERVER command OPER–123
START TCPIP command OPER–125
STOP PROC command OPER–126
STOP PSERVER command OPER–128
console, DB2 Server for VMoperator's SYVM–53
console log PERF–20
constant
CCSID APP–59
character string SQLREF–60
character subtypes APP–59
character subtypes
DBCS option SQLREF–61
mixed SQLREF–61
SBCS SQLREF–61
data type, character string SYVM–316, SYVSE–238
decimal SQLREF–60
description SQLREF–59
floating-point SQLREF–60
graphic string SQLREF–61
hexadecimal SQLREF–60
in IN predicate SQLREF–84
in INSERT statement SQLREF–299
integer SQLREF–60
search conditions APP–55
select-list expressions APP–31
CONSTKN column SQLREF–371
CONSTKN column
of SYSACCESS SQLREF–376
constraint
defer APP–293
enforce APP–293
naming conventions APP–27
referential APP–285
removing PERF–12
unique DBA–5
unique
comparison to unique index DBA–38
considerations in defining DBA–38
constraint *(continued)*
unique *(continued)*
description DBA–38
instead of unique index DBA–48
constraint_name
description SQLREF–38
in ALTER TABLE statement SQLREF–159, SQLREF–162, SQLREF–163
in CREATE TABLE statement SQLREF–222, SQLREF–226
length limitation SQLREF–351
contention
for resources APP–254
continuation character
setting ISQL–148
using ISQL–14
CONTINUATION keyword
LIST command ISQL–134
SET command ISQL–148
continuation of Database Services Utility records DBSU–138
continuation of SQL statements
assembler APP–310
C APP–326
COBOL APP–348
FORTRAN APP–366
PL/I APP–378
placement of SQL statements APP–366
CONTINUE clause
of WHENEVER statement SQLREF–348
CONTINUE response SYVM–214, SYVSE–158
CONTINUED parameter
DATALOAD's INFILE subcommand DBSU–163
specifying input records DBSU–42
continuity of log archives SYVM–226, SYVSE–164
control
terminal
CICS OPER–40
control block dump, specifying OPER–162
control blocks DIAG–294
control commands, description DBSU–8, DBSU–137
control file
building task DBSU–13
SQL statements DBSU–145
control parameters
API (Application Programming Interface) DBSU–115
example DBSU–118
task DBSU–118
Control Program (CP)
CP DISCONN command OPER–10
control statements
for trace formatter OPER–152
controller PERF–72
controlling
access to ISQL SYVM–140, SYVSE–117
access to remote users SYVSE–119
controlling *(continued)*
active user number SYVM–105, SYVSE–88
changes to your table ISQL–31
data location SYVM–156, SYVSE–130
device and channel utilization SYVM–156, SYVSE–130
display of data
description ISQL–2
larger than one display ISQL–22, ISQL–27
report format ISQL–41, ISQL–59
query format characteristics ISQL–57
controlling access to
application server DBA–88
data DBA–163
CONTROLPW password OPER–173
CONV trace OPER–173
conventions
example PERF–xv
highlighting DBA–xi, DBSU–xi
highlighting in this book ISQL–xvi
mixed data representation SQLREF–7
syntax diagram notation APP–x, DBA–xv, DBSU–xiii, DIAG–xi, ISQL–xi, OPER–xi, PERF–xi, SQLREF–2, SYVM–xi, SYVSE–xi
conversational monitor system (CMS)
files DBSU–8
Conversational Monitor System (CMS)
work unit PERF–98
work units OPER–121
conversational programming
possible link wait problems DIAG–149
possible lock wait problems DIAG–205
conversion
character SQLREF–29
data type DBSU–34, DBSU–169
DATAUNLOAD table DBSU–190
numbers
for assignments SQLREF–54
for comparisons SQLREF–57
scale and precision SQLREF–54, SQLREF–57
unloading DBSU–173
values on unloading DBSU–191
conversion, lock OPER–91, OPER–99
conversion of data APP–224
conversion of data
See data conversion APP–224
converting
accounting data SYVSE–203
data types DBA–173
packages SYVM–33, SYVSE–40
service machine to database machine SYVM–48
converting data types DBA–168
converting SQL statements APP–184
Coordinated Resource Recovery OPER–133
COPIES keyword
in a SET command ISQL–59
PRINT command ISQL–29, ISQL–137
SET command ISQL–148

copy
data from one table to another ISQL–82
of printed reports ISQL–59, ISQL–148
printed report ISQL–29, ISQL–137
specifying ISQL–96
COPYBOOKs, COBOL APP–355
copying
a table DBA–62
data from one table to another DBA–61
production minidisk SYVM–277
copyright notice in HELP text DBA–145
correcting typing error
CHANGE command ISQL–36
IGNORE command ISQL–37
RETRIEVE facility ISQL–33
corrective service PERF–169
correlated reference
description SQLREF–67
FROM clause SQLREF–67, SQLREF–125
ISO-ANS SQL(89) equivalent term SQLREF–426
correlation APP–82
correlation
function APP–85
name APP–83
subqueries using joins APP–86
subquery APP–82
table APP–84
correlation name
defining SQLREF–64
qualifying a column name SQLREF–64
correlation_name
description SQLREF–38
in DELETE statement SQLREF–244
in FROM clause SQLREF–124
in subselect SQLREF–122
in UPDATE statement SQLREF–341
length limitation SQLREF–351
cost
estimating
obtaining PERF–145
explain table PERF–138
of monitoring PERF–6
cost-benefit ratio PERF–1
COST clause
of EXPLAIN statement SQLREF–274
COST ESTIMATE ISQL–21
COST_TABLE
EXPLAIN statement SQLREF–275
COSTEST keyword
SET command ISQL–148
COUNT(*) in a grouping query APP–73
COUNT function SQLREF–92
COUNT function
asterisk (*) SQLREF–92
count-key-data DASD storage
dbextent capacity SYVM–430, SYVSE–337
directory capacity SYVM–431, SYVSE–338
log capacity SYVM–430, SYVSE–337
COUNTER ISQL–108
counter
CP indicate user
I/O PERF–15
READS PERF–15
RES PERF–15
WRITES PERF–15
CP query time
CTIME PERF–15
TOTCPU PERF–15
VTIME PERF–15
directory PERF–163
storage pool performance
Data Spaces Support OPER–177
standard DASD I/O system OPER–177
understanding PERF–162
COUNTER
ESCALATE, uses of DIAG–176, DIAG–214
example PERF–21
LOCKLMT, uses of DIAG–176, DIAG–214
LOGIO, use of DIAG–207
LPAGBUFF, in buffer hit ratio DIAG–155, DIAG–157
operator command PERF–9, PERF–21
PAGEREAD, in buffer hit ratio DIAG–155, DIAG–157
COUNTER command SYVM–65, SYVSE–57
COUNTER operator command OPER–50
COUNTER POOL OPER–177
COUNTER POOL
DB2 Server DSS PERF–9
counters
BEGINLUW OPER–51
CHKPOINT OPER–51
DASDIO OPER–52
DASDREAD OPER–52
DASDWRIT OPER–52
DBSSCALL OPER–51
DEADLCK OPER–52
DIRREAD OPER–52
DIRWRITE OPER–52
ESCALATE OPER–51
LDIRBUFF OPER–52
LOCKLMT OPER–51
LOGREAD OPER–52
LOGWRITE OPER–52
LPAGBUFF OPER–52
LTIMEOUT OPER–52
PAGEREAD OPER–52
PAGWRITE OPER–52
RDSCALL OPER–51
resetting OPER–54
ROLLBACK OPER–51
WAITLOCK OPER–52
CP
commands ISQL–95
commands
DISCONN SYVM–90, SYVM–140
LINK in SQLFDEF SYVM–289
entering ISQL–95
monitor PERF–7
SPOOL ISQL–96
CP *(continued)*
TAG ISQL–96
time PERF–15
CP directory
maximum PERF–205
statement
ACCESSLIST PERF–172
ADDRSPACE PERF–172
MACHINE PERF–172
XCONFIG PERF–172
update PERF–172
CP DUMP OPER–147
CP QUERY TIME PERF–8
CPU
as a resource PERF–9
load measurement PERF–14, PERF–17
one database machine needs too much DIAG–217
time used PERF–28
CREATE
performance problem
index DIAG–137
CREATE INDEX APP–257, DIAG–166, ISQL–72, ISQL–90
create index
privilege SQLREF–33
CREATE INDEX
before loading DIAG–172
how it works DIAG–333
large sorts required DIAG–166
PCTFREE clause DBA–48
possible I/O problems DIAG–169, DIAG–200, DIAG–224
reorganize a single table PERF–68
using the statement DBA–47
CREATE INDEX statement
description SQLREF–199
EXECUTE IMMEDIATE statement SQLREF–272
GRANT statement SQLREF–295
PREPARE statement SQLREF–315
CREATE PACKAGE statement
description SQLREF–202
DROP STATEMENT statement SQLREF–263
CREATE PROCEDURE statement
description SQLREF–209
EXECUTE IMMEDIATE statement SQLREF–272
CREATE PROGRAM
blocking PERF–105
CREATE PSERVER statement
EXECUTE IMMEDIATE statement SQLREF–272
CREATE SYNONYM APP–258, ISQL–89
CREATE SYNONYM
how it works DIAG–334
CREATE SYNONYM statement
description SQLREF–219
EXECUTE IMMEDIATE statement SQLREF–272
PREPARE statement SQLREF–315
CREATE TABLE APP–257, DBA–27, DBA–88, DBA–172
CREATE TABLE
how it works DIAG–334

CREATE TABLE statement SYVM–370, SYVSE–287
CREATE TABLE statement
dbspace ISQL–81
description SQLREF–220
effect on stored query ISQL–87
example ISQL–81
EXECUTE IMMEDIATE statement SQLREF–272
NOT NULL option ISQL–82
PREPARE statement SQLREF–315
public dbspace ISQL–89
share ISQL–89
CREATE VIEW
how it works DIAG–335
using the statement DBA–42
WITH CHECK OPTION APP–63, DBA–42, DBSU–149, DBSU–199
CREATE VIEW statement
description SQLREF–232
EXECUTE IMMEDIATE statement SQLREF–272
PREPARE statement SQLREF–315
creating
back-up copy of a database DBA–133
bootstrap package PERF–176, SYVM–187
CMS files containing initialization parameters SYVM–88
database archive SYVM–199, SYVSE–150
database machine SYVM–263
foreign key ISQL–85
HELP text table DBA–142
index ISQL–90
indexes APP–257
indexes
considerations DBA–50
free space considerations DBA–48
general information DBA–47
key DBA–50
ordering columns in key DBA–47
to implement design DBA–17
unique DBA–48
log archive SYVM–204, SYVSE–152
parameter data sets SYVSE–75
parameter file SYVM–88
primary key DBA–37, ISQL–84
referential constraint ISQL–85
referential structure ISQL–85
report from query results ISQL–49, ISQL–113
restrictions in creating DBA–44
restrictions on using DBA–44
routine ISQL–69, ISQL–72
ROUTINE table ISQL–71
SQLFDEF file SYVM–288
synonym APP–258, ISQL–89
table APP–257, ISQL–81, ISQL–88
table
description DBA–27
field procedure APP–257
foreign key DBA–39
NULL value APP–257
primary key DBA–39
referential constraints DBA–38
creating *(continued)*
table *(continued)*
referential integrity APP–257, DBA–38
to implement design DBA–17
unique constraint APP–257
user archive SYVM–203, SYVSE–151
user machines SYVM–280
view APP–63
view
description DBA–42
for multiple tables DBA–43
for one table DBA–43
new column names DBA–44
restrictions on DBA–44
to implement design DBA–17
using several tables DBA–43
creation, package SQLREF–10
CREATOR column SQLREF–371
CREATOR column
of SYSACCESS SQLREF–375
of SYSCATALOG SQLREF–377
of SYSCOLAUTH SQLREF–381
of SYSCOLSTATS SQLREF–382
of SYSCOLUMNS SQLREF–383
of SYSFIELDS SQLREF–389
of SYSFPARMS SQLREF–390
of SYSINDEXES SQLREF–390
of SYSPROGAUTH SQLREF–398
of SYSSYNONYMS SQLREF–404
cross-partition communication protocol DIAG–32
CRR
CRR commands OPER–133
displaying in-doubt agents at the database manager OPER–77
displaying log names DB2 uses during resynchronization initialization OPER–71
erasing records of in-doubt LUWs forced by the FORCE command OPER–55
FORCE RINIT for forcing Resynchronization Initialization OPER–49
FORCE RREC for forcing Resynchronization Recovery OPER–49
resetting log names DB2 uses during Resynchronization Initialization OPER–54
resynchronization initialization status displayed using SHOW CONNECT OPER–69
resynchronization recovery status displayed using SHOW CONNECT OPER–69
CS attribute
isolation level SQLREF–21
isolation option
CREATE PACKAGE statement SQLREF–204
CS isolation level DBSU–220
CSMT transaction SYVM–132, SYVSE–114
CSSN transaction DBA–101
CSTT transaction PERF–18
CTIME counter PERF–15
CTOKEN preprocessor parameter APP–124, APP–162
cultural sorting APP–33, APP–276
CUREXTNT
control statement database generation SYVM–293
estimating SYVM–19, SYVSE–18
keyword control statement SYVM–292
CUREXTNT control statement SYVSE–214
CUREXTNT control statement for database generation SYVSE–215
CURRENT DATE special register SQLREF–62
current row of a cursor APP–35
CURRENT SERVER special register SQLREF–62
current SQL statement
changing ISQL–36, ISQL–106
description ISQL–33
displaying ISQL–65, ISQL–140
reentering ISQL–33
starting
placeholder in statement ISQL–38
START command ISQL–33, ISQL–155
storing ISQL–63, ISQL–157
CURRENT TIME special register SQLREF–63
CURRENT TIMESTAMP special register SQLREF–63
CURRENT TIMEZONE special register SQLREF–63
cursor
blocking SQLREF–323
closed state APP–35, SQLREF–310
closed upon error
DELETE statement SQLREF–246
FETCH statement SQLREF–285
UPDATE statement SQLREF–343
closing APP–39, SQLREF–176, SQLREF–178
COMMIT statement SQLREF–184
current row APP–35, SQLREF–285
declaring APP–35
defining SQLREF–236
description APP–35
Extended DECLARE CURSOR statement SQLREF–241
Extended FETCH statement SQLREF–288
Extended OPEN statement SQLREF–313
Extended PUT statement SQLREF–326
fetch PERF–106
fetching APP–37
insert PERF–106, SQLREF–236, SQLREF–308
inserting APP–37
locking stability APP–135, APP–168
management APP–35
maximum declared in a program SQLREF–352

cursor *(continued)*
maximum number opened at one time SQLREF–352
movement key ISQL–11, ISQL–12
moving position SQLREF–284
name
syntax rules APP–35
naming convention APP–27
open state APP–35
opening APP–36, SQLREF–308, SQLREF–313
ordering results APP–39
positions when open SQLREF–285
query SQLREF–236, SQLREF–308
result table APP–35, SQLREF–237
ROLLBACK statement SQLREF–337
scope APP–36
stability (CS)
isolation level PERF–93
ISQL PERF–108
minimum lock level PERF–92
suppressed blocking PERF–106
CURSOR FOR clause
of Extended DECLARE CURSOR statement SQLREF–241
cursor-name SQLREF–147, SQLREF–253
cursor_name
description SQLREF–38
in CLOSE statement SQLREF–176
in DECLARE CURSOR statement SQLREF–236, SQLREF–237
in DELETE statement SQLREF–244, SQLREF–245
in Extended DECLARE CURSOR statement SQLREF–241
in FETCH statement SQLREF–284
in OPEN statement SQLREF–308
in PUT statement SQLREF–323
in UPDATE statement SQLREF–341, SQLREF–342
length limitation SQLREF–351
cursor stability DIAG–66
cursor stability
guidelines for using ISQL–92
isolation level DBSU–219, ISQL–92, ISQL–149, SQLREF–21
SET command ISQL–149
SET ISOLATION command DBSU–219
to avoid escalations DIAG–204
to avoid excessive locking DIAG–177
to avoid key locking problems DIAG–146
to avoid long lock waits DIAG–206
use on catalog queries DIAG–182
cursor stability (CS)
isolation level DBSU–220
cursor_variable
description SQLREF–38
in Extended CLOSE statement SQLREF–178
in Extended DECLARE CURSOR statement SQLREF–241
in Extended FETCH statement SQLREF–288
cursor_variable *(continued)*
in Extended OPEN statement SQLREF–313
in Extended PUT statement SQLREF–326
cushion
log OPER–101, OPER–168, PERF–103
Customer Information Control System (CICS)
AMXT/MXT PERF–77
CEMT transaction SYVM–132, SYVSE–114
CICS partition
31 bit addressing PERF–77
CCW translation PERF–76
connection PERF–85
dispatching priority PERF–76
system paging DASD PERF–43
virtual addressability extension PERF–76
CICS statistics PERF–8
CICSPARS PERF–8, PERF–17, PERF–86
CIRB transaction PERF–86
CIRD transaction PERF–8, PERF–21
CIRD transaction
active transactions SYVM–130, SYVSE–112
transaction information SYVM–119, SYVSE–101
CIRT transaction SYVM–128, SYVSE–110
CISQ transaction SYVSE–70
CMXT parameter PERF–77
concurrent ISQL users PERF–77
CSMT transaction SYVM–132, SYVSE–114
CSTT transaction PERF–18
DBDCCICS SYVM–105, SYVSE–87
DFHMCT ID keywords and clocks PERF–18
DFHMCT macro PERF–19
DFHPPT macro instruction SYVSE–334
DFHSIT macro PERF–18
dynamic storage considerations SYVSE–335
ISQL transaction SYVSE–70
link to database partition PERF–86
measurement tools PERF–8
online resource adapter PERF–87
partition SYVSE–334
pseudo agent PERF–87
pseudo-conversational transactions SYVSE–70
release level SYVSE–6
temporary storage PERF–78
transaction time usage PERF–18
transactions SYVSE–69
customizing database manager SYVM–337, SYVSE–257
CVD (column value descriptor) SYVM–372, SYVM–374, SYVSE–288, SYVSE–289

D

damaged data set
damaged
log SYVSE–162
damaged dataset
database SYVSE–145
database and log SYVSE–146
log SYVSE–146
damaged minidisk
database SYVM–195
database and log SYVM–196
log SYVM–196
damaged minidisks
damaged
log SYVM–221
DASD
cache PERF–191
failures
damaged database SYVM–195, SYVSE–145
damaged database and log SYVM–196, SYVSE–146
damaged log SYVM–196, SYVSE–146
storage for starter database SYVSE–10
DASD Dump Restore (DDR)
optional software SYVM–5
utility SYVM–5
DASD I/O
*BLOCKIO PERF–44
as a resource PERF–10
balancing PERF–72
channel PERF–72
checkpoint PERF–99
controller PERF–72
DASD I/O system PERF–81
general consideration PERF–74
load measurement PERF–15, PERF–17
NCUSERS PERF–85
package cache PERF–84
page format PERF–56
VSAM PERF–44
DASD storage
as a resource PERF–10
CMS reserved minidisk PERF–56
cost of monitoring PERF–6
dbextent placement in a volume PERF–75
distributing PERF–56
dividing PERF–55
failure PERF–101
running out PERF–56, PERF–62
VSAM entry sequenced data sets (ESDS) PERF–56
wasting PERF–56
DASDIO counter OPER–52, PERF–22
DASDREAD counter OPER–52, PERF–22
DASDWRIT counter OPER–52, PERF–22
data
access change DBA–183
administration DBA–172
authorization change DBA–186
coding by a field procedure SYVM–367, SYVSE–284

data *(continued)*
consistency APP–18
embedded in control file DBSU–32
inconsistent APP–18
independence DBA–172
moving DBA–71
object DBA–17
prototyping DBA–159
recovery DBA–17
standard zoned DBSU–156
structure change DBA–183
supported conversions DBA–172
virtual APP–64
data areas
RDIEXT DIAG–316
RDIIN DIAG–313
RMAR SYVSE–283
RMXC SYVM–364
data authorization
commands, definition of DIAG–131
performance problem
index DIAG–137
data caching
data not cached DIAG–167
expanded storage DIAG–167
DATA CAPTURE clause
of ALTER TABLE
statement SQLREF–164
of CREATE TABLE
statement SQLREF–228
data clustering PERF–63
data code
SQLDA
datetime APP–226
data control tracing OPER–146, OPER–171
data conversion DBSU–34
data conversion
C APP–336
COBOL APP–356
DRDA SQLREF–29
dynamically defined statements APP–224
FORTRAN APP–371
join conditions APP–68
PL/I APP–382
summary APP–50
unions APP–92
data conversion (CONV)
component description DIAG–9
possible CPU usage problems DIAG–198
tracing OPER–173
data definition APP–256
data definition
language, definition of DIAG–131
performance problem
index DIAG–137
data design
changing to avoid I/O's DIAG–154, DIAG–158
changing to avoid lock contention DIAG–147
use of efficient data types DIAG–171
data distribution, bad DIAG–151
Data_Field_Id subcommand DBSU–173
data format support DBSU–34
data integrity SQLREF–12, SQLREF–18
data integrity
atomic integrity APP–283
referential integrity APP–284
Data Integrity
entity integrity APP–283
unique on columns APP–284
data location
controlling SYVM–156, SYVSE–130
physical PERF–19
data manipulation
language, definition of DIAG–131
performance problem
index DIAG–137
tracing OPER–171
data manipulation, tracing OPER–146
data object SYVM–143, SYVSE–121
data object
naming DBSU–110
data page
description PERF–58
free space PERF–59
proportion to other pages PERF–58
data page buffers
specifying number OPER–167
data page free-space management DIAG–44
data pages
SYS0001 SYVM–439, SYVSE–345
Data Propagator Capture
on tables APP–276
data records in Database Services Utility control files DBSU–138
data records in Database Services Utility input control card files DBSU–138
data recovery SYVM–143, SYVSE–121
data set placement (VSE) PERF–19
data sets
DB2 Server for VSE
parameter SYVSE–75
dbextents SYVSE–9
define VSAM SYVSE–34
directory SYVSE–9, SYVSE–210
example VSAM data sets for a database SYVSE–209
log SYVSE–9
protecting VSAM SYVSE–117
starting the application server with password protected data sets SYVSE–50
data space
virtual disk PERF–46, PERF–51
data spaces
directory PERF–158
internal dbspace PERF–157
removing PERF–169
storage pool PERF–157
turning on and off PERF–183
understanding PERF–151
data stream trace DBA–239, OPER–147, OPER–154
Data System Control (DSC) DBA–17, OPER–143, OPER–146, SYVM–143, SYVSE–121
data system control (DSC)
component description DIAG–8
overview DIAG–8
Data System Control (DSC)
list of functions and subcomponents OPER–147
data type
assembler APP–313
C APP–342
CHARACTER APP–46
character string SQLREF–44
character string
constants SYVM–316, SYVSE–238
subtypes SYVM–316, SYVSE–238
choosing between CHAR and VARCHAR DBA–33
choosing between VARGRAPHIC and GRAPHIC DBA–34
COBOL APP–360
compatibility SQLREF–53
constants SYVM–316, SYVSE–238
conversion supported by the DB2 Server for VSE & VM system DBA–168
date SQLREF–48
DATE APP–46, DBA–35, DBSU–154
datetime SQLREF–48
DBAHW SQLREF–371, SQLREF–383
DBAINT SQLREF–371, SQLREF–383
DECIMAL APP–46, DBA–174, DBSU–155, DBSU–177
DECIMAL
default DBA–174
OVERFLOW error DBA–175
precision and scale of result DBA–175
defining, for columns DBA–31
description APP–8, APP–46, SQLREF–42, SQLREF–223
FIXED DBSU–155, DBSU–176
FLOAT APP–46
FLOAT or DOUBLE PRECISION DBSU–155
FLOAT or REAL DBSU–155, DBSU–177
FORTRAN APP–374
GRAPHIC APP–46, DBSU–158
graphic string SQLREF–47
INTEGER APP–46
LONG VARCHAR APP–46
LONG VARGRAPHIC APP–46
numeric SQLREF–47
numeric data DBA–32
of result columns SQLREF–124
parameter DBSU–152
PL/I APP–387
result set locator SQLREF–43
SMALLINT APP–46, DBSU–155
specified when defining a column DBA–30
supported conversions DBA–172
time SQLREF–48
TIME APP–46, DBA–35, DBSU–154
timestamp SQLREF–49
TIMESTAMP APP–46, DBA–35, DBSU–155
use of same DIAG–190, DIAG–198
VARCHAR APP–46
VARGRAPHIC APP–46
ZONED DBSU–156, DBSU–177

data unloading tasks DBSU–51
data utilities, performance problem index DIAG–138
database OPER–74
database
adding SYVM–273, SYVM–282
adding
dbextents SYVM–157, SYVSE–131
dbspaces SYVM–145, SYVSE–123
application server OPER–7
archive PERF–101, PERF–172
archiving SYVM–194, SYVM–204, SYVSE–144, SYVSE–153
back-up copy creation DBA–133
capacity planning SYVM–13, SYVM–31, SYVSE–13, SYVSE–39
column DBA–4
COMMIT statement SQLREF–183
configurations
one machine, one database DBA–188
one machine, two databases DBA–189
several machines, different processors DBA–191
several machines, many databases DBA–190
CONNECT statement SQLREF–186, SQLREF–192
creating new PERF–188
data set definition SYVSE–208
database archive output file (ARIARCH) OPER–9
database extents OPER–73, OPER–74
DB2 Server for VSE & VM database manager operator OPER–vii
defining DBA–4
defining a log SYVM–16, SYVSE–16
defining the directory for SYVSE–210
definition DBA–187
deleting
dbextents SYVM–160, SYVSE–133
design SYVM–143, SYVSE–121
design
analysis DBA–160
documentation DBA–160
generating test data DBA–159
loading test data DBA–159
modeling DBA–159
normalizing a table DBA–9
planning for distributed data DBA–13
relationship DBA–2
table DBA–2
terminology DBA–1
using EXPLAIN PERF–148
designing using DB2 Server for VSE & VM catalog DBA–52
entity DBA–1
example SYVM–213, SYVSE–156
example configuration DBA–188
example configurations
accessing from another processor DBA–193
one machine, one database DBA–188
database *(continued)*
example configurations *(continued)*
one machine, two databases DBA–189
several machines, different processors DBA–191
several machines, many databases DBA–190
example storage estimate
for a production database SYVM–441, SYVSE–347
for a test database SYVM–440, SYVSE–346
for an application development database SYVM–441, SYVSE–346
extents SYVM–8, SYVSE–9
filtered access OPER–163
generation DBA–17, DBA–20, OPER–169
generation
additional databases SYVM–263, SYVM–284
checklist SYVM–27, SYVSE–34
control statements SYVM–292
design considerations SYVM–14, SYVSE–14
job control SYVSE–213
keyword control statements SYVM–292, SYVSE–215
MAXPOOLS keyword PERF–56
parameters SYVM–13, SYVSE–13
planning SYVM–13, SYVSE–13
process SYVM–282, SYVSE–207
regeneration SYVM–27, SYVSE–33
restarting from a failure SYVM–217, SYVSE–161
service minidisk SYVM–279
SQLDBINS EXEC SYVM–277
summary of parameters SYVM–13, SYVSE–13
summary of process SYVM–298
identification statements SYVSE–211
identification statements (DBNAME01 procedure) SYVSE–212
implementing the design DBA–17
installing optional components into SYVSE–219
job control SYVSE–132, SYVSE–133, SYVSE–211, SYVSE–212
logical design DBA–176
machine DBA–187
machine
31 bit addressing PERF–45
address space size PERF–45
auxiliary storage PERF–41
buffer pool PERF–81
CPU load PERF–17
DASD I/O load PERF–15
fair share scheduling PERF–75
load on PERF–22
overall performance PERF–15
SHOW STORAGE PERF–26
database *(continued)*
machine *(continued)*
virtual storage load PERF–14
machine operator OPER–40
machine size SYVM–5
maintaining consistency under ISQL DBA–170
maintenance
altering the design DBA–57
procedure DBA–76
removing DBA–58
removing tables DBA–73
maintenance procedures SYVSE–117
manager DBA–187
manager
storage PERF–81
maximum size SYVM–15, SYVSE–15
maximums SYVM–18, SYVM–448, SYVSE–17, SYVSE–354
migration SYVM–31, SYVSE–39
minidisks
replacement SYVM–219
minimum sizes SYVM–8, SYVSE–9
mode OPER–174
moving
dbextents SYVM–168, SYVSE–138
log disks SYVM–170, SYVSE–139
multiple DBA–187, SYVM–38, SYVM–264, SYVSE–45, SYVSE–206
multiple
user implications SYVM–265
name SYVM–23, SYVSE–23
name
conversion SYVM–45
online archive OPER–42
operating mode DBA–188
operator
description SYVM–53
parameters set at database generation time SYVM–13, SYVSE–13
physical
concept DBA–19, SYVM–144, SYVSE–122
design SYVM–144, SYVSE–122
physical design SYVSE–138
recovery considerations DBA–119, DBA–135, SYVM–191, SYVM–247, SYVSE–141, SYVSE–181
recovery from user logic error DBA–133
regeneration SYVM–27, SYVSE–33
relationship DBA–1
renaming SYVM–45, SYVM–49
resetting data DBA–134
resource adapter DBA–187
restoring SYVM–204, SYVM–211, SYVM–213, SYVSE–153, SYVSE–155, SYVSE–156
ROLLBACK statement SQLREF–336
service machine DBA–187
showing application server configuration OPER–72
showing database extents OPER–74
showing database spaces OPER–76
showing dbspace locks OPER–86
sizes SYVM–15, SYVSE–15
specifying name OPER–173

database *(continued)*
specifying password OPER–173
starter SYVM–8, SYVM–13, SYVSE–10, SYVSE–13
storage estimating SYVM–429, SYVSE–337
storage pool OPER–106
support
for application development DBA–162
for query/report writing DBA–163
user machine DBA–187
database, starter DBSU–106
database administrator (DBA)
authority DBA–163
description APP–264
database archive
online OPER–42
database archive, online OPER–42
database I/O's
versus paging I/O DIAG–155
database interface routine SQLREF–10
database machine SYVM–1, SYVM–263
database machine
configuration SYVM–264, SYVM–272
creating SYVM–263
DASD requirement PERF–168
defining SYVM–263, SYVM–278
description SYVM–5
example control statements SYVM–273, SYVM–278
favored too little DIAG–167
in a TSAF collection SYVM–265
in an SNA network SYVM–265
in an SNA network
AVS session limit considerations SYVM–268
initial storage requirements SYVM–425
logoff PERF–172
logon PERF–171
minidisks SYVM–7
modes of operation PERF–165
needs too much CPU DIAG–217
overview PERF–165
preparation SYVM–276, SYVM–279
primary SYVM–270, SYVM–272
primary
adding SYVM–273
PROFILE EXEC SYVM–276, SYVM–279
secondary SYVM–270, SYVM–272
secondary
adding SYVM–278
size SYVM–5
types SYVM–270
virtual storage PERF–166
database manager
building PERF–173
environment SYVM–272
problems DIAG–273
running in disconnect SYVM–90
startup using a CMS file SYVM–56
startup with password-protected VSAM data sets SYVSE–50
verifying PERF–173
database manager archiving facilities
description SYVM–194, SYVSE–144
using to archive databases SYVM–199, SYVSE–150
using to archive logs SYVM–204, SYVSE–152
database partition
31 bit addressing PERF–45, PERF–77
address space size PERF–45
auxiliary storage PERF–42
balancing pool PERF–76
batch PERF–76
buffer pool PERF–81
CICS
dispatching priority PERF–76
fast CCW translation PERF–76
virtual addressability extension PERF–76
compile size PERF–77
configuration SYVSE–206
creating SYVSE–205
DASD I/O load PERF–15
deactivation PERF–44
load on PERF–22
overall performance PERF–15
SHOW STORAGE PERF–26
Database Services Utility
reserved words DBSU–111
starting DBSU–3, DBSU–7
database services utility (DBS utility)
non-DB2 Server for VM application server SYVM–398, SYVSE–315
storage requirement SYVSE–335
storage requirements SYVM–426
Database Services utility (DBS utility)
application
error handling DBA–166
recovery DBA–166
security DBA–166
connecting implicitly DBA–96
copying a table DBA–62
DATALOAD DBA–168
DATAUNLOAD DBA–168
failure DBA–126
interactive processing DBA–148
loading test data DBA–168
maintenance of a database DBA–76
message file DBA–126
overview of uses DBA–148
printing the HELP text DBA–145
report writing DBA–154
restriction for view DBA–45
termination DBA–126
testing SQL functions DBA–161
to load data DBA–59
under VSE/ICCF DBA–59
UNLOAD/RELOAD
reorganizing data DBA–148
resetting data DBA–131
Database Services Utility (DBSU)
description DIAG–7
Database Services Utility command
definition DBSU–137
Database Storage Subsystem (DBSS) OPER–143, OPER–146
database storage subsystem (DBSS)
initialization DIAG–10
database storage subsystem (DBSS) *(continued)*
management DIAG–10
manipulation DIAG–10
overview DIAG–10
sort component DIAG–10
Database Storage Subsystem (DBSS)
calls OPER–51
functions and subcomponents OPER–146
OP Codes DIAG–298
DATACODE column SQLREF–371
DATACODE column
of SYSKEYCOLS SQLREF–393
DATALOAD
automatic statistics collection PERF–109
clustering index PERF–64
free page space PERF–38
locking PERF–109
PCTFREE PERF–59
DATALOAD and RELOAD locking considerations DBSU–228
DATALOAD command
COMMITCOUNT processing DBSU–166
description DBSU–147
embedded data DBSU–32
file definition DBSU–35
procedures DBSU–31
separate input file DBSU–31
dataset
damaged
database SYVSE–145
database and log SYVSE–146
log SYVSE–146
DATAUNLOAD
locking PERF–110
DATAUNLOAD command
conversion table DBSU–190
description DBSU–171
procedures DBSU–51
user-determined format DBSU–56
date SQLREF–48
date
arithmetic operations
duration SQLREF–76
description SQLREF–48
duration
description SQLREF–74
ever increasing index PERF–63
exit SYVM–351, SYVSE–270, SYVSE–271
representation, internal & SQLDA SQLREF–48
string SQLREF–49
DATE
assignment SQLREF–57
data type SQLREF–159, SQLREF–224
function SQLREF–98
local DBSU–154, DBSU–175
date arithmetic
C APP–336
DATE data type DBA–35
DATE data type
assembler APP–313
C APP–343

DATE data type *(continued)*
COBOL APP–361
FORTRAN APP–374
PL/I APP–387
date duration
description DBA–176
DATE option
of CREATE PACKAGE statement SQLREF–203
DATE parameter of exec DBA–247
DATE parameter of the VSE STDOPT JCC/JCS SYVM–121, SYVSE–103
date/time arithmetic DBA–176
date/time arithmetic
performing date/time arithmetic operations DBA–36
rules for date/time arithmetic DBA–36
using labeled duration expressions in arithmetic operations DBA–36
date value in CHAR input data field DBSU–154
DATEFORMAT parameter of exec DBA–238
datetime
arithmetic operations SQLREF–75, SQLREF–78
assignment
EUR SQLREF–57
ISO SQLREF–57
JIS SQLREF–57
microseconds SQLREF–57
USA SQLREF–57
comparison
DATE SQLREF–59
TIME SQLREF–59
TIMESTAMP SQLREF–59
constants APP–60
data type
description SQLREF–48
string representation SQLREF–49
exits SYVM–350, SYVM–352, SYVSE–269, SYVSE–271
format
EUR SQLREF–49
ISO SQLREF–49
JIS SQLREF–49
LOCAL SQLREF–49
USA SQLREF–49
using CHAR function SQLREF–97
loading values DBSU–37
operand SQLREF–74
DAXP transaction OPER–35
DAXT transaction OPER–36
DAY
function SQLREF–99
labeled duration SQLREF–71
DAYS
function SQLREF–100
labeled duration SQLREF–71
DB2 for VM Control Center Operations Guide, IBM PERF–9
DB2 for VM directory
data spaces support PERF–158
performance counter PERF–163
understanding PERF–158
DB2 Server DSS
checkpoint PERF–100
counters PERF–24
DB2 Server for VM
advanced program-to-program communication (APPC/VM) DIAG–27
code not shared DIAG–227
Inter-User Communication Vehicle (IUCV) protocol DIAG–26
DB2 Server for VM database manager
database
design SYVM–143
physical design SYVM–144
operator
VSE guest sharing SYVM–98, SYVSE–80
DB2 Server for VM directory
reblocking PERF–187
using PERF–186
DB2 Server for VM facility, used by EXEC DBA–155
DB2 Server for VMdatabase manager
operator
console SYVM–53
description SYVM–53
DB2 Server for VSE
cross-partition communication protocol DIAG–32
database
design SYVSE–121
DB2 Server for VSE & VM
agent handling and communications DIAG–20
catalog tables APP–269
data types, introduction APP–8
definition OPER–1
disconnecting OPER–10
dumps DIAG–278
FILEDEF commands OPER–9
forcing a user OPER–46
free space management DIAG–44
in multiple user mode DIAG–13, DIAG–14
in single user mode DIAG–13
initialization options OPER–3
initialization parameters OPER–161
normal shutdown OPER–12
online support parameters OPER–15
online support parameters for VSE guest sharing OPER–15
operating OPER–39
operator OPER–vii, OPER–1, OPER–39
partition OPER–1, OPER–7
program problems DIAG–79
starting
error messages OPER–4
multiple user mode OPER–1, OPER–7
single user mode OPER–7
stopping OPER–10
structure and components DIAG–5
termination DIAG–77
trace facility OPER–139
trace-point output OPER–156
tracing a CMS file OPER–141
DB2 Server for VSE & VM *(continued)*
tracing in multiple user mode OPER–141
tracing in single user mode OPER–141
VSE guest sharing OPER–15
VSE Guest Sharing OPER–vii
DB2 Server for VSE & VM / ISO-ANS SQL(89) equivalent terms SQLREF–425, SQLREF–427
DB2 Server for VSE & VM operator console
disconnecting OPER–10
how to access OPER–39
issuing commands OPER–40
SHOW PROC command OPER–110
SHOW PSERVER command OPER–113
SHOW USERS command OPER–120
START PROC command OPER–122
START PSERVER command OPER–123
START TCPIP command OPER–125
STOP PROC command OPER–126
STOP PSERVER command OPER–128
DB2 Server for VSE & VM system
description ISQL–1
display terminal ISQL–3
session ISQL–3
signing on ISQL–7
DB2 Server for VSE and VM CICS support, online support OPER–15
DB2 Server for VSE CICS support, online support OPER–15
DB2 Server for VSE database manager
database
physical design SYVSE–122
DB2 Server for VSE operator console, signing off OPER–10
DB2 Server for VSE production libraries APP–150
DBA (database administrator)
authority ISQL–4, ISQL–79
granting authority APP–264
DBA authority
ACQUIRE DBSPACE statement SQLREF–145
activating keys SQLREF–17
CREATE TABLE statement SQLREF–220
deactivating keys SQLREF–17
description DBA–90, SQLREF–33
DROP statement SQLREF–258, SQLREF–259
Extended PREPARE statement SQLREF–321
introduction DBA–87
of GRANT statement SQLREF–291
REVOKE statement SQLREF–330
SYSTABAUTH catalog table SQLREF–407
SYSUSERAUTH catalog table SQLREF–408
to ALTER DBSPACE DBA–74
DBA clause
of REVOKE statement SQLREF–330

DBAAUTH column SQLREF–371
DBAAUTH column
of SYSUSERAUTH and SYSUSERLIST SQLREF–408
DBAHW
catalog SQLREF–371
SYSCOLUMNS catalog table SQLREF–383
DBAINT
catalog SQLREF–371
SYSCOLUMNS catalog table SQLREF–383
DBCS SQLREF–47, SYVSE–237
DBCS
character SQLREF–7
option SQLREF–37, SQLREF–46
setting for application requester
all application requesters SYVSE–249
an application requester SYVSE–249
using DSQU SYVSE–249
using SQLGLOB VSAM file SYVSE–249
DBCS (double-byte character set) SYVSE–237
DBCS (double-byte character set)
option SYVM–314, SYVSE–237
programming languages supported SYVM–4
requirements SYVM–4
DBCS considerations
basic support DBSU–230
double-byte character data DBSU–230
extended support DBSU–231
rules DBSU–230
DBCS conversion
CCSID to CCSID SYVM–361, SYVSE–279
TRANSPROC exit SYVM–361, SYVSE–279
DBCS/EBCDIC mixed data DBSU–174
DBCS option
setting by using SQLGLOB SYVM–326
setting by using SQLINIT SYVM–327
setting for all application requesters SYVM–326
setting for an application requester SYVM–327
setting for application server SYVM–326, SYVSE–248
DBCS parameter of exec DBA–238, DBA–247
DBCS shift in/out delimiters DBSU–230
DBCSID column SQLREF–371
DBCSID column
of SYSCCSIDS SQLREF–380
dbextent SYVM–8
dbextent
adding PERF–62, SYVM–157, SYVSE–131
allocating dbextent data sets SYVSE–131
allocation to dbspace PERF–73
caching PERF–75
dbextent *(continued)*
capacities of IBM DASDs SYVM–430, SYVSE–337
caution regarding SYVM–166
consecutive placement PERF–75
defining minidisks SYVM–157
definition SYVM–293, SYVSE–214
deleting SYVM–160
deleting dbextent data sets SYVSE–134
deleting from a database SYVSE–133
description APP–250
determining initial requirements SYVM–21, SYVSE–21
estimating sizes SYVM–156, SYVSE–130
example ARISADD SYVSE–135
example job control SYVSE–134
file names (such as DDSK1) SYVSE–211
initialization parameters SYVSE–138
mapping to dbspace PERF–56
maximum number SYVM–14, SYVSE–14
MDISK statements for adding SYVM–157
moving PERF–72, SYVM–168
number PERF–198
number per device PERF–198
purpose SYVM–8, SYVSE–9
replacing SYVSE–161
restructuring PERF–74
size PERF–198
sizes SYVM–13, SYVM–283, SYVSE–13, SYVSE–208
specifying initial SYVM–293, SYVSE–216
splitting PERF–74
storage PERF–25
virtual disk PERF–48, PERF–54
DBEXTENT
description DBA–18
dbextent storage
adding to a database OPER–169
deleting from a database OPER–169
description OPER–74
DBEXTENTs
in DBSS DIAG–46
DBFile preprocessor parameter
VM APP–132
DBList preprocessor parameter
VM APP–133
DBMODE initialization parameter OPER–174
DBMODE parameter SYVM–56
DBNAME directory PERF–88
DBNAME directory
CONNECT statement SQLREF–193
define remote connection SYVSE–30
guest sharing SYVM–97, SYVSE–79
IBM-supplied default SYVSE–28
requirements SYVSE–11
sample SYVSE–29
set up SYVSE–23
updating SYVSE–28
DBNAME Directory format
incompatibilities SYVM–515, SYVSE–414
DBNAME initialization parameter OPER–173
DBname parameter
preprocessor APP–131
DBNAME parameter
specifying SYVM–55, SYVSE–49
SQLADBEX EXEC SYVM–162
SQLADBSP EXEC SYVM–146
SQLCDBEX EXEC SYVM–151, SYVM–168
SQLDBGEN EXEC SYVM–286
SQLDBINS EXEC SYVM–285
SQLLOG EXEC SYVM–229
SQLSTART EXEC SYVM–78
starting the application server SYVM–55, SYVSE–49
DBNAME parameter of exec DBA–236, DBA–245, DBA–250
DBNAME01 procedure
contents SYVSE–212
used in ADD DBSPACE operation SYVSE–124
DBP (Dynamic Backout Program) APP–18
DBPSWD initialization parameter OPER–173
DBPSWD parameter SYVSE–117
DBS utility
maintenance of a database SYVSE–117
DBS utility (Database Services utility)
automatic statistics collection PERF–109
lock escalation PERF–109
performance considerations PERF–109
reorganize PERF–70
REORGANIZE INDEX PERF–70
storage requirements SYVM–6
tape blocking PERF–109
unload and reload package PERF–110
UNLOAD block size PERF–109
dbspace APP–27
dbspace
acquiring
identifying characteristics DBA–22
identifying requirements DBA–20
restricted DBA–27
acquiring for packages SYVM–153, SYVSE–127
active pages PERF–37
ADD DBSPACE operation SYVM–146
adding DBA–20, DBA–21, PERF–62, SYVM–145, SYVSE–123
altering the design DBA–73
application development DBA–162
available pages PERF–37
back-up DBA–131
catalog information PERF–37
concept defined SYVM–144, SYVSE–122

dbspace *(continued)*
consideration for query user DBA–164
control statements SYVSE–124
creating APP–250
defining APP–250, DBA–17, DBA–20
definition SYVM–294, SYVSE–214
description DBA–19
determining internal dbspace requirements SYVM–20, SYVSE–20
determining requirements
initial SYVM–19, SYVM–20, SYVSE–18, SYVSE–20
system dbspaces SYVM–19, SYVSE–18
user dbspace SYVM–20, SYVSE–20
DROP
checkpoint PERF–99
dropping APP–255, PERF–56
dropping for force a checkpoint PERF–61
estimating sizes of DBA–215
extending PERF–62
forcing checkpoint PERF–100
free space, estimating DBA–24
full PERF–62
full
over allocating PERF–62
shadow page PERF–63
index in SYVM–144, SYVSE–122
indexes DBA–19, DBA–227
initialization parameters SYVSE–125
internal SYVM–21, SYVSE–21
LOCK DBSPACE statement PERF–109
lock size APP–254
locking ISQL–93
lockmode PERF–38
mapping table to DBA–21
mapping to dbextent PERF–56
maximum number SYVM–14, SYVSE–14
move PERF–73
naming conventions APP–27
nonrecoverable SYVM–237, SYVSE–172
nonrecoverable storage pools SYVM–243, SYVSE–178
overcommitting storage SYVM–156, SYVSE–130
owner APP–250
pages DBA–215
pages for indexes PERF–38
PCTFREE PERF–59
percentage of page free PERF–38
private SYVM–294, SYVSE–217
PRIVATE DBA–21, DBA–88, DBA–163
private
description ISQL–88
isolation level repeatable read ISQL–149
lock DIAG–70, PERF–91
setting isolation level ISQL–93
storing table ISQL–81

dbspace *(continued)*
public SYVM–19, SYVM–294, SYVSE–19, SYVSE–217
PUBLIC DBA–21, DBA–163
public
description ISQL–88
isolation level cursor stability ISQL–149
isolation level repeatable read ISQL–149
isolation level uncommitted read ISQL–149
setting isolation level ISQL–91, ISQL–93
storing table ISQL–81
reassign PERF–73
referential integrity DBA–19
releasing empty pages PERF–56
removing DBA–75
reorganize PERF–62, PERF–68
reorganizing to free storage pool pages DBA–74
requirement DBA–20, SYVM–435, SYVSE–341
resetting data DBA–131
restarting the ADD DBSPACE operation after a failure SYVM–149
scan PERF–111
scan
minimum lock level PERF–92
reorganize index PERF–72
row level locking PERF–93
size estimating DBA–23, DBA–215
size for system dbspaces SYVM–20, SYVSE–20
special
catalog SYVM–14, SYVSE–14
HELP text SYVM–14, SYVM–32, SYVSE–14, SYVSE–39
HELPTEXT DBA–143, DBA–164, SYVM–19, SYVSE–19
internal SYVM–14, SYVM–295, SYVSE–14
ISQL DBA–164, SYVM–19, SYVM–444, SYVSE–19, SYVSE–349
package SYVM–14, SYVSE–14
SAMPLE DBA–164
SYS0001 SYVM–19, SYVSE–19
SYS0002 SYVM–19, SYVSE–19
specifying initial SYVM–294, SYVSE–217
SQLADBSP EXEC SYVM–146
SQLADBSP file SYVM–147
storage pool PERF–38
SYS000n DBA–131, DBA–133
system DBA–164
system dbspace requirements SYVM–19, SYVSE–18
table in DBA–19, DBA–40, SYVM–144, SYVSE–122
table placement PERF–115
tables in DBA–21
type DBA–22
undercommitting storage SYVM–156, SYVSE–130
unload DBSU–64, DBSU–66

dbspace *(continued)*
usage parameter DBA–20, DBA–22
use in testing DBA–168
user dbspace requirements SYVM–20, SYVSE–20
DBSPACE
in deadlocks DIAG–301
recovery DIAG–48
releasing empty pages DIAG–48
scan through update statistics DIAG–234
DBSPACE 1
possible key locking problems DIAG–162
possible locking problems DIAG–179, DIAG–215
DBSPACE clause
description SQLREF–347
of DROP statement SQLREF–258
of UPDATE STATISTICS statement SQLREF–346
DBSPACE locking
decreasing DIAG–203
possible lock wait problems DIAG–202
through escalations DIAG–215
to avoid escalations DIAG–204
use of DIAG–204
dbspace_name
description SQLREF–38
in CREATE TABLE statement SQLREF–227
in DROP statement SQLREF–258
in LOCK DBSPACE statement SQLREF–306
in UPDATE STATISTICS statement SQLREF–346
dbspace-name
in ACQUIRE DBSPACE statement SQLREF–145
in ALTER DBSPACE statement SQLREF–149
in ALTER PROCEDURE statement SQLREF–151
in CREATE TABLE statement SQLREF–221
DBSPACE scans
avoiding by indexing DIAG–177
avoiding by reorganization DIAG–177
avoiding by REORGANIZE INDEX DIAG–169
minimizing impact of DIAG–171
possible I/O problems DIAG–169, DIAG–200
possible lock wait problems DIAG–176
when range predicates used DIAG–222
with large tables DIAG–200
dbspace storage
adding OPER–169
description OPER–74
displaying page usage OPER–76
percentage of free space OPER–76
show dbspace name OPER–86
show dbspace number OPER–76

dbspace storage *(continued)*
show locks OPER–86
DBSPACE value for LOCK clause
of ACQUIRE DBSPACE statement SQLREF–146
of ALTER DBSPACE statement SQLREF–149
DBSPACENAME OPER–86
DBSPACENAME column SQLREF–371
DBSPACENAME column
of SYSCATALOG SQLREF–377
of SYSDBSPACES SQLREF–386
DBSPACENO OPER–76
DBSPACENO column SQLREF–371
DBSPACENO column
of SYSACCESS SQLREF–375
of SYSCATALOG SQLREF–377
of SYSDBSPACES SQLREF–386
of SYSDROP SQLREF–388
dbspaces
internal SYVSE–124
DBSPACETYPE column SQLREF–371
DBSPACETYPE column
of SYSDBSPACES SQLREF–387
DBSS DIAG–13
DBSS
calls OPER–51
functions and subcomponents OPER–146
DBSS (Database Storage Subsystem) OPER–143, OPER–146
DBSS errors, recovering from DIAG–237
DBSSCALL counter OPER–51, PERF–22
DC trace OPER–146, OPER–171
DCREATOR column SQLREF–371
DCREATOR column
of SYSUSAGE SQLREF–407
DCSS, use to avoid paging DIAG–227
DCSSID option OPER–2
dcssID parameter
preprocessor APP–132
DCSSID parameter
EXECs SYVM–173
specifying SYVM–56
SQLADBEX EXEC SYVM–162
SQLADBSP EXEC SYVM–146
SQLDBINS EXEC SYVM–286
SQLLOG EXEC SYVM–229
SQLSTART EXEC SYVM–78
starting the application server SYVM–56
DCSSID parameter of exec DBA–236, DBA–250
DDL, definition of DIAG–131
DDM DIAG–341, DIAG–355
DDR PERF–73
DDR (DASD Dump Restore)
optional software SYVM–5
utility SYVM–5
DDR (Dump Restore Service Program) OPER–43
DEACTIVATE ALL clause
of ALTER TABLE statement SQLREF–164
DEACTIVATE FOREIGN KEY clause
of ALTER TABLE statement SQLREF–164
DEACTIVATE PRIMARY KEY clause
of ALTER TABLE statement SQLREF–164
deactivate referential constraint SQLREF–13
DEACTIVATE UNIQUE clause
of ALTER TABLE statement SQLREF–164
deactivating
foreign key ISQL–86
primary key ISQL–86
unique constraint ISQL–86
deactivation of partition PERF–44
DEADLCK counter OPER–52, PERF–22
deadlock
application design PERF–97
COUNTER PERF–98
description APP–254, DIAG–172
example PERF–97
hit ratio PERF–22
lock contention PERF–97
lock escalation PERF–98
NCUSERS PERF–85, PERF–97
overview PERF–97
performance indicator PERF–22, PERF–98
problems SYVM–64, SYVSE–57
reschedule applications PERF–97
rollback PERF–98
time required to detect PERF–97
using trace facility for DIAG–300
deadlock, description OPER–52
debug mode processing DBSU–225
DEBUG storage dump analysis DBSU–226
debugging DBSU–223, DBSU–225
DEC SQLREF–223
decimal
arithmetic
addition SQLREF–74
division SQLREF–74
multiplication SQLREF–74
precision SQLREF–74
scale SQLREF–74
SQLCODE of the SQLCA SQLREF–74
subtraction SQLREF–74
constant SQLREF–60
data type SQLREF–48
numbers SQLREF–48
operands SQLREF–73
precision SQLREF–47, SQLREF–73
scale SQLREF–73
separator ISQL–148
specifying number of places to display ISQL–115
DECIMAL
data type SQLREF–159, SQLREF–223
function SQLREF–101
function
precision SQLREF–101
scale SQLREF–101
in column definition DBA–32
storage DBA–217
decimal arithmetic operation DBA–174
DECIMAL data type DBSU–155, DBSU–156, DBSU–177
DECIMAL data type
assembler APP–313
C APP–342
COBOL APP–360
FORTRAN APP–374
PL/I APP–387
DECIMAL keyword
LIST command ISQL–134
SET command ISQL–58, ISQL–148
decimal place
changing the number displayed ISQL–46
decimal separator ISQL–58
declarations
inserting into a program SQLREF–297
DECLARE CURSOR
coded queries APP–35
DECLARE CURSOR statement SQLREF–236
DECLARE CURSOR statement
description SQLREF–236
dynamic select SQLREF–142
OPEN statement SQLREF–308
PREPARE statement SQLREF–316
select-statement invocation SQLREF–140
static select SQLREF–142
DECLARE CURSOR statement, Extended SQLREF–241, SQLREF–242
declaring
host variables
assembler APP–308
C APP–328
COBOL APP–350
FORTRAN APP–367
PL/I APP–379
return code structure
assembler APP–312
C APP–340
COBOL APP–357
FORTRAN APP–371
PL/I APP–384
static external variables
PL/I APP–379
DEDICATE parameter PERF–48
default
changing CCSID summary SYVM–304, SYVSE–226
changing CHARNAME summary SYVM–304, SYVSE–226
in syntax diagrams APP–xii, DBA–xvii, DBSU–xv, DIAG–xiii, ISQL–xiv, OPER–xiii, PERF–xiii, SQLREF–5, SYVM–xiv, SYVSE–xiii
initialization options OPER–2, OPER–3
multiple user mode parameters SYVM–56
single user mode parameters SYVM–73
default application server DBA–95
default server SYVM–101, SYVSE–83
default server_name OPER–23, SYVM–118, SYVM–119, SYVM–125, SYVSE–100, SYVSE–101, SYVSE–107

default server-name SYVM–115, SYVSE–97
defect problems DIAG–79
DEFINE statements (VSAM) SYVSE–132, SYVSE–210
defining
  a secondary production disk SYVM–272
  additional database machines SYVM–263
  database SYVM–10
  database log SYVM–16, SYVSE–16
  database minidisks SYVM–282
  database data sets SYVSE–208
  files DBSU–35
  indexes APP–257
  saved segments in VM/ESA ESA Feature operating system SYVM–178
  synonym APP–258
  tables APP–257
  tables field procedure APP–257
  tables NULL value APP–257
  tables referential integrity APP–257
  tables unique constraint APP–257
  user machines SYVM–280
  view on view APP–64
  VSAM data sets for the database SYVSE–34, SYVSE–208
definitions, terms DBSU–viii
DEFSEG
  example resource adapter above 16 megabytes SYVM–183
  using SYVM–178
defuid option
  with the CIRA transaction OPER–30
  with the CIRB transaction OPER–17
degree
  of cursor DB2 Server for VSE & VM equivalent term SQLREF–425
  of table DB2 Server for VSE & VM equivalent term SQLREF–425
delaying a checkpoint, log archive OPER–60
delaying a log archive checkpoint OPER–59
DELETE DIAG–71
delete
  on view SQLREF–18
  SQLGLOB parameters SYVSE–247
DELETE
  delete rules APP–291
  performance problem index DIAG–137
  rules APP–291
DELETE clause
  of GRANT statement SQLREF–294
  of REVOKE statement SQLREF–332
delete connected
  table APP–286
delete-connected
  definition SQLREF–14
delete-connected *(continued)*
  through multiple paths SQLREF–14
DELETE DBEXTENT operation
  initialization parameters SYVSE–138
delete rule
  cascade SQLREF–13
  CASCADE DBA–7
  dependent table DBA–8
  description SQLREF–13
  of referential constraint SQLREF–13
  parent table DBA–7
  restrict SQLREF–13
  RESTRICT DBA–7
  restrictions SQLREF–16
  set null SQLREF–13
  SET NULL DBA–7
DELETE statement
  description SQLREF–243, SQLREF–312
  EXECUTE IMMEDIATE statement SQLREF–272
  EXPLAIN statement SQLREF–274
  Extended DECLARE CURSOR statement SQLREF–241
  FETCH statement SQLREF–285
  GRANT statement SQLREF–294
  isolation level setting ISQL–94
  OPEN statement SQLREF–311
  Positioned form SQLREF–243
  PREPARE statement SQLREF–315
  Searched form SQLREF–243
DELETE statements (VSAM) SYVSE–134
DELETEAUTH column SQLREF–371
DELETEAUTH column
  of SYSTABAUTH SQLREF–406
DELETERULE column SQLREF–371
DELETERULE column
  of SYSKEYS SQLREF–394
deleting
  a user DBA–83
  data in a routine ISQL–73
  dbextent storage OPER–169
  dbextents SYVSE–133
  dbextents from storage pools SYVM–160
  dbextents initialization parameters SYVM–162, SYVSE–138
  indexes ISQL–90
  portions of an SQL statement ISQL–37, ISQL–106
  restriction for view DBA–45
  SQL objects SQLREF–258
  stored query DBA–85
  synonym ISQL–90
  table DBA–72, ISQL–82
  tables APP–257
deleting dbextent data sets SYVSE–134
delimited identifier SQLREF–37
delimiter token
  description SQLREF–36
delimiting SQL statements
  assembler APP–310
  C APP–327
  COBOL APP–349
  dynamic execution APP–209
  PL/I APP–378
DEPARTMENT sample table DBSU–235, ISQL–165, SQLREF–413
dependent
  table APP–286
dependent privilege SQLREF–333
dependent table
  definition SQLREF–12
  description DBA–7
dependently inactive table DBA–66
DEPENDENTS column SQLREF–371
DEPENDENTS column
  of SYSCATALOG SQLREF–379
deprived agent DIAG–22, PERF–89
deprived agent
  finding DIAG–22
DESC clause
  of ALTER TABLE statement SQLREF–161, SQLREF–163
  of CREATE INDEX statement SQLREF–200
  of CREATE TABLE statement SQLREF–225, SQLREF–227
  select-statement SQLREF–133
descendent
  table APP–286
descendent table
  definition SQLREF–13
DESCRIBE
  usage techniques APP–212
DESCRIBE CURSOR statement
  description SQLREF–253, SQLREF–254
DESCRIBE option
  of CREATE PACKAGE statement SQLREF–205
DESCRIBE PROCEDURE statement
  description SQLREF–255, SQLREF–257
DESCRIBE statement
  description SQLREF–248
  LABEL ON statement SQLREF–305
  PREPARE statement SQLREF–316
  SQLDA SQLREF–361
  SQLLEN value SQLREF–365
  SQLTYPE value SQLREF–365
  variables in SQLDA after DESCRIBE SQLREF–248, SQLREF–249
DESCRIBE statement, Extended SQLREF–252
descriptor name
  description SQLREF–39
descriptor_name
  in DESCRIBE statement SQLREF–248
  in EXECUTE statement SQLREF–265
  in Extended DESCRIBE statement SQLREF–252
  in Extended EXECUTE statement SQLREF–269
  in Extended FETCH statement SQLREF–288
  in Extended OPEN statement SQLREF–313
  in Extended PREPARE statement SQLREF–319

descriptor_name *(continued)*
in Extended PUT statement SQLREF–326
in FETCH statement SQLREF–284
in OPEN statement SQLREF–308, SQLREF–309
in PUT statement SQLREF–323
design
data PERF–135
database PERF–148
database generation considerations SYVM–14, SYVSE–14
evaluation PERF–135
modifying tables PERF–148
designing DB2 databases
documentation and analysis DBA–160
terminology DBA–1
DESTID keyword ISQL–138
DESTINATION (in PRINT command) ISQL–61
determining
initial dbextent requirements SYVM–21, SYVSE–21
internal dbspace requirements SYVM–20, SYVSE–20
name of column in a table ISQL–80
name of table or view ISQL–79
record count DBSU–45
determining problems OPER–139
developing application program DBA–161
developing the first keyword(s) DIAG–80
deviations, functional DIAG–127
device utilization
load measurement PERF–15
devices
adding more DIAG–185
balancing usage DIAG–187
need more for paging DIAG–221
DFHCSDUP APP–18
DFHMCT CICS macro PERF–19
DFHPCT CICS macroinstruction DBA–126
DFHPCT macro instruction SYVSE–309
DFHPPT macro instruction SYVSE–334
DFHSIT APP–18
DFHSIT
macro instruction for CICS
AMXT/MXT PERF–77
CICSPARS PERF–18
DFHSIT CICS macroinstruction DBA–126
DFI subcommand DBSU–173
diagnosis DIAG–119
diagnosis
error codes DIAG–119
error codes
common user-related DIAG–120
rolled back, excessive system wide lock requests (-912) DIAG–120
rolled back due to deadlock (-911) DIAG–119
SQL statement failed (-901) DIAG–119
diagnosis *(continued)*
error codes *(continued)*
system related DIAG–119
user-related DIAG–120
functional deviations DIAG–127
functional problems DIAG–119
of performance problems DIAG–129
of problems DIAG–271
problem flowchart DIAG–1
DICT trace OPER–171
dictionary tracing OPER–171
digit SQLREF–35
DIGITS function SQLREF–101
diminishing returns, law of PERF–1
DIRBLK parameter
SQLDBINS SYVM–285
direct access storage device (DASD)
directory capacity SYVM–431, SYVSE–338
space requirements SYVM–6
storage capacities SYVM–429, SYVSE–337
storage capacities
dbextent capacity SYVM–430, SYVSE–337
directory capacity SYVM–431, SYVSE–338
log capacity SYVM–430, SYVSE–337
storage for the DB2 Server for VM production minidisk SYVM–8
storage for the DB2 Server for VM service minidisk SYVM–8
directing the log archive to disk SYVM–206, SYVM–207
directory
additional database machine entries SYVM–278
allocation considerations SYVM–15, SYVSE–15
allocations and database size SYVM–15, SYVSE–15
buffer
DASD I/O system PERF–81
NDIRBUF PERF–83
performance indicator PERF–23
caching PERF–75
capacities of IBM DASDs SYVM–431, SYVSE–338
checkpoint PERF–99
CMS communications SYVM–12
data set SYVSE–210
delaying changes SYVM–41
description DBA–17
example control statements SYVM–273
example control statements
user machine SYVM–280
EXPAND DIRECTORY operation SYVM–150, SYVSE–126
expansion SYVM–150, SYVSE–126
file name (BDISK) SYVSE–211
in DBSS DIAG–46
inconsistencies
checking for DIAG–267
recovery actions DIAG–267
minidisk SYVM–9, SYVSE–10
directory *(continued)*
number of directory buffers OPER–165
page map table PERF–56
placement PERF–75
purpose SYVM–8, SYVSE–9
size SYVM–14, SYVM–283, SYVSE–14
size
calculating SYVM–434, SYVSE–340
defining SYVM–14, SYVSE–14
solutions PERF–8
space estimating SYVM–434, SYVSE–340
SQLCDBEX EXEC SYVM–150
verification DIAG–267
verifying OPER–11, SYVM–90, SYVSE–76
volume considerations SYVM–15, SYVSE–15
DIRREAD counter OPER–52, PERF–22
DIRWRITE counter OPER–52, PERF–22
DISABLE option, FORCE command OPER–48
disabling a DBSPACE DIAG–265
disabling VMDSS PERF–181
disciplines of dispatching SYVM–66, SYVSE–58
DISCONN SYVM–90, SYVM–140
DISCONN command OPER–10
disconnecting
security SYVM–140
disconnecting from the DB2 machine OPER–10
disconnecting the database manager SYVM–90
discontiguous saved segment
defining components SYVM–171
discontiguous saved segments OPER–2
discontiguous shared segment
defining components SYVM–171
disk
log archive SYVM–206
log archiving to SYVM–9, SYVSE–11
DISK
option of TRACE command OPER–144
disk, log archive OPER–45
disk failure recovery OPER–136
DISK LOAD
restriction SYVM–140
disk locations, VM PERF–19
dispatcher SYVM–66, SYVSE–58
dispatcher, adjusting bias OPER–162
dispatcher components DIAG–21
dispatcher components
fair share auditing DIAG–21
locating a dispatchable agent DIAG–21
prioritization scheme DIAG–21
dispatching
agents PERF–88
fair share auditing PERF–89
prioritization PERF–88
priority (VSE) PERF–76
SET QUICKDSP PERF–76

DISPBIAS
agent dispatching PERF–89
DISPBIAS initialization
parameter OPER–162, SYVM–66, SYVSE–58
DISPBIAS parameter
increasing DIAG–225
display ISQL–10
display
checkpoint performance data OPER–162
clearing ISQL–11, ISQL–14
ISQLTRACE command ISQL–132
display, issuing operator commands OPER–40
DISPLAY command ISQL–75, ISQL–109
display commands
BACKWARD ISQL–24, ISQL–103
COLUMN ISQL–27, ISQL–107
definition ISQL–21
DISPLAY ISQL–75
END ISQL–28, ISQL–110
FORMAT ISQL–48, ISQL–49, ISQL–57, ISQL–113
FORWARD ISQL–22, ISQL–121
LEFT ISQL–27, ISQL–133
PRINT ISQL–28, ISQL–136
RIGHT ISQL–26, ISQL–142
TAB ISQL–27, ISQL–159
display current settings OPER–79
display device, specifying OPER–174
display format information
storing ISQL–63, ISQL–157
display mode ISQL–13, ISQL–35
display screen
format ISQL–10
VM ISQL–10
DISPLAY SIGN HEADING SEPARATE APP–356
display terminal ISQL–3
display terminal
large display support ISQL–1
requirements SYVM–10, SYVSE–11
support ISQL–3
displayed column
heading (name)
changing ISQL–45
length, changing ISQL–47
displaying
comments DBSU–139
current SQL statement ISQL–65, ISQL–140
more than 45 columns ISQL–128
name
column in table ISQL–80
table ISQL–79
operational characteristics ISQL–134
query format characteristics ISQL–57
query result
21 or more rows ISQL–22
description ISQL–22, ISQL–27
from a routine ISQL–75, ISQL–109
LEFT command ISQL–133
RIGHT command ISQL–142
too long for the display ISQL–103, ISQL–121
displaying *(continued)*
query result *(continued)*
too wide for the display ISQL–25
stored SQL statement
LIST command ISQL–67, ISQL–134
RECALL command ISQL–65
transaction information SYVM–119, SYVSE–101
width for variable character field ISQL–119, ISQL–152
displaying status information OPER–18
disqualification, of indexes DIAG–189
DISTINCT
clause of subselect SQLREF–122
comparison rules SQLREF–53
HAVING clause APP–74
in DESCRIBE statement SQLREF–249
keyword
AVG function SQLREF–91
column function SQLREF–91
COUNT function SQLREF–92
MAX function SQLREF–93
MIN function SQLREF–94
SUM function SQLREF–95
reference ISQL–128
select-clause APP–30
distributed applications
application server APP–3
distributed configuration
application planning PERF–80
performance implication PERF–80
VM PERF–78
VSE PERF–78
distributed data
application programming DBA–14
description DBA–13
implications DBA–15
limitations and restrictions DBA–14
planning DBA–13
distributed data management (DDM) DIAG–341, DIAG–355
distributed relational database
application requester, server SQLREF–23
AR restrictions SYVSE–377
restrictions SQLREF–427, SQLREF–429, SYVM–477, SYVM–479, SYVSE–381
distributed relational database architecture
installing DRDA code SYVM–395, SYVSE–312
removing DRDA code SYVM–395, SYVSE–312
Distributed Relational Database Architecture (DRDA) SQLREF–23
Distributed Relational Resource Manager (DRRM) OPER–143
Distributed Relational Resource Manager (DRRM)
component description DIAG–9
overview DIAG–9
distributing
DASD PERF–56
distributing packages APP–148, APP–183
distribution tape PERF–173
dividing
DASD PERF–55
processor time PERF–75, PERF–76
division in SQL expressions APP–54
DLBL statement OPER–1, OPER–8
DLBL statements
database data sets SYVSE–211
updating job control SYVSE–133
DM trace OPER–146, OPER–171
DMKSNT
example entries for saved segments (base code) SYVM–179
example entries for saved segments (DRDA) SYVM–179
DML, definition of DIAG–131
DNAME column SQLREF–371
DNAME column
of SYSUSAGE SQLREF–407
document DIAG–97
double-byte character set (DBCS) SYVSE–237
double-byte character set (DBCS)
characters for C APP–342
COMMENT ON PROCEDURE statement SQLREF–181
COMMENT ON statement SQLREF–180
considerations
basic support DBSU–230
extended support DBSU–231
constants APP–59
data APP–337
data
assembler APP–311
C APP–337
COBOL APP–356
FORTRAN APP–370
PL/I APP–382
data type APP–361, APP–387
data type
assembler APP–313
FORTRAN APP–374
description DBSU–169
GRAPHIC data type DBSU–158
identifiers SYVM–314, SYVSE–237
in LIKE predicate SQLREF–87
LABEL ON statement SQLREF–305
programming languages supported SYVSE–237
truncated during assignment SQLREF–56
DOUBLE PRECISION
data type SQLREF–159, SQLREF–223
DOUBLE PRECISION data type DBSU–155, DBSU–177
double precision float APP–46
double-precision float DBSU–184
double precision floating-point SQLREF–47
double quotation marks
considerations in COBOL APP–122, APP–159
identifier DBSU–110
parameter value DBSU–138
DPLACES (FORMAT command)
description ISQL–46

DPLACES (FORMAT command) *(continued)*
multiple keyword ISQL–48, ISQL–55
DRDA SQLREF–23
DRDA
data conversion SQLREF–29
DRDA (Distributed Relational Database Architecture)
controlling access to SYVSE–119
security SYVSE–120
DRDA data streams DIAG–24
DRDA flow
DATAUNLOAD command DBSU–51
DRDA protocol
access to application server DBA–13
APPC/VM communication protocol DIAG–31
AR restrictions SYVSE–377
benefits SYVM–391, SYVSE–305
blocking PERF–105
checklist SYVM–394, SYVSE–308
communication concepts DIAG–24
CONNECT ISQL–3
CONNECT statement DBSU–19, DBSU–20
DATALOAD, DATAUNLOAD DBA–72
DATALOAD command DBSU–27
DB2 Server for VM components when using DRDA Protocol DIAG–7
DB2 Server for VSE components when Using the DRDA Option DIAG–6
DBS utility SYVM–398, SYVSE–315
description SQLREF–25
distributed consideration PERF–78
DRDA option PERF–105
EXTLUWID DBA–111, DBA–114
fetch and insert blocking PERF–80
handshaking PERF–105
heuristic decision SYVSE–321
installing DRDA code SYVM–395, SYVSE–312
introduction DBSU–6
ISQL SYVM–399
logical unit of work identifier DBA–111
overview of the DB2 Server for VM RDBMS DIAG–14
overview of the DB2 Server for VSE RDBMS DIAG–14
PACKAGE reloading DBSU–87
parameter SYVM–57
performance considerations PERF–104
possible performance problems DIAG–174, DIAG–222
preprocessing DBSU–18
PROTOCOL parameter PERF–104
removing DRDA code SYVM–395, SYVSE–312
responsibilities SYVM–392, SYVSE–306
restrictions SQLREF–427, SQLREF–429, SYVM–477, SYVM–479, SYVSE–381
SQLQRY ISQL–15
DRDA server support
accounting records SYVSE–190
DRDA TRUE support
using CICS DAXP transaction OPER–35
using CICS DAXT transaction OPER–36
DRDA user
privileged remote PERF–88
RMTUSERS PERF–87
VSE pseudo agent PERF–85
DRDA2 command
RESET CRR LOGNAMES OPER–54
resetting log names DB2 uses during Resynchronization Initialization OPER–54
DRDA2 commands
DAXP OPER–35
DAXT OPER–36
disabling DRDA2 support in CICS OPER–36
displaying in-doubt agents at the database manager OPER–77
displaying log names DB2 uses during resynchronization initialization OPER–71
displaying status of DRDA2 distributed unit of work support (SYNCPNT parameter) OPER–79
erasing records of in-doubt LUWs forced by the FORCE command OPER–55
FORCE RINIT for forcing Resynchronization Initialization OPER–49
FORCE RREC for forcing Resynchronization Recovery OPER–49
managing DRDA2 support in CICS OPER–34
RESET INDOUBT OPER–55
setting parameter defualts used when DRDA2 support is enabled in CICS OPER–35
SHOW CONNECT and resynchronization initialization OPER–69
SHOW CONNECT and resynchronization recovery OPER–69
SHOW CONNECT protocol indication OPER–64
SHOW CRR LOGNAMES OPER–71
SHOW INDOUBT OPER–77
SYNCPNT startup parm OPER–170
DRDA2 Commands
CRR commands OPER–133
using SHOW CONNECT and SHOW INDOUBT OPER–132
drive
alternate tape SYVM–75
drive, alternative tape OPER–9
DROP
performance problem index DIAG–137
DROP DBSPACE APP–255, DBA–58, DBA–84
DROP DBSPACE
checkpoint PERF–99
command PERF–115
how it works DIAG–336
DROP FOREIGN KEY clause
of ALTER TABLE statement SQLREF–163
DROP INDEX DBA–84
DROP INDEX
how it works DIAG–336
DROP INDEX statement ISQL–90
DROP PACKAGE DBA–85
DROP PACKAGE
how it works DIAG–337
DROP PRIMARY KEY clause
of ALTER TABLE statement SQLREF–163
DROP PROCEDURE
how it works DIAG–337
DROP PROCEDURE statement
EXECUTE IMMEDIATE statement SQLREF–272
DROP PSERVER
how it works DIAG–337
DROP PSERVER statement
EXECUTE IMMEDIATE statement SQLREF–272
drop referential constraint SQLREF–13
DROP statement
description SQLREF–258
EXECUTE IMMEDIATE statement SQLREF–272
PREPARE statement SQLREF–315
DROP STATEMENT
statement SQLREF–263
DROP SYNONYM
how it works DIAG–337
DROP SYNONYM statement ISQL–90
DROP TABLE APP–257, DBA–57, DBA–84, DBA–184
DROP TABLE
how it works DIAG–338
possible I/O problems DIAG–169, DIAG–200, DIAG–224
DROP TABLE statement
description ISQL–82
DROP SYNONYM statement ISQL–90
effect on stored query ISQL–87
DROP UNIQUE clause
of ALTER TABLE statement SQLREF–163
DROP VIEW APP–67, DBA–84
DROP VIEW
how it works DIAG–338
DROP VIEW statement ISQL–90
dropping
column APP–257, DBA–184
dbspace DBA–75
index for a table DBA–185
resource adapter code DBA–252
table APP–257, DBA–72, DBA–184
view APP–67
DRRM, component overview DIAG–9
DRRM (Distributed Relational Resource Manager) OPER–143

DSC (Data System Control) DBA–17, OPER–143, OPER–146, SYVM–143, SYVSE–121
DSC (Data System Control)
list of functions and subcomponents OPER–147
DSECTs used by the database manager APP–304
DSPLYDEV
initialization options OPER–6
initialization parameter OPER–174
DSPLYDEV initialization parameter SYVSE–64
DSPSTATS initialization parameter OPER–162, SYVM–61, SYVSE–53
DSQU CICS transaction
setting default CHARNAME SYVSE–246
setting default DBCS SYVSE–249
DTB (Dynamic Transaction Backout) APP–18
DTYPE column SQLREF–371
DTYPE column
of SYSUSAGE SQLREF–407
dual copy SYVM–227
dual log OPER–162, PERF–101
dual log recovery SYVSE–142
dual logging DIAG–56
dual logging
placement of logs SYVM–17, SYVSE–17
using SYVM–227, SYVSE–165
DUALLOG initialization parameter DBA–134, OPER–162, SYVM–227, SYVSE–165
dump
CP
TRACE CLOSE option OPER–148
TRACE NOCLOSE option OPER–148
description DIAG–278
navigation DIAG–284
processing DIAG–275
specifying dump types OPER–162
DUMP
CP
snapshot dump OPER–147
option of TRACE command OPER–144
dump, minidump OPER–131
dump, storage DBSU–225
DUMP keyword ISQL–132
Dump Restore Service Program (DDR) OPER–43
DUMPALL trace formatter option OPER–150
dumps
snapshot OPER–145
DUMPTYPE initialization parameter OPER–162, SYVM–71, SYVSE–64
DUOW (distributed unit of work) SQLREF–26
duplicate
rows
preventing selection ISQL–128
duplicate rows
in fullselect SQLREF–128
preventing SQLREF–12
duration
date APP–60, APP–272, SQLREF–74
labeled APP–272, SQLREF–74
lock APP–254, PERF–91
time APP–60, APP–272, SQLREF–75
timestamp APP–60, APP–274, SQLREF–75
DVERIFY OPER–11
DVERIFY parameter SYVM–90, SYVSE–76
DVERIFY parameter of SQLEND DIAG–267
DYNALC preprocessor parameter APP–125, APP–163
DYNAM compiler option
COBOL APP–363
dynamic
application backout DBA–120
page allocation PERF–56
recovery from user errors DBA–128
dynamic assign, archive OPER–42
Dynamic Backout Program (DBP) APP–18
dynamic data conversion APP–224
dynamic data conversion
assembler APP–312
C APP–341
COBOL APP–358
FORTRAN APP–372
PL/I APP–385
dynamic select
DECLARE CURSOR statement SQLREF–142
FETCH statement SQLREF–142
OPEN statement SQLREF–142
dynamic SQL SQLREF–9
dynamic SQL
description APP–27, SQLREF–9, SQLREF–141
EXECUTE IMMEDIATE statement SQLREF–271
EXECUTE statement SQLREF–265
execution SQLREF–141
host variables SQLREF–142
obtaining information with DESCRIBE SQLREF–248
parameter markers SQLREF–142
preparation SQLREF–141
PREPARE statement SQLREF–314
SQLDA SQLREF–361
statement SQLREF–9
use for efficiency DIAG–196
use with range predicates DIAG–223
dynamic statement
extended DBA–153, DBA–155
support DBA–153, DBA–154
dynamic statements
comparison with extended dynamic statements APP–236
data conversion APP–224
description APP–234
extended APP–234, APP–244
dynamic statements *(continued)*
extended
comparison with dynamic statements APP–236
introduction APP–234
relationship between APP–235
remote unit of work considerations APP–245
logical unit of work considerations APP–244
SQLDA use APP–226
dynamic storage size management PERF–192
Dynamic Transaction Backout (DTB) APP–18
dynamic transaction backout program of the CICS subsystem DBA–120

E

EBCDIC
mixed data SQLREF–46
editing
PRIVATE table DBA–155
routine DBA–158
effective use measurement
description PERF–13
elapsed time PERF–4, PERF–15
elements of performance PERF–1
embedded data
DATALOAD DBSU–32
ending DBSU–168
maximum length DBSU–164
embedded input data DBSU–163
embedding statements SQLREF–141
EMP_ACT sample table DBSU–245, ISQL–175, SQLREF–415
EMPLOYEE sample table DBSU–237, ISQL–167, SQLREF–414
empty character string SQLREF–60
empty log
invalid index PERF–71
empty string SQLREF–44
enable PERF–170
enable checklist PERF–170
enable code PERF–173
enabling a DBSPACE DIAG–266
encoding scheme SQLREF–30
END
PF key ISQL–179
query ISQL–28
reference ISQL–110
END DECLARE SECTION APP–8
END DECLARE SECTION statement SQLREF–264
END RESTORE response SYVM–214, SYVSE–158
ENDDATA subcommand DBSU–168
ending
INPUT ISQL–110
logical unit of work ISQL–31
online support OPER–26
operator command ISQL–110
query result
END command ISQL–28, ISQL–110
the DB2 session OPER–10
ending embedded data DBSU–168

ending logical units of work
batch applications APP–16
CICS/VSE transactions APP–17
ICCF applications APP–16
ENDLUW control parameter DBSU–117
engineering change (EC) PERF–2
ENGLISH character set (CCSID=37) SYVM–308, SYVSE–230
entering
commands ISQL–10
commands
description ISQL–10
multiple input lines ISQL–14
while viewing online help information ISQL–17
CP commands ISQL–95
data in a table
INPUT command ISQL–125
introduction ISQL–2
your user ID and password ISQL–7
entity DBA–1
entity integrity APP–283, SQLREF–11, SQLREF–12
entry call tracing OPER–146, OPER–171
entry point of DB2 Server for VM user programs SYVM–82
ENTRY trace OPER–146, OPER–171
environment considerations
VM/ESA operating system SYVM–272
environments, operating OPER–vii
equijoin DBA–5
equipment failures SYVM–216, SYVSE–159
ERASE
restriction SYVM–140
ERASE command ISQL–67
ERASE keyword
FORMAT command ISQL–52, ISQL–53
ERASE statement ISQL–67, ISQL–111
erasing
duplicate values in report ISQL–49
more than one stored command ISQL–67
stored SQL statement ISQL–67, ISQL–111
tables APP–257
errcds DIAG–119
error
closes cursor SQLREF–310
DELETE statement SQLREF–245
description SQLREF–325
during PUT SQLREF–324
FETCH statement SQLREF–285
INSERT statement SQLREF–302
UPDATE statement SQLREF–343
error codes DIAG–119
error codes
-101 (command limitation exceeded) DIAG–120
-15000 (Alter/drop failed) DIAG–124
-204 (creator.table not found) DIAG–121
-301 (input variable data type not compatible with column) DIAG–121
error codes *(continued)*
-302 (input host variable too large) DIAG–122
-303 (output data type not compatible) DIAG–122
-304 (output host variable too large) DIAG–122
-305 (indicator variable is missing) DIAG–122
-313 (mismatch between number of host variables) DIAG–123
-450 (storage overlay in stored procedure server) DIAG–123
-471 (SQL call failed) DIAG–123
-901 (cannot use STORE CLOCK value) DIAG–119
-911 (rolled back due to a deadlock) DIAG–119
-912 (rolled back due to excessive lock requests) DIAG–120
-913 (SQL call timeout) DIAG–124
-915 (rolled back, excessive locks for this LUW) DIAG–120
common user-related DIAG–120
system related DIAG–119
error handling
application programs APP–195
batch and VSE/ICCF applications DBA–165
DBS Utility application DBA–166
description APP–193
preprocessors APP–153
error messages OPER–4
error mode processing ISQL–74
ERROR option
of CREATE PACKAGE statement SQLREF–205
ERROR preprocessor parameter APP–123, APP–161
error reference information
codes DBSU–224
types DBSU–223
ERRORBYTE column SQLREF–371
ERRORBYTE column
of SYSSTRINGS SQLREF–403
errors
Database Services Utility error handling DBSU–223
debugging DBSU–223
multi-row operations ISQL–32
routine ISQL–74, ISQL–152
SQL statements ISQL–10
errors from VSAM DIAG–281
ESCALATE PERF–22
escalate
isolation level SQLREF–22
lock SQLREF–20
ESCALATE
counter PERF–35, PERF–96
ESCALATE counter OPER–51, SYVM–65, SYVSE–57
ESCALATE counter
uses of DIAG–176, DIAG–214
ESCALATE indicator
definition of DIAG–130
escalation SYVM–64, SYVSE–56
escalation
definition of DIAG–131
description OPER–51
excessive locking DIAG–176
lock OPER–166
low lock levels DIAG–203
performance problem index DIAG–144
small NLRB parameters DIAG–215
when it is good DIAG–214
ESCAPE clause
in LIKE predicate SQLREF–87
ESCAPE keyword
in LIKE predicate SQLREF–86
ESDS
files managed by SYVSE–185
space management accounting files SYVSE–185
estimating
calculating PCTINDEX DBA–227
catalog dbspace (SYSTEM.SYS0001) SYVM–435, SYVSE–341
CUREXTNT SYVM–19, SYVSE–18
dbextent sizes SYVM–156, SYVSE–130
dbspace size DBA–23, DBA–215
dbspace size for routines SYVM–444, SYVSE–349
dbspace sizes for stored SQL statements SYVM–445, SYVSE–350
directory space requirement SYVM–434, SYVSE–340
index size DBA–228
internal dbspace requirements SYVM–20, SYVSE–20
ISQL dbspace requirements SYVM–444, SYVSE–349
length of a stored row DBA–216
MAXDBSPC parameter SYVM–18, SYVSE–18
MAXEXTNT parameter SYVM–18, SYVSE–18
MAXPOOLS parameter SYVM–18, SYVSE–17
number of data pages in a dbspace DBA–219
number of header pages for dbspace DBA–218
size of response PERF–147
storage for a database SYVM–429, SYVSE–337
storage for a table DBA–216
storage pool requirements SYVM–434, SYVSE–340
storage pool size DBA–23
storage pool sizes SYVM–156, SYVSE–130
estimating resource usage ISQL–148
EUC (Extended UNIX Code) SQLREF–46, SYVM–327, SYVSE–250
EUR (IBM European standard) SQLREF–49

EUR (IBM European standard)
format SQLREF–50
EUR attribute
DATE option
CREATE PACKAGE
statement SQLREF–203
evaluating
logical data design PERF–135
predicates APP–44
evaluation order of
operations SQLREF–78
examining the SQLCA APP–197
example
accessing a database on another
processor DBA–192
accounting file job control
(tape) SYVSE–187
adding a column to a table DBA–65
adding dbextents SYVM–159
adding dbspaces SYVM–150
altering design of a table DBA–64
cataloging database job
control SYVSE–212
changing parameters of a
dbspace DBA–74
changing user passwords DBA–107
connecting to default application
server DBA–95
connecting under authorization
ID DBA–103
conventions PERF–xv
copying tables DBA–62
DASD accounting file job control
(SAM) SYVSE–185
DASD accounting file job control
(VSAM) SYVSE–183
DBS utility commands
creating accounting
tables SYVM–257, SYVSE–198
DBS Utility commands
loading accounting
tables SYVM–260, SYVSE–202
defining the directory data
set SYVSE–211
defining VM minidisks for a
database SYVM–283
defining VSAM data sets for a
database SYVSE–208, SYVSE–209
deleting dbextents SYVM–161
equivalent minidisk sizes on different
devices SYVM–432
establishing a default application
server DBA–95
estimating the number of data pages
for a table DBA–221
field procedure SYVM–381,
SYVSE–296
generating your own
database SYVSE–213
granting access to VSE
guests DBA–91
granting authorities DBA–91
initialization parameters in CMS
file SYVM–88
merging data from multiple
tables DBA–63
monitoring privileges DBA–94
example *(continued)*
moving data between
dbspaces DBA–62
printing the HELP text DBA–145
reloading the HELP Text DBA–145
removing a dbspace DBA–75
removing user from application
server DBA–83
restricting access using
views DBA–104, DBA–106
revoking authorities DBA–92
running an application program under
VSE/ICCF SYVSE–69
running the DBS Utility DBA–112
set up a new ISQL user DBA–81
starting a DB2 Server for VSE & VM
terminal session ISQL–3
starting the application server in
single user mode SYVM–81,
SYVSE–71
switching application
server DBA–97, DBA–103
synonym usage in application
program development DBA–169
SYS0001 storage estimating
formula SYVM–440, SYVSE–346
typical security audit
queries DBA–115
unloading the
"PUBLIC"."HELPTEXT"
dbspace DBA–145
exceptions, arithmetic DBSU–172
EXCLUDE keyword (FORMAT
command)
description ISQL–43
example ISQL–43
multiple keywords ISQL–55
reference ISQL–115
excluded columns
including ISQL–44, ISQL–117
excluding column from the
display ISQL–43, ISQL–115
exclusive
isolation level SQLREF–20
exclusive lock
description APP–254, APP–255,
DIAG–69, PERF–90
EXCLUSIVE option
IN EXCLUSIVE MODE clause
of LOCK DBSPACE
statement SQLREF–306
of LOCK TABLE
statement SQLREF–307
EXEC
ARISAVES SYVM–178
ARISDBHD DBA–254
ARISDBLD DBA–255
ARISDBMA SYVM–468
ARISFDEF SYVM–289
ARISFPKY SYVM–36
ARISMEX SYVM–211, SYVSE–155
ARISPDFC SYVM–277, SYVM–473
authorization DBA–256
example ISQL–97
examples DBSU–121
invoking OPER–149
procedures DBSU–121
EXEC *(continued)*
sample programs APP–22
SQLADBEX SYVM–162, SYVM–211,
SYVSE–155
SQLADBEX
example SYVM–159, SYVM–161
SQLADBSP SYVM–146, SYVM–211,
SYVSE–155
SQLADBSP
example SYVM–150
SQLBINS SYVM–211, SYVSE–155
SQLBOOTS SYVM–472
SQLCDBEX SYVM–151, SYVM–168
SQLCIREO DBA–250, SYVM–211,
SYVSE–155
SQLDBGEN SYVM–211, SYVM–286,
SYVSE–155
SQLDBID DBA–251
SQLDBINS SYVM–284, SYVM–285
SQLGENLD PERF–177, SYVM–188
SQLGLOB DBA–245
SQLINIT APP–115, DBA–95,
DBA–235
SQLLEVEL DBA–256
SQLLOG SYVM–211, SYVM–229,
SYVSE–155
SQLPREP APP–116
SQLRMEND DBA–124, DBA–252
SQLSTART APP–146, DBA–242,
OPER–2, PERF–178, PERF–180,
SYVM–211, SYVSE–155
SQLTRFMT OPER–149
STARTUP parameter SYVM–211,
SYVSE–155
syntax DBA–235, DBA–254,
DBA–255, DBA–256
using ISQL–97
using DB2 Server for VM
facility DBA–155
using ISQL DBA–150
EXEC SQL
restriction DBSU–145
EXEC trace OPER–172, OPER–173
EXEC trace
RDS OPER–147
RDS
executives OPER–147
functions and
subcomponents OPER–147
EXECIO
restriction SYVM–140
EXECS SYVM–474
EXECS
description SYVM–475
SQLBOOTS SYVM–474
SQLGENLD SYVM–474
syntax SYVM–474
executable statement SQLREF–140,
SQLREF–141
EXECUTE
usage techniques APP–210
EXECUTE IMMEDIATE
usage techniques APP–209
EXECUTE IMMEDIATE statement
building statements SQLREF–141
description SQLREF–271
executing statements SQLREF–141

EXECUTE IMMEDIATE statement *(continued)*
PREPARE statement SQLREF–316
EXECUTE ON clause
of GRANT statement SQLREF–289
of REVOKE statement SQLREF–328
EXECUTE privilege
automatic revocation APP–267
EXECUTE statement
description SQLREF–265
executing statements SQLREF–141
PREPARE statement SQLREF–316
SQLDA SQLREF–361
SQLLEN value SQLREF–365
SQLTYPE value SQLREF–365
EXECUTE statement, Extended SQLREF–269, SQLREF–270
executing applications
multiple user mode APP–146
single user mode APP–146
executing online support OPER–15
execution machine
description SYVM–5
EXIST option
of CREATE PACKAGE statement SQLREF–205
EXIST preprocessor parameter APP–124, APP–162
existing data
striping PERF–198
EXISTS predicate APP–90
EXISTS predicate
description SQLREF–83
NOT keyword SQLREF–83
exit
installation SYVM–337, SYVSE–257
EXIT command ISQL–19, ISQL–112
exit point
for field procedures SYVM–368, SYVSE–285
EXIT trace OPER–146, OPER–171
exits
abnormal end SYVM–86
accounting SYVM–342, SYVSE–262
cancel SYVM–363, SYVSE–281
coding your own SYVM–354, SYVSE–273
date SYVM–351, SYVSE–270, SYVSE–271
time SYVM–351, SYVSE–270, SYVSE–271
exp SQLREF–7
EXPAND DIRECTORY operation
ARIMEXBD utility SYVSE–126
SQLCDBEX EXEC SYVM–150
expanded storage PERF–160
expanded storage
auxiliary storage PERF–41
buffer pool PERF–81
expanding tables APP–257
EXPLAIN DBA–160
EXPLAIN
cost table PERF–138
database design PERF–148
explicit and implicit PERF–137
plan table PERF–139
reference table PERF–141
EXPLAIN *(continued)*
referential constraint PERF–142
statement PERF–135
structure table PERF–143
EXPLAIN column SQLREF–371
EXPLAIN option
of CREATE PACKAGE statement SQLREF–203
EXPLAIN option, setting isolation level ISQL–93
EXPLAIN preprocessor parameter APP–125, APP–162
EXPLAIN statement
description SQLREF–274
EXECUTE IMMEDIATE statement SQLREF–272
PREPARE statement SQLREF–315
explainable statement SQLREF–275
explanation table DBA–160
explanation table
general description PERF–135
using PERF–135, PERF–137
explicit
connect DBA–97
CONNECT DBA–87
explicit termination of LUW DIAG–18, DIAG–19
exposed name
table SQLREF–66
expression
adding APP–54
arithmetic operators SQLREF–71, SQLREF–73
column_name SQLREF–71
concatenation operator SQLREF–72
constant SQLREF–71
constants used APP–55
datetime operands SQLREF–74
decimal operands SQLREF–73
description APP–54, APP–55
dividing APP–54
expression SQLREF–71
floating-point operands SQLREF–74
function SQLREF–71
host_variable SQLREF–71
host variables APP–54
in a basic predicate SQLREF–79
in a quantified predicate SQLREF–80
in a select statement ISQL–128
in a subselect SQLREF–122
in BETWEEN predicate SQLREF–81
in DESCRIBE statement SQLREF–250
in IN predicate SQLREF–84
integer operands SQLREF–73
labeled_duration SQLREF–71
multiplying APP–54
numeric SQLREF–73
operators SQLREF–71
precedence of operation SQLREF–78
special_register SQLREF–71
string SQLREF–72
subselect SQLREF–122
subtracting APP–54
value SQLREF–71
EXTEND initialization parameter OPER–163, SYVM–72, SYVSE–64
EXTEND input file commands DIAG–249
Extended CLOSE statement SQLREF–178
extended DBCS support DBSU–231
Extended DECLARE CURSOR statement SQLREF–241, SQLREF–242
Extended DESCRIBE statement
description SQLREF–252
SQLDA SQLREF–361
extended dynamic SQL
description SQLREF–9, SQLREF–10
extended dynamic statement DBA–153, DBA–155
extended dynamic statement
assembler example APP–238
comparison with dynamic statements APP–236
description APP–234
introduction APP–234
logical unit of work considerations APP–244
relationship between APP–235
remote unit of work considerations APP–245
Extended EXECUTE statement
description SQLREF–269
SQLDA SQLREF–361
Extended FETCH statement
description SQLREF–288
SQLDA SQLREF–361
Extended OPEN statement
description SQLREF–313
SQLDA SQLREF–361
Extended PREPARE statement SQLREF–318, SQLREF–322
Extended PUT statement
description SQLREF–326
SQLDA SQLREF–361
extender, alphabetic SQLREF–35
extension
virtual addressability PERF–76
extents, database
SHOW DBCONFIG command OPER–73
SHOW DBEXTENT command OPER–74
extents, database, SHOW DBEXTENT command OPER–74
external source member
including APP–141
EXTLUWID
DRDA protocol DBA–111, DBA–114
eye-catcher
application program SYVSE–74

F

facility
CICS restart resynchronization OPER–135
CICS/VS monitoring OPER–50
trace OPER–139
failure DBA–119
failure
application DBA–119
DASD DBA–119

failure *(continued)*
DASD
damaged database SYVM–195, SYVSE–145
damaged database and log SYVM–196, SYVSE–146
damaged log SYVM–196, SYVSE–146
DBS Utility processing DBA–126
equipment SYVM–216, SYVSE–159
ISQL session DBA–126
online application DBA–125
preprocessor DBA–127
restarting the ADD DBSPACE operation SYVM–149
subsystem DBA–119
system DBA–119, SYVM–211, SYVSE–154
user logic error DBA–119
failure, recovery OPER–131
failure, recovery
disk failures OPER–136
general OPER–131
fair share
auditing PERF–89
scheduling PERF–75
fair share auditing DIAG–22
fair-share auditing SYVM–66, SYVSE–59
fair share auditing
finding deprived agents DIAG–22
interval sizes DIAG–22
overview DIAG–22
fallback procedures PERF–2
fast application server
online support shutdown OPER–27
shutdown OPER–13
fast CCW translation PERF–76
fast DB2 Server for VM
shutdown SYVM–93
fast DB2 Server for VSE
shutdown SYVSE–77
fast restore DBA–135, SYVSE–49
FASTTR
job control option PERF–76
fault
page PERF–43
FB-512 storage devices PERF–167, SYVSE–9, SYVSE–10
FETCH
assignment rules SQLREF–53
description APP–37, DIAG–71
error handling for a select-list APP–203
format APP–37
fetch and insert blocking APP–139, APP–173
fetch blocking PERF–105
fetch blocking
distributed database PERF–80
FETCH statement
description SQLREF–284
dynamic select SQLREF–142
OPEN statement SQLREF–310
SQLDA SQLREF–361
SQLLEN value SQLREF–365
SQLTYPE value SQLREF–365
static select SQLREF–142
FETCH statement,
Extended SQLREF–288
fetch with cursor stability DIAG–127
field-decoding
definition SYVM–367, SYVSE–284
input and output SYVM–379, SYVSE–294
field defaults, output data DBSU–182
field-definition
definition SYVM–367, SYVSE–284
input and output SYVM–375, SYVSE–290
field-encoding
definition SYVM–367, SYVSE–284
input and output SYVM–377, SYVSE–293
field procedure DBSU–49
field procedure
abnormal end SYVM–370, SYVSE–287
collating sequence APP–34
control blocks
CVD SYVM–374, SYVSE–289
FPIB SYVM–373, SYVSE–289
FPPL SYVM–372, SYVSE–288
FPPVL SYVM–375, SYVSE–290
FVD SYVM–374, SYVSE–289
description SYVM–367, SYVSE–284
example SYVM–381, SYVSE–296
exit point SYVM–368, SYVSE–285
in comparisons DBA–37
in LIKE predicate SQLREF–87
specified by FIELDPROC clause DBA–35
specified when defining a column DBA–31
using APP–275
using null values DBA–31
value descriptors SYVM–374, SYVSE–289
when creating a table DBA–35
field procedure information block (FPIB) SYVM–373, SYVSE–289
field procedure parameter list (FPPL) SYVM–372, SYVSE–288
field procedure parameter value list (FPPVL) SYVM–375, SYVSE–290
field procedures
data type considerations SYVM–369, SYVSE–286
FIELDPROC
clause of ALTER TABLE statement DBA–35
clause of CREATE or ALTER TABLE SYVM–368, SYVSE–285
clause of CREATE TABLE statement DBA–35
parameters DBA–35
FIELDPROC clause SYVM–370, SYVSE–287
FIELDPROC clause
of ALTER TABLE statement SQLREF–161
of CREATE TABLE statement SQLREF–222, SQLREF–225
file maintenance and reporting DBA–148
file parameter, example OPER–5
file support for DB2 Server for VM database manager SYVM–76
FILEDEF
ALT option SYVM–75
issued by SQLSTART SYVM–81
issued by SQLSTART EXEC SYVM–79
log archive to disk SYVM–79, SYVM–208
tape SYVM–74
FILEDEF command SYVM–75
FILEDEF command
ALT option OPER–9
ARIARCH OPER–9
ARILARC OPER–9
ARITRAC OPER–9
block size option OPER–9
DATALOAD DBSU–35
DATAUNLOAD DBSU–60
RELOAD DBSPACE DBSU–79
RELOAD PACKAGE DBSU–92
RELOAD TABLE DBSU–79
syntax and notes DBSU–249
UNLOAD DBSPACE DBSU–66
UNLOAD PACKAGE DBSU–92
UNLOAD TABLE DBSU–66
files
CMS DBSU–8
CMS
initialization parameters SYVM–56
CMS commands SYVM–288
loading DB2 Server for VM SYVM–10
SQLADBEX SYVM–164
SQLADBEX file SYVM–164
SQLADBSP SYVM–147
SQLDBN SYVM–289, SYVM–298
SQLFDEF SYVM–163, SYVM–288, SYVM–298
files, CMS initialization options OPER–4
filter factor PERF–124
filtered
database access OPER–163
log recovery OPER–163
filtered log recovery DBA–128, DIAG–249
filtered log recovery
referential integrity DIAG–261
final totals ISQL–50, ISQL–116
finding deprived agents DIAG–22
finding names
column in table ISQL–80
table ISQL–79
FINDSYS
diagnose instruction SYVM–82
FIPS APP–133, APP–166
first failure data capture DIAG–87
First Failure Data Capture support OPER–131
FIRSTKEYCOUNT
use in determining index selectivity DIAG–153
FIRSTKEYCOUNT column SQLREF–371

FIRSTKEYCOUNT column
of SYSINDEXES SQLREF–391
FIRSTROW column SQLREF–371
FIRSTROW column
of SYSACCESS SQLREF–376
fixed-block architecture devices SYVM–8
fixed-block architecture devices
dbextent capacity SYVM–430, SYVSE–337
log capacity SYVM–430, SYVSE–337
FIXED data type DBSU–155, DBSU–176
fixed-length
character string SQLREF–44
graphic string SQLREF–47
rows DBA–29
Flagger
description APP–133, APP–166
SQLFLAG APP–165
FLDLENGTH column SQLREF–371
FLDLENGTH column
of SYSFIELDS SQLREF–389
FLDPROC column SQLREF–371
FLDPROC column
of SYSCOLUMNS SQLREF–386
of SYSKEYCOLS SQLREF–393
FLDTYPE column SQLREF–371
FLDTYPE column
of SYSFIELDS SQLREF–389
FLOAT
data type SQLREF–159, SQLREF–223
function SQLREF–102
FLOAT data type
assembler APP–313
C APP–342
COBOL APP–360
FORTRAN APP–374
PL/I APP–387
FLOAT data type of column DBA–32
FLOAT or DOUBLE PRECISION data type DBSU–155, DBSU–177
FLOAT or REAL data type DBSU–155, DBSU–177
floating point
unloaded data DBSU–192
floating-point
arithmetic SQLREF–74
constant SQLREF–60
number SQLREF–47
precision SQLREF–47
floating point arithmetic operation DBA–175
fold file
distributed database PERF–80
folding SQLREF–36
folding rules
coded character set identifier (CCSID) SYVM–330, SYVSE–253
SBCS character set SYVM–303, SYVSE–225
TRANSLATE scalar function SYVM–306, SYVSE–228
FOR BIT DATA clause
of ALTER TABLE statement SQLREF–159
of CREATE TABLE statement SQLREF–224
FOR clause
of CREATE SYNONYM statement SQLREF–219
of EXPLAIN statement SQLREF–275
of Extended PREPARE statement SQLREF–319
of UPDATE STATISTICS statement SQLREF–346
FOR DBSPACE clause
of UPDATE STATISTICS statement SQLREF–346
FOR MIXED DATA clause
of ALTER TABLE statement SQLREF–159
of CREATE TABLE statement SQLREF–224
FOR SBCS DATA clause
of ALTER TABLE statement SQLREF–159
of CREATE TABLE statement SQLREF–224
FOR TABLE clause
of UPDATE STATISTICS statement SQLREF–346
FOR update-clause APP–34
FOR UPDATE OF clause
of DELETE statement SQLREF–247
of select-statement SQLREF–133
FORCE DBA–98, DBA–133, SYVM–114, SYVSE–96
FORCE operator command
COMMIT option OPER–47
DISABLE option OPER–47
effect on application programs OPER–48
forcing users to end work OPER–46
ROLLBACK option OPER–47
syntax OPER–47
VSE guest sharing OPER–48, OPER–58
FORCE RMTUSER operator command
forcing remote users to end work OPER–48
syntax OPER–48
forceable agents OPER–58
forcing
a checkpoint PERF–61
DB2 Server for VSE remote user OPER–48
in-doubt logical units of work OPER–136
user OPER–46
foreign key APP–286
foreign key
activating ISQL–86
activating and deactivating SQLREF–17
adding ISQL–86
CREATE TABLE DBA–39
creating ISQL–85
creating a referential constraint ISQL–85
deactivating ISQL–86
description DBA–7, SQLREF–13
multiple SQLREF–13
planning for DBA–7
privilege required ISQL–84
FOREIGN KEY clause
of ALTER TABLE statement SQLREF–162
of CREATE TABLE statement SQLREF–225
FORMAT DBA–153, ISQL–42, ISQL–57, ISQL–113
format
&dbsu list output DBSU–99
data passed to a field procedure (FPPVL) SYVM–375, SYVSE–290
default output data field DBSU–183
FPIB SYVM–374, SYVSE–289
local date DBSU–154, DBSU–175
local time DBSU–154, DBSU–176
value descriptors (CVDs) SYVM–375, SYVSE–290
FORMAT
restriction SYVM–140
FORMAT control parameter DBSU–116
format information for a display
changed because of table change ISQL–87
saving ISQL–65, ISQL–67
stored SQL statement ISQL–67
storing ISQL–63, ISQL–66
formatting
database OPER–169
database minidisks SYVM–288
report from a query result ISQL–49, ISQL–57, ISQL–113
trace output OPER–149, OPER–150
forms for reporting a DB2 Server for VSE & VM problem DIAG–105
forms for reporting a DB2 Server for VSE & VM problem
abnormal termination DIAG–105
documentation problem DIAG–116
incorrect or missing output DIAG–113
message DIAG–107
NO RESPONSE DIAG–110
output missing or incorrect DIAG–113
SLOW RESPONSE DIAG–112
FORTRAN APP–371
FORTRAN
application program
BEGIN DECLARE SECTION statement SQLREF–171
host variable SQLREF–68, SQLREF–271
INCLUDE SQLCA SQLREF–360
INCLUDE statement SQLREF–298
PREPARE statement SQLREF–314
SQLCA SQLREF–355
varying-length string variables SQLREF–44
continuation of SQL statements APP–366
data types APP–374
declaring host variables APP–367
embedding SQL statements APP–369
embedding SQL statements example APP–11
long character strings APP–369

FORTRAN *(continued)*
preprocessor SYVM–6, SYVM–426, SYVSE–335
preprocessor restrictions APP–373
preprocessor parameter APP–120
release level SYVM–4, SYVSE–6
sample program APP–366
FORWARD command
description ISQL–22
PF key ISQL–179
reference ISQL–121
FPEXITPARM column SQLREF–371
FPEXITPARM column
of SYSFPARMS SQLREF–390
FPEXITPARML column SQLREF–371
FPEXITPARML column
of SYSFIELDS SQLREF–389
FPIB (field procedure information block) SYVM–373, SYVM–374, SYVSE–289
FPNAME column SQLREF–371
FPNAME column
of SYSFIELDS SQLREF–389
of SYSFPARMS SQLREF–390
FPPARMLIST column SQLREF–371
FPPARMLIST column
of SYSFIELDS SQLREF–389
FPPL (field procedure parameter list) SYVM–372, SYVSE–288
FPPVL (field procedure parameter value list) SYVM–372, SYVM–375, SYVSE–288, SYVSE–290
FPWORKAREA column SQLREF–371
FPWORKAREA column
of SYSFIELDS SQLREF–389
fragment of syntax
in syntax diagrams APP–xiii, DBA–xviii, DBSU–xvi, DIAG–xiv, ISQL–xiv, OPER–xiv, PERF–xiv, SQLREF–5, SYVM–xv, SYVSE–xiv
fragmentation DIAG–53
fragmentation
index PERF–70
fragmented index DIAG–194
free classes DIAG–45
free space
for index entries DBA–48
in a dbspace DBA–24
lowering DIAG–158
use to avoid DBSPACE scans DIAG–171
free space, dbspace OPER–76
free space management DIAG–44
free space management
free classes DIAG–45
freeing log space DIAG–59
FREEPCT column SQLREF–371, SYVM–154, SYVSE–128
FREEPCT column
of SYSDBSPACES SQLREF–387
SYSDBSPACES SYVM–154, SYVSE–128
FRENCH character set SYVM–309, SYVSE–231
FREQ1PCT column SQLREF–371
FREQ1PCT column
of SYSCOLSTATS SQLREF–382
FREQ1VAL column SQLREF–371
FREQ1VAL column
of SYSCOLSTATS SQLREF–382
FREQ2PCT column SQLREF–371
FREQ2PCT column
of SYSCOLSTATS SQLREF–382
FREQ2VAL column SQLREF–371
FREQ2VAL column
of SYSCOLSTATS SQLREF–382
FROM
correlation name APP–83
description APP–31
joins APP–68
PREPARE statement APP–229
FROM clause
of DELETE statement SQLREF–244
of Extended PUT statement SQLREF–326
of PREPARE statement SQLREF–314
of PUT statement SQLREF–323
of REVOKE statement SQLREF–328, SQLREF–332, SQLREF–333
of SELECT INTO statement SQLREF–338
of subselect SQLREF–121, SQLREF–124
SELECT statement ISQL–129
FROM NULL clause
of Extended PREPARE statement SQLREF–319
FSERASE macro
restriction SYVM–140
FSWRITE macro
restriction SYVM–140
full &part. dump, specifying OPER–162
full qualification DBSU–111
FULLKEYCOUNT
use in determining index selectivity DIAG–153
use to find hot keys DIAG–183
FULLKEYCOUNT column SQLREF–371
FULLKEYCOUNT column
of SYSINDEXES SQLREF–391
FULLSCREEN ISQL–4
fullselect
description APP–29, SQLREF–128
in parentheses
ISO-ANS SQL(89) equivalent term SQLREF–426
ISO-ANS SQL(89) equivalent term SQLREF–426
select-statement SQLREF–132
function SQLREF–96
function
column
AVG SQLREF–91
COUNT SQLREF–92
description SQLREF–91
MAX SQLREF–93
MIN SQLREF–94
SUM SQLREF–95
DESCRIBE statement SQLREF–249
description SQLREF–91
nesting SQLREF–96
RETRIEVE DBA–60
function *(continued)*
scalar
CHAR SQLREF–96
DATE SQLREF–98
DAY SQLREF–99
DAYS SQLREF–100
DECIMAL SQLREF–101
description SQLREF–96
DIGITS SQLREF–101
FLOAT SQLREF–102
HEX SQLREF–103
HOUR SQLREF–104
INTEGER SQLREF–104
LENGTH SQLREF–105
MICROSECOND SQLREF–106
MINUTE SQLREF–106
MONTH SQLREF–107
SECOND SQLREF–107
STRIP SQLREF–108
SUBSTR SQLREF–110
TIME SQLREF–113
TIMESTAMP SQLREF–113
TRANSLATE SQLREF–115
VALUE SQLREF–117
VARGRAPHIC SQLREF–119
YEAR SQLREF–120
functional deviations DIAG–127
functional deviations
fetch with cursor stability DIAG–127
lockout with cursor stability DIAG–127
functional problems, diagnosis DIAG–119
functional problems, diagnosis
system-related error codes DIAG–119
functions
used in grouping APP–72
FVD (field value descriptor) SYVM–372, SYVM–374, SYVSE–288, SYVSE–289

G

GCBE abend code DBA–126
GEN trace OPER–171
general file support SYVM–76
general recovery OPER–131
general rules for naming data objects APP–27
generating a database SYVM–13, SYVSE–13
generating a database
additional database machines SYVM–263
example job control SYVSE–213
planning SYVM–13, SYVSE–13
generating agent structures OPER–165
generation/loading of test data DBA–159
generator tracing
access generator OPER–147
DBSS subsystem OPER–171
statement generator OPER–147, OPER–172
GERMAN character set SYVM–310, SYVSE–232
GETVIS area usage SYVSE–334
GLOBAL resource SYVM–56

glossary
performance index
headers DIAG–130
performance indicator
terms DIAG–130
performance terms DIAG–131
GO TO clause SQLREF–348
GO TO clause
of WHENEVER
statement SQLREF–348
GOTO clause
of WHENEVER
statement SQLREF–348
GRANT DBA–90, DBA–93, ISQL–87
grant
authorities DIAG–327
run privileges
(Authorization) DIAG–328
table privileges
(Authorization) DIAG–327
GRANT
exclusive locking on
REVOKE DIAG–181
performance problem
index DIAG–137
GRANT option
description APP–266
grant privileges
table ISQL–87
GRANT SCHEDULE DBA–89
GRANT statement
EXECUTE IMMEDIATE
statement SQLREF–272
PREPARE statement SQLREF–315
used to grant
Package Privileges SQLREF–289,
SQLREF–290
System Authorities SQLREF–291,
SQLREF–293
Table Privileges SQLREF–294,
SQLREF–296
GRANTEE column SQLREF–371
GRANTEE column
of SYSCOLAUTH SQLREF–381
of SYSPROGAUTH SQLREF–398
of SYSTABAUTH SQLREF–405
GRANTEETYPE column SQLREF–371
GRANTEETYPE column
of SYSTABAUTH SQLREF–405
granting
authorities APP–264
authorities
already owned APP–265
authority DBA–90, DBA–91
privilege DBA–93
remote user DBA–91
GRANTOR column SQLREF–371
GRANTOR column
of SYSCOLAUTH SQLREF–381
of SYSPROGAUTH SQLREF–398
of SYSTABAUTH SQLREF–405
graph
SHOW LOCK GRAPH
command OPER–88
SHOW LOCK GRAPH
example OPER–92
GRAPHIC
choosing rather than
VARGRAPHIC DBA–34
data type SQLREF–159, SQLREF–224
in column definition DBA–33
graphic constants
PL/I formats APP–60
SQL format APP–60
GRAPHIC data type DBSU–158,
DBSU–175
GRAPHIC data type
assembler APP–313
C APP–342
COBOL APP–361
FORTRAN APP–374
PL/I APP–387
GRaphic preprocessor
parameter APP–125, APP–163
graphic string
constant
support SQLREF–62
description SQLREF–47
fixed-length SQLREF–47
host variable SQLREF–47
group
search condition ISQL–130
group-by-clause
description APP–32
GROUP BY clause
comparison rules SQLREF–53
correlated subquery
considerations APP–85
description APP–72
maximum number of
columns SQLREF–352
maximum total length of
columns SQLREF–352
of subselect SQLREF–121,
SQLREF–125
results with subselect SQLREF–123
SELECT statement ISQL–130
subqueries APP–81
GROUP option of FORMAT command
multiple keywords ISQL–55
outline report ISQL–49
reference ISQL–116
total ISQL–51
group query APP–32
group query
See group-by-clause APP–32
grouped
table
DB2 Server for VSE & VM
equivalent term SQLREF–425
view
DB2 Server for VSE & VM
equivalent term SQLREF–425
grouped query result ISQL–130
grouping
feature APP–72
subtotal ISQL–51, ISQL–116
grouping column
DB2 Server for VSE & VM equivalent
term SQLREF–425
identified in GROUP
BY SQLREF–125
grouping queries
VARCHAR APP–73
VARGRAPHIC APP–73
guest sharing
accessing and operator
responsibilities SYVM–97,
SYVSE–79
concurrency PERF–87
DBNAME directory SYVM–97,
SYVSE–79
distributed database PERF–78
starting SYVM–97, SYVSE–79
VM/ESA features
supported SYVM–1
guest sharing, VSE DBA–195, OPER–vii,
OPER–15
guidelines
cursor stability isolation
level ISQL–92
repeatable read isolation
level ISQL–94
tuning PERF–1
uncommitted read isolation
level ISQL–92

H

halting the application server
description OPER–10
online support OPER–26
handling of agents DIAG–19
handshaking
DRDA PERF–105
hardcopy output of HELP text
using DBS Utility DBA–145
using ISQL DBA–146
hardware
problems PERF–2
upgrading PERF–2
hardware failure recovery OPER–136
hardware requirements SYVM–6,
SYVSE–8
hashing
key, possible lock wait
problems DIAG–145
HAVING clause
correlated subqueries APP–85
description APP–32, APP–74
maximum number of
predicts SQLREF–352
of subselect SQLREF–121,
SQLREF–126
reference ISQL–130
results with subselect SQLREF–123
subqueries APP–79, APP–81
header page
description PERF–58
number PERF–58
proportion to other pages PERF–58
header page in a dbspace DBA–24,
DBA–218
header pages APP–252
header pages
SYS0001 SYVM–440, SYVSE–345
HELP
alternate language ISQL–16, ISQL–60

HELP *(continued)*
command
isolation level setting ISQL–93
information viewing
setting isolation level ISQL–93
isolation level setting ISQL–93
online ISQL–16
PF keys ISQL–179
reference ISQL–122
typing command ISQL–17
help text
installation prompt SYVM–278
Help text
multiple language SYVM–304, SYVSE–226
HELP text
adding a topic DBA–141
CMS files SYVM–333
copyright notice DBA–145
creating your own tables DBA–142
dbspace DBA–164
enlarging the HELPTEXT dbspace DBA–143
in alternate languages DBA–137
loading
SQLDBINS EXEC SYVM–297
modification DBA–137
moving to another dbspace DBA–145
national language SYVM–330, SYVM–335, SYVSE–253
printing the text DBA–145
service disk storage SYVM–8
table DBA–139
HELPTEXT dbspace SYVM–19, SYVSE–18
heuristic decision SYVSE–321
heuristic decisions
in-doubt LUW OPER–77
in-doubt LUWs OPER–55
HEX
function SQLREF–103
function
hexadecimal SQLREF–103
hexadecimal constant SQLREF–60
hexadecimal constants
within expressions APP–59
hexadecimal values of the sample character sets SYVM–306, SYVSE–228
hiding bad columns DIAG–153
hierarchy of locks PERF–90
high CPU usage
bad statistics DIAG–151, DIAG–187
CMS work unit support DIAG–162
CREATE INDEX DIAG–166
DBSPACE scan DIAG–169
DRDA protocol used to access a Like-database DIAG–174
fragmented index DIAG–194
in one DB machine DIAG–217
index disqualification DIAG–189
index maintenance DIAG–192
indicator, definition of DIAG–130
inefficient search DIAG–195
inefficient SELECT list DIAG–198
insufficient indexing DIAG–199
invalid entity DIAG–199
invalid index DIAG–199
high CPU usage *(continued)*
joins DIAG–232
large DBSPACE DIAG–200
large sort DIAG–166
missing search condition DIAG–209
nonunique key prefix DIAG–235
old package DIAG–218
performance problem
index DIAG–141
possible problem DIAG–212
range predicate DIAG–222
small buffer DIAG–156
small CHKINTVL DIAG–160
unclustered index DIAG–193, DIAG–211
high I/O
bad statistics DIAG–151, DIAG–187
causing high CPU usage DIAG–212
CREATE INDEX DIAG–166
DBSPACE scans DIAG–169, DIAG–200
fragmented index DIAG–194
index disqualification DIAG–189
index maintenance DIAG–192
inefficient search DIAG–195
insufficient indexing DIAG–199
joins DIAG–232
large DBSPACE DIAG–200
large sort DIAG–166
missing search condition DIAG–209
nonunique key prefix DIAG–235
old package DIAG–218
performance problem
index DIAG–143
range predicate DIAG–222
small buffer DIAG–156
small CHKINTVL DIAG–160
too many agents DIAG–230
unclustered index DIAG–193, DIAG–211
UPDATE STATISTICS DIAG–234
utilization
indicator, definition of DIAG–130
performance problem
index DIAG–143
high I/O utilization
possible problems DIAG–185, DIAG–186
high-level-language program DBA–147
high selectivity, false sense of DIAG–152
HIGH2KEY column SQLREF–371
HIGH2KEY column
of SYSCOLUMNS SQLREF–384
highlighting
conventions DBA–xi
text DBSU–xi
HIGHSTOR PERF–26
history area SYVM–232, SYVSE–167
hit ratio
deadlock PERF–22
description PERF–7, PERF–13
directory buffer PERF–23
local buffer PERF–23
waitlock PERF–23
HOLD command
description ISQL–38
PF9 ISQL–179
HOLD command *(continued)*
reference ISQL–123
hold file
distributed database PERF–80
host identifier SQLREF–36, SQLREF–37
host_identifier
length limitation SQLREF–351
host_label
in WHENEVER
statement SQLREF–348
host language
comments SQLREF–36
description APP–4
host structure APP–308, APP–328, APP–350, APP–367, APP–379
host structure
COBOL APP–353
description APP–57, SQLREF–69
in FETCH statement SQLREF–284
in INSERT statement SQLREF–299
in OPEN statement SQLREF–308
in PUT statement SQLREF–323
in SELECT INTO
statement SQLREF–338
indicator array SQLREF–69
host-variable SQLREF–253, SQLREF–255
host variable
assembler APP–311
CCSID
application
requester/server SQLREF–32
character string SQLREF–44
declared in assembler APP–308
declared in C APP–328, APP–333, APP–382
declared in COBOL APP–350
declared in FORTRAN APP–367
declared in PL/I APP–379
description APP–56, SQLREF–68
dynamically defined
statements APP–229
embedded statements SQLREF–141
FORTRAN APP–370
function parameters
used in C APP–335
host_identifier SQLREF–68
in BEGIN DECLARE SECTION
statement SQLREF–170
in DECLARE CURSOR
statement SQLREF–239
in END DECLARE SECTION
statement SQLREF–264
in syntax diagrams APP–x, DBA–xv, DBSU–xiii, DIAG–xii, ISQL–xii, OPER–xi, PERF–xi, SQLREF–3, SYVM–xii, SYVSE–xii
INDICATOR keyword SQLREF–68
indicator variable SQLREF–68
INTO clauses APP–41
length attribute SQLREF–79
main variable SQLREF–68
maximum number in an SQL
statement SQLREF–352
maximum number of declarations in a precompiled program SQLREF–352
naming convention APP–27
null value SQLREF–68

host variable *(continued)*
nulls APP–61
numeric SQLREF–48
parameter markers SQLREF–68
PL/I APP–382
possible path selection problems DIAG–222
restriction on use in CREATE VIEW APP–64
restriction on use in REVOKE APP–267
search conditions APP–54
statement preparation SQLREF–142
substitution for parameter markers SQLREF–265
truncation APP–61
used in a program APP–56
host_variable
description SQLREF–39
in CREATE PACKAGE statement SQLREF–202, SQLREF–207
in EXECUTE IMMEDIATE statement SQLREF–271
in EXECUTE statement SQLREF–265
in Extended PUT statement SQLREF–326
in FETCH statement SQLREF–284
in INSERT statement SQLREF–299
in LIKE predicate SQLREF–86
in OPEN statement SQLREF–308
in PREPARE statement SQLREF–314
in PUT statement SQLREF–323
in SELECT INTO statement SQLREF–338
in SELECT statement SQLREF–339
host variable followed by an indicator variable
ISO-ANS SQL(89) equivalent term SQLREF–426
host_variable_list
description SQLREF–39, SQLREF–268
in EXECUTE statement SQLREF–265
in FETCH statement SQLREF–284
in INSERT statement SQLREF–299
in OPEN statement SQLREF–308, SQLREF–309
in PUT statement SQLREF–323
in SELECT INTO statement SQLREF–338
host_variable-list
in IN predicate SQLREF–84
host_variable_structure
in FETCH statement SQLREF–284
hot spot
in catalog tables DIAG–179
in user tables DIAG–183
HOUR
function SQLREF–104
labeled duration SQLREF–71
HOURS
labeled duration SQLREF–71
hypothetical change to data DBA–186

I

I/O
capacity exceeded DIAG–185
I/O *(continued)*
cost PERF–134
counter PERF–15
DASD balancing PERF–72
DASD I/O as a resource PERF–10
DASD I/O system PERF–81
fast CCW translation PERF–76
general consideration PERF–74
in DBSS DIAG–46
index on performance problems DIAG–143
not balanced DIAG–186
reducing rate DIAG–187
IBM DB2 for VM Control Center PERF–9
IBM European standard SQLREF–49
IBM USA standard (USA) SQLREF–49
ICCF applications, modules required APP–177
ICCF program termination APP–16
ICREATOR column SQLREF–371
ICREATOR column
of SYSINDEXES SQLREF–390
IDCAMS
backup PERF–48
dataset location PERF–20
IDCAMS program SYVSE–131, SYVSE–133, SYVSE–208
identification statements for database data sets SYVSE–211
IDENTIFIED BY clause
of CONNECT statement SQLREF–187, SQLREF–193
of GRANT statement SQLREF–291, SQLREF–292
identifier
blank DBSU–111
delimited SQLREF–37
description APP–27, SQLREF–36
host SQLREF–37
logical unit of work OPER–47
long APP–70, SQLREF–37
lowercase letter DBSU–110
ordinary SQLREF–37
parameter OPER–167
reserved words DBSU–111
short SQLREF–37
special character DBSU–111
identifiers
national language SYVM–332, SYVSE–254
identifying
self DBSU–19
IGNORE command
example ISQL–14
reference ISQL–124
SQL line ISQL–37
usage ISQL–14
IID column SQLREF–371
IID column
of SYSINDEXES SQLREF–391
immediate application server
online support shutdown OPER–27
shutdown OPER–13
immediate DB2 Server for VM shutdown SYVM–93
immediate DB2 Server for VSE shutdown SYVSE–77
IMMEDIATE keyword
of EXECUTE IMMEDIATE statement SQLREF–271
implicit
connect APP–115, DBA–95
CONNECT DBA–87
CONNECT support DBA–101
connection APP–151
revocation of privileges APP–267
implicit CONNECT support SYVM–104, SYVSE–86
implicit termination of LUW DIAG–18, DIAG–19
improvement process
performance PERF–2
improving performance DBSU–227
improving query performance ISQL–90
IN clause
of CREATE TABLE statement SQLREF–227
of DROP STATEMENT statement SQLREF–263
of Extended DECLARE CURSOR statement SQLREF–241
of Extended EXECUTE statement SQLREF–269
of Extended PREPARE statement SQLREF–319
in-doubt logical units of work SYVM–109, SYVM–112, SYVM–114, SYVSE–91, SYVSE–94, SYVSE–96
in-doubt logical units of work
definition OPER–135
description OPER–58
in-doubt LUW OPER–77
in-doubt LUWs OPER–55
IN EXCLUSIVE MODE clause
description SQLREF–306
LOCK DBSPACE statement SQLREF–306
LOCK TABLE statement SQLREF–307
IN predicate APP–81
IN predicate
description SQLREF–84
instead of OR DIAG–196
NOT keyword SQLREF–84
use in place of OR DIAG–190
in-progress command, canceling ISQL–15
IN SHARE MODE clause
LOCK DBSPACE statement SQLREF–306
LOCK TABLE statement SQLREF–307
IN_TRAY sample table DBSU–247, ISQL–177, SQLREF–417
inactive
constraint APP–293
removing referential constraints APP–295
table APP–293
INACTIVE column SQLREF–371

INACTIVE column
of SYSCATALOG SQLREF–379
inactive key
description DBA–65
implicit DBA–66
inactive table
description DBA–66
INAME column SQLREF–371
INAME column
of SYSINDEXES SQLREF–390
of SYSKEYS SQLREF–394
INCCSID column SQLREF–371
INCCSID column
of SYSSTRINGS SQLREF–403
INCLUDE APP–141, APP–175, DBA–162
INCLUDE
assembler APP–311
C APP–327
COBOL APP–355
FORTRAN APP–371
PL/I APP–379
INCLUDE keyword (FORMAT command) ISQL–44, ISQL–117
INCLUDE SQLCA
assembler language APP–312
C APP–340
COBOL APP–357
FORTRAN APP–371
language specifics SQLREF–359
PL/I APP–384
pseudocode APP–11, APP–194
INCLUDE SQLDA
assembler language APP–312
C APP–341
language specifics SQLREF–367
PL/I APP–385
pseudocode APP–213
INCLUDE statement
description SQLREF–297
SQLCA SQLREF–355
SQLDA SQLREF–361
including
CICS/VSE procedures APP–177
external source members APP–141, APP–175
extra linkage modules APP–177
input from Source Statement Library APP–175
relocatable modules APP–176
secondary input from VM CMS file APP–142
including excluded columns in a display ISQL–44, ISQL–117
incompatibilities, release to release
2.1 and 1.3.5 SQLREF–430, SQLREF–432, SYVM–480, SYVM–482, SYVSE–382, SYVSE–384
2.2 and 2.1 SQLREF–432, SQLREF–435, SYVM–482, SYVM–485, SYVSE–384, SYVSE–387
3.1 and 2.2 SQLREF–435, SQLREF–446, SYVM–485, SYVM–495, SYVSE–387, SYVSE–397
3.2 and 3.1 SYVM–495, SYVM–502, SYVSE–397, SYVSE–403
3.3 and 3.2 (VM only) SQLREF–446, SQLREF–452, SYVM–502, SYVM–509
incompatibilities, release to release *(continued)*
3.4 and 3.2 (VSE only) SQLREF–456, SQLREF–466, SYVSE–403, SYVSE–412
3.4 and 3.3 (VM only) SQLREF–452, SQLREF–456, SYVM–509, SYVM–513
3.5 and 3.4 SQLREF–466, SYVM–513, SYVSE–412
5.1 and 3.5 SQLREF–466, SYVM–513, SYVSE–413
6.1 and 5.1 SQLREF–467, SYVM–514, SYVSE–413
7.1 and 6.1 SYVM–515, SYVSE–414
description SQLREF–429, SYVM–479, SYVSE–381
inconsistency
because of cursor stability APP–135, APP–169
cursor stability
inconsistencies APP–135, APP–169
inconsistent
data APP–18
state APP–18, APP–194
inconsistent directory DIAG–267
inconsistent directory
checking for DIAG–267
recovery actions DIAG–267
incorrect or missing output DIAG–97
increasing log size SYVSE–166
increasing the size of the logs SYVM–228
independent table
definition SQLREF–13
index
access path PERF–111
activating and deactivating SQLREF–17
adding DBA–185
avoiding on frequently updated columns DBA–52
catalog information PERF–38
causes of invalid PERF–72
cluster ratio PERF–38
clustered PERF–38, PERF–63
CLUSTERED DBA–48
clustered versus not clustered DIAG–53
clustering DIAG–52, PERF–38, PERF–64
CLUSTERING DBA–48, DBA–51
clustering
default versus clustering PERF–64
unclustered PERF–67
clustering strategy PERF–64
clustering to avoid I/O's DIAG–194
creating APP–257, DBA–17, DBA–47, PERF–113
DBSS tracing OPER–146
default strategy PERF–64
description DBA–47, SQLREF–17
disadvantages PERF–114
disqualification DIAG–189
dropping DBA–185, DIAG–146
duplicate key value DBA–52
estimating size of DBA–228
index *(continued)*
ever increasing PERF–63
foreign key PERF–116
fragmentation PERF–70
fragmented DIAG–194
free space
catalog table PERF–39
fragmentation PERF–70
fully matched PERF–118
index-only access PERF–113
invalid DBSU–140, DBSU–230, DIAG–51, PERF–71, SYVM–32, SYVSE–40
key SQLREF–11
key
column order DBA–47
considerations DBA–47, DBA–50
location in dbspaces DBA–20, SYVM–145, SYVSE–123
lock contention PERF–92
locking DIAG–74
lockmode PERF–39
longest key SQLREF–352
maintenance DBA–48
maintenance, possible I/O problems DIAG–192
management DIAG–49
management, fragmentation DIAG–53
management, space management DIAG–51
maximum byte count SQLREF–352
maximum number on a table SQLREF–352
migration considerations DBA–52
naming convention APP–27
no longer clustered DIAG–193
nonunique DBA–52
nonunique key prefix problems DIAG–235
on performance problems DIAG–135
on performance problems
agent related DIAG–140
data authorization DIAG–137
data definition DIAG–137
data manipulation DIAG–137
data utilities DIAG–138
general DIAG–135
high CPU usage DIAG–141
I/O related DIAG–143
locking related DIAG–144
low CPU utilization DIAG–141
recovery control DIAG–139
special case DIAG–145
storage related DIAG–144
on problems by performance symptom DIAG–139
page
description PERF–58
free space PERF–60
proportion to other pages PERF–58
reserved in a dbspace PERF–38
running out PERF–63
pages, possible lock wait problems DIAG–145

index *(continued)*
pages in a dbspace DBA–25, DBA–227
PCTFREE PERF–70
PCTFREE consideration DBA–48
performance considerations DBA–51
primary key DBA–39
re-creating DIAG–192, DIAG–195
re-design to avoid hot keys DIAG–184
recommendation PERF–114
release level PERF–39
reorganization DBSU–140, OPER–169
reorganize PERF–70
reorganize invalid PERF–72
REORGANIZE INDEX DIAG–195
reorganizing on catalog tables DBA–76
restriction for view APP–63, DBA–45
retrieving catalog information about DBA–53
scan PERF–112
scan minimum lock level PERF–92
show invalid indexes OPER–81
sorting PERF–114
structure, basic DIAG–49
transient DIAG–52, PERF–71
unclustered identifying PERF–65
unique access path type PERF–113
creating DBA–47
general description DBA–48
row level locking PERF–92
when to use DBA–51
with key matching predicate PERF–113
INDEX clause
of DROP statement SQLREF–258
of GRANT statement SQLREF–294, SQLREF–295
of REVOKE statement SQLREF–332, SQLREF–333
index eligible predicate
definition of DIAG–131
use of DIAG–190
index_id
description SQLREF–39
index key
CREATE INDEX statement SQLREF–199
description DBA–47
prefix, nonunique problems DIAG–235
index_name
description SQLREF–39
in CREATE INDEX statement SQLREF–199, SQLREF–200
in DROP statement SQLREF–258
length limitation SQLREF–351
INDEX trace OPER–146, OPER–171
INDEXAUTH column SQLREF–371
INDEXAUTH column
of SYSTABAUTH SQLREF–406
indexing
after loading DIAG–192
concepts DIAG–49
hiding bad columns DIAG–153
insufficient DIAG–199
need to cluster DIAG–211
on catalog tables DIAG–164
on sort columns DIAG–199
possible I/O problems DIAG–166, DIAG–189, DIAG–235
Possible I/O problems DIAG–193, DIAG–194, DIAG–211
smoothing keys DIAG–153
table ISQL–90
to avoid DBSPACE scans DIAG–177, DIAG–201
to avoid I/O's DIAG–190, DIAG–192, DIAG–194, DIAG–199, DIAG–212, DIAG–225, DIAG–233
use of numeric data types DIAG–235
INDEXTYPE column SQLREF–371
INDEXTYPE column
of SYSINDEXES SQLREF–390
INDICATE USER
command PERF–15
description PERF–8
example PERF–16
indicator
COMM WAITS, definition of DIAG–130
CONSISTENTLY HIGH RESPONSE TIME, definition of DIAG–130
definition of DIAG–130
ESCALATES, definition of DIAG–130
HIGH I/O UTILIZATION, definition of DIAG–130
LINK WAITS, definition of DIAG–130
LOCK WAITS, definition of DIAG–131
LOG I/O'S, definition of DIAG–131
LOW CPU UTILIZATION, definition of DIAG–131
LOW I/O UTILIZATION, definition of DIAG–131
PAGING, definition of DIAG–131
PERFORMANCE, definition of DIAG–130
PERIODIC HIGH RESPONSE TIME, definition of DIAG–131
indicator array SQLREF–69
indicator array
description APP–57
in assembler APP–308
in C APP–328
in COBOL APP–350
in FORTRAN APP–367
in PL/I APP–379
INDICATOR keyword
indicator variables APP–61
indicator variable
description APP–57, APP–61, SQLREF–68
detecting nulls APP–63
detecting truncation APP–63
EXECUTE IMMEDIATE statement SQLREF–271
indicator variable *(continued)*
FETCH statement APP–37
in assembler APP–308
in C APP–328
in COBOL APP–350
in FORTRAN APP–367
in PL/I APP–379
meaning of values returned APP–62
PREPARE statement SQLREF–314
SQLDA SQLREF–364
indicators
performance PERF–2
indicators, performance PERF–3
individual device utilization
load measurement PERF–15
INFILE, RELOAD DBSPACE command DBSU–197
INFILE parameter
RELOAD DBSPACE command DBSU–195
RELOAD TABLE command DBSU–200
INFILE's LIST parameter DBSU–164
INFILE subcommand DBSU–162
infix operator SQLREF–73
influencing data access
with catalog statistics PERF–133
initial storage SYVM–423
initialization, storage layout after DIAG–291
initialization parameter
BLOCK PERF–105
CHKINTVL PERF–99
LOGMODE PERF–99
NCUSERS PERF–84, PERF–85
NDIRBUF PERF–81
NLRBS PERF–95
NLRBU PERF–95
NPACKAGE PERF–84
NPACKPCT PERF–84
NPAGBUF PERF–81
PCTFREE PERF–60, PERF–69
PROTOCOL PERF–104
retrieval PERF–8, PERF–20
initialization parameters
ACCOUNT OPER–173, OPER–174, SYVM–60, SYVSE–53
ADD DBEXTENT SYVSE–138
ADD DBSPACE operation SYVSE–125
AMODE SYVM–56
ARCHPCT OPER–161, SYVM–70, SYVSE–62
change settings OPER–55
CHARNAME OPER–161, SYVM–57, SYVSE–50
CHKINTVL OPER–161, SYVM–69, SYVSE–62
CMS file SYVM–88
CMS files OPER–4, OPER–167
DBMODE OPER–174, SYVM–56
DBNAME OPER–173, SYVM–55, SYVSE–49
DBPSWD OPER–173
DCSSID SYVM–56
DELETE DBEXTENT SYVSE–138

initialization parameters *(continued)*
DISPBIAS OPER–162, SYVM–66, SYVSE–58
display current settings OPER–79
DSPLYDEV OPER–6, OPER–174, SYVSE–64
DSPSTATS OPER–162, SYVM–61, SYVSE–53
DUALLOG OPER–162
DUMPTYPE OPER–162, SYVM–71, SYVSE–64
EXTEND OPER–163, SYVM–72, SYVSE–64
list OPER–161
LOGMODE OPER–164, SYVM–69, SYVSE–61
LTIMOUT SYVM–67, SYVSE–60
MAPPING OPER–175
maximums SYVM–447
multiple user mode SYVM–54, SYVM–79, SYVSE–47
NCSCANS OPER–165, SYVM–67, SYVSE–59
NCUSERS OPER–165, SYVM–62, SYVSE–54
NDIRBUF OPER–165, SYVM–64, SYVSE–56
NLRBS OPER–166, SYVM–64, SYVSE–56
NLRBU OPER–166, SYVM–64, SYVSE–56
NPACKAGE OPER–166, SYVM–63, SYVSE–55
NPACKPCT OPER–166, SYVM–63, SYVSE–55
NPAGBUF OPER–167, SYVM–63, SYVSE–56
overriding OPER–6, SYVM–56, SYVM–88, SYVSE–50, SYVSE–74
parameter data set creation SYVSE–75
parameter file creation SYVM–88
PARMID OPER–167, SYVSE–50, SYVSE–74
PROCMXAB OPER–167, SYVM–68, SYVSE–61
PROGNAME OPER–167
PROTOCOL OPER–175, SYVM–57
PTIMEOUT OPER–167, SYVM–68, SYVSE–61
RMTUSERS OPER–174, SYVSE–49
SAVEINTV OPER–175
SECALVER OPER–170, SYVM–61, SYVSE–53
SECTYPE OPER–170, SYVM–61, SYVSE–54
SEPINTDB OPER–176
single user mode application programs SYVM–72, SYVSE–65
SLOGCUSH OPER–168
SOSLEVEL OPER–168, SYVM–71, SYVSE–63
source member OPER–4
specifying OPER–3
SQLADBEX EXEC SYVM–162
STARTUP OPER–169, SYVM–56, SYVSE–49
initialization parameters *(continued)*
SYNCPNT OPER–170, SYVM–60, SYVSE–53
SYSMODE OPER–170, SYVM–56, SYVSE–49
TARGETWS OPER–176
TCPPORT OPER–171, SYVM–61, SYVSE–54
TRACCONV OPER–173, SYVM–72, SYVSE–65
TRACDBSS OPER–143, OPER–171, SYVM–72, SYVSE–65
TRACDRRM OPER–171, SYVM–72, SYVSE–65
TRACDSC OPER–143, OPER–172, SYVM–72, SYVSE–65
TRACEBUF OPER–172, SYVM–72, SYVSE–65
TRACRDS OPER–143, OPER–172, SYVM–72, SYVSE–65
TRACSTG OPER–172, SYVM–72, SYVSE–65
TRACWUM OPER–173, SYVM–72, SYVSE–65
initializing
online support OPER–15
SQLDA APP–226
your user machine APP–115
initializing a user machine
setting system defaults DBA–244
inner table PERF–127
INPUT DBA–60
input area ISQL–11, ISQL–12
INPUT command
data in a table ISQL–125
input control card file
building task DBSU–9
embedded data DBSU–32
errors DBSU–224
SQL statements DBSU–145
input data for DATALOAD DBSU–169
input host variables APP–36
input parameters OPER–161
input record
limitations DBSU–152
skipping DBSU–47
input_record_id_clauses, example DBSU–151
inputting
ending ISQL–110
isolation level setting ISQL–93
nullifying input ISQL–102
routine ISQL–75
saving a portion of input ISQL–144
INSERT DIAG–71
insert
blocking PERF–80, PERF–105
distributed database PERF–80
multiple row PERF–105
on view SQLREF–17
restriction for view DBA–45
rule
dependent table DBA–8
for foreign key DBA–40
for primary key DBA–40
parent table DBA–8
SQLGLOB parameters SYVSE–247
INSERT
assignment rules SQLREF–53
data from another table ISQL–82
format 2 problems DIAG–232
INSERT rules APP–289
isolation level setting ISQL–93, ISQL–94
performance problem
index DIAG–137
rules for referential integrity APP–289
with subselect DBA–168, DBA–184
insert and fetch blocking APP–139, APP–173
insert-block
in PUT statement SQLREF–324
INSERT by subselect SQLREF–299
INSERT clause
of GRANT statement SQLREF–294, SQLREF–295
of REVOKE statement SQLREF–332, SQLREF–333
insert cursor
in DECLARE CURSOR statement SQLREF–236
in OPEN statement SQLREF–308
INSERT logic DIAG–52, PERF–64
INSERT logic
default logic DIAG–52
insert rule
description SQLREF–16
insert-statement
in DECLARE CURSOR statement SQLREF–236, SQLREF–238
INSERT statement
description SQLREF–299
EXECUTE IMMEDIATE statement SQLREF–272
EXPLAIN statement SQLREF–274
GRANT statement SQLREF–295
OPEN statement SQLREF–311
PREPARE statement SQLREF–315
INSERT using VALUES SQLREF–299
INSERT with subselect DBA–184
INSERTAUTH column SQLREF–371
INSERTAUTH column
of SYSTABAUTH SQLREF–406
installation
defaults
changing CCSID SYVM–304, SYVSE–226
changing CHARNAME SYVM–304, SYVSE–226
exit SYVM–337, SYVM–381, SYVSE–257, SYVSE–296
installation option
overview PERF–169
production system PERF–169
removing VMDSS PERF–169
saved segment PERF–169
installation planning SYVSE–1
installation process
CMS communications directory SYVM–11
DBNAME directory SYVSE–23

installation process *(continued)*
defining a user machine SYVM–11
generating an database SYVM–10
hardware requirements SYVSE–1
loading DB2 Server for VM SYVM–10
planning SYVM–1
SNA NETID file SYVM–12
software requirements SYVSE–1
installation replaceable exits SYVM–351, SYVSE–270
installation requirement
CP directory PERF–205
DASD PERF–166
database disk PERF–168
database machine PERF–165, PERF–166
database machine DASD PERF–168
dbextent PERF–168
directory PERF–168
FBA PERF–167
hardware PERF–168
log PERF–168
MAINT machine PERF–165, PERF–166
operating system PERF–165
real storage PERF–166
software PERF–166
virtual storage PERF–166
VM paging DASD PERF–167
installing
applications APP–114
optional components SYVSE–219, SYVSE–220
INT SQLREF–223
INT trace OPER–147, OPER–172
INTABLE parameter
RELOAD TABLE command DBSU–200
integer
arithmetic SQLREF–73
constant SQLREF–60
division SQLREF–73
operand SQLREF–73
operands SQLREF–73
precision SQLREF–47
INTEGER
data type SQLREF–159, SQLREF–223
function SQLREF–104
INTEGER data type
assembler APP–313
C APP–342
COBOL APP–360
data types APP–387
FORTRAN APP–374
PL/I APP–387
INTEGER data type of column DBA–32
integrity
atomic APP–283, SQLREF–11
data APP–284, SQLREF–12, SQLREF–18
entity APP–283, SQLREF–11
referential APP–284, SQLREF–12
intent
exclusive lock
description PERF–90
intent *(continued)*
none lock
description PERF–90
share lock
description PERF–90
intent exclusive lock
description DIAG–69
intent none lock
description DIAG–69
intent share lock
description DIAG–69
intention exclusive (IX) mode OPER–85
inter-machine communications SYVM–94
Inter-User Communication Vehicle (IUCV) SYVM–94
Inter-User Communication Vehicle (IUCV)
CONNECT SYVM–95
syntax for *IDENT SYVM–42
syntax for IUCV SYVM–44
Inter-User Communication Vehicle (IUCV) protocol DIAG–26
interactive
interface
VSE PERF–8
user
VSE PERF–85
interactive application DBA–147
interactive application development
configuration SYVSE–4
interactive entry of SQL statements SQLREF–142
interactive SELECT statement ISQL–127
interactive SQL
description SQLREF–10
QMF SQLREF–10
Interactive Structured Query Language (ISQL)
affected by implicit CONNECT DBA–96
asynchronous communication PERF–107
AUTOCOMMIT PERF–107, PERF–108
backing out DBA–128
blocking PERF–107
CANCEL PERF–107
CICS PERF–77
concurrent users PERF–77
CONNECT considerations DBA–100
database consistency DBA–170
dbspace DBA–164
EXEC using DBA–150
FORMAT DBA–153
INPUT DBA–60
INPUT restrictions for views DBA–45
isolation level PERF–108
maximums DBA–263
performance considerations PERF–107
PRINT DBA–154
report writing DBA–153
routine DBA–149
Interactive Structured Query Language (ISQL) *(continued)*
routine
testing SQL statements DBA–160, DBA–170
routines DBA–163
session termination DBA–126
setting up a new user DBA–80
stored query DBA–169
stored query to test SQL statement DBA–170
temporary table PERF–108
testing SQL statements DBA–169
training new users DBA–83
transaction name PERF–77
view PERF–108
interface conventions DBSU–118
internal dbspace
adding to a virtual disk pool PERF–50
data spaces PERF–74
format SYVM–295
mapped
choosing PERF–193
understanding PERF–157
using PERF–186
placement PERF–74
requirements SYVM–20, SYVSE–20
unmapped
choosing PERF–193
understanding PERF–158
using PERF–186
virtual disk PERF–46, PERF–51, PERF–74
internal dbspaces
DASD needs for sorting DBA–230
estimating size DBA–230
internal statistics, updating APP–258
International Standards Organization (ISO)
format SQLREF–50
interpreter tracing OPER–147, OPER–172
interpretive commands, how they work DIAG–329
interval
sampling PERF–14
interval, monitoring PERF–6
interval checkpoint OPER–161
interval option
with the CIRR transaction OPER–31
with the CIRT transaction OPER–27
INTO clause
description APP–40
dynamically defined statements APP–214
FETCH statement APP–37
of DESCRIBE statement SQLREF–248
of FETCH statement SQLREF–284
of INSERT statement SQLREF–299, SQLREF–300
of SELECT INTO statement SQLREF–338
restriction for subqueries APP–79
unions APP–91
introduction to Database Services Utility DBSU–3

invalid
entity DIAG–199
index DIAG–51, DIAG–199
invalid index DBSU–140, DBSU–230, PERF–71
invalid index
package PERF–71
SHOW INVALID PERF–71
invalid index, SHOW INVALID
example OPER–83
invalid indexes SYVM–32, SYVSE–40
invalidate package to improve performance DIAG–218
invalidation of packages SQLREF–165, SQLREF–258, SQLREF–259
invocation of statements SQLREF–140
invoking
PL/I preprocessor
multiple user mode APP–154
invoking task
SQLDBSU DBSU–15
invoking the Database Services Utility from application programs DBSU–112
invoking the preprocessor APP–116, APP–152
IPCTFREE column SQLREF–371
IPCTFREE column
of SYSINDEXES SQLREF–391
IPL procedure PERF–47
IS clause
of COMMENT ON PROCEDURE statement SQLREF–181
of COMMENT ON statement SQLREF–180
of LABEL ON statement SQLREF–304, SQLREF–305
ISO APP–133, APP–166, SQLREF–49
ISO-ANS SQL(89) / DB2 Server for VSE & VM equivalent terms SQLREF–425, SQLREF–427
ISO attribute
DATE option
CREATE PACKAGE statement SQLREF–203
ISOL control parameter DBSU–117
isolating problems OPER–139
isolating problems
with ISQLMAP OPER–159
with ISQLTRACE OPER–159
ISOLATION keyword
LIST command ISQL–134
SET command ISQL–149
isolation level
considerations for adhoc users PERF–108
cursor stability APP–134, APP–135, APP–168, SQLREF–21
cursor stability
guidelines ISQL–92
description DIAG–65, ISQL–149, PERF–93, SQLREF–20
escalation SQLREF–22
exclusive SQLREF–20
ISQL PERF–108
lock duration PERF–94
lock escalation PERF–96
isolation level *(continued)*
locking data ISQL–91
mixing APP–137, APP–171
program control SQLREF–22
remote unit of work APP–137
repeatable read APP–134, APP–135, APP–168, SQLREF–20
repeatable read
guidelines ISQL–94
selecting PERF–94
setting DBSU–220
share SQLREF–20
specifying ISQL–91, ISQL–149
uncommitted read SQLREF–21
uncommitted read
guidelines ISQL–92
UNLOAD DBSU–64
update SQLREF–20
USER SQLREF–22
user defined PERF–94
USER option APP–125, APP–137, APP–163, APP–171
ISOLATION option
of CREATE PACKAGE statement SQLREF–204
ISOLation preprocessor parameter APP–125, APP–163
ISOLATION preprocessor parameter APP–137, APP–171
ISQ2
transaction name PERF–77
ISQL
commands
BACKOUT ISQL–102
CANCEL ISQL–15, ISQL–104
CHANGE ISQL–36, ISQL–106
description ISQL–2
END ISQL–28, ISQL–110
ERASE ISQL–67, ISQL–111
EXIT ISQL–19, ISQL–112
HELP ISQL–16, ISQL–19, ISQL–122
HOLD ISQL–38, ISQL–123
IGNORE ISQL–37, ISQL–124
INPUT ISQL–125
ISQLTRACE ISQL–132
LIST ISQL–67, ISQL–134
LIST SET ISQL–61
LIST SQL ISQL–67
RECALL ISQL–65, ISQL–140
RENAME ISQL–67, ISQL–141
RUN ISQL–73, ISQL–143
SAVE ISQL–144
SET ISQL–31, ISQL–32, ISQL–61, ISQL–145
START ISQL–64, ISQL–155
STORE ISQL–63, ISQL–157
description ISQL–2
DISPLAY ISQL–75
display commands
BACKWARD ISQL–24, ISQL–103
COLUMN ISQL–27, ISQL–107
description ISQL–21
DISPLAY ISQL–109
END ISQL–28, ISQL–110
FORMAT ISQL–41, ISQL–57, ISQL–113
ISQL *(continued)*
display commands *(continued)*
FORWARD ISQL–22, ISQL–121
LEFT ISQL–27, ISQL–133
PRINT ISQL–28, ISQL–136
RIGHT ISQL–26, ISQL–142
TAB ISQL–27, ISQL–159
END ISQL–110
ERASE ISQL–111
EXIT ISQL–19, ISQL–112
HELP ISQL–122
HOLD ISQL–123
IGNORE ISQL–14, ISQL–124
INPUT ISQL–125
isolation level setting ISQL–93
ISQLTRACE ISQL–132
leaving from signon display ISQL–8
LIST ISQL–134
mode ISQL–13
mode
display ISQL–13
wait ISQL–13
RECALL ISQL–140
RENAME ISQL–141
RUN ISQL–143
SAVE ISQL–144
SET ISQL–145
START ISQL–155
starting ISQL–4, ISQL–5, ISQL–8
stopping ISQL–19, ISQL–112
STORE ISQL–157
transaction identifier ISQL–70
ISQL (Interactive Structured Query Language)
changing the default language SYVSE–255
CICS dynamic storage considerations SYVSE–335
controlling access to SYVM–140, SYVSE–117
controlling active user number SYVM–105, SYVSE–88
dbspace SYVM–19, SYVSE–19
description DIAG–7
estimating dbspace requirements SYVM–444, SYVSE–349
non-DB2 Server for VM application server SYVM–399
routines
estimating dbspace size SYVM–444, SYVSE–349
stored SQL statements
estimating dbspace size SYVM–445, SYVSE–350
transaction SYVSE–70
ISQL EXEC DBA–150, ISQL–8, ISQL–69
ISQL session manager ISQL–4
ISQL user data, CIRD transaction OPER–19
ISQLTRACE ISQL–132
ISQLTRACE command OPER–159
ITALIAN character set SYVM–311, SYVSE–233
IUCV
*IDENT statement SYVM–274
ALLOW SYVM–274

IUCV *BLOCKIO
DASD I/O system PERF–81
page format PERF–56
IUCV conversations PERF–89
IX (intention exclusive) mode OPER–85

J

JAPANESE (Katakana) character set SYVM–312, SYVSE–234
Japanese Industrial Standard SQLREF–49
JCL (job control)
format trace output OPER–150
source members OPER–5
starting the application server OPER–1
starting the application server in single user mode OPER–8
user archive OPER–44
JIS (Japanese Industrial Standard) format SQLREF–50
JIS attribute
DATE option
CREATE PACKAGE statement SQLREF–203
job control
database SYVSE–211
for accounting SYVSE–181
multiple user mode SYVSE–67
redefining for a database SYVSE–132, SYVSE–133
job control (JCL)
format trace output OPER–150
source members OPER–5
starting the application server OPER–1
starting the application server in single user mode OPER–8
user archive OPER–44
job control example
accounting files on tape SYVSE–187
cataloging a database SYVSE–212
COLDLOG operation SYVSE–165
DASD accounting files SYVSE–183, SYVSE–185
generating a database SYVSE–213
installing optional components SYVSE–220
installing optional database components SYVSE–219
multiple user mode DBSU–108, DBSU–109
reloading CCSID-related package SYVSE–220
single user mode DBSU–106, DBSU–108
startup with accounting enabled SYVSE–188
job control example, invoking Database Services Utility with single user mode DBSU–108
job control example, multiple user mode DBSU–109
job control examples
adding dbextents SYVSE–134
ARIUXDT installation SYVSE–278
ARIUXIT installation SYVSE–263
job control examples *(continued)*
ARIUXTM installation SYVSE–278
deleting dbextents SYVSE–134
for a batch application program SYVSE–69
for starting the application server in multiple user mode SYVSE–68
for starting the application server in single user mode SYVSE–71
multiple user mode preprocessing APP–154
starting the application server in single user mode with user parameters SYVSE–71
suppressing printout APP–158
join
common column names APP–68
correlated subqueries APP–86
data conversion APP–68
definition SQLREF–121
description APP–68
equijoin DBA–5
example SQLREF–127
join variable APP–70
limits APP–72
merge scan PERF–128
multiple PERF–130
nulls APP–70
number permitted APP–72
path DBA–5
performance considerations PERF–126
predicate PERF–120
referring to another user's table APP–69, APP–71
SELECT * APP–72
single table (to itself) APP–70
stored PERF–108, PERF–149
tables, in applications DIAG–233
too many DIAG–232
trailing blanks APP–70
use of DIAG–196
without join conditions APP–68

K

kanji
language key DBA–138
KEEP option
of CREATE PACKAGE statement SQLREF–204
of preprocessor DBA–186
KEEP parameter APP–126, APP–164
keeping authorization names and password secret APP–158
key
activating and deactivating SQLREF–17
composite SQLREF–11
definition SQLREF–11
foreign APP–286
foreign
adding ISQL–86
creating ISQL–85
language DBA–137
language keys and language identifiers SYVM–332, SYVSE–254
key *(continued)*
multicolumn DBA–5, DBA–51
primary APP–286, DBA–4, DBA–37, SQLREF–11
primary
adding ISQL–85
creating ISQL–84
primary index SQLREF–11
unique DBA–4, DBA–5, SQLREF–11
unique index SQLREF–11
key hashing
hot key hashes DIAG–183
possible lock wait problems DIAG–145, DIAG–164
key-level locking DBA–26
key locking
definition of DIAG–131
hot keys DIAG–183
in catalog tables DIAG–162, DIAG–179
possible lock wait problems DIAG–145, DIAG–164
key-matching PERF–117
key processing SYVSE–11
key sequence, possible lock wait problems DIAG–145
key structure
changing to avoid hash conflicts DIAG–165
changing to avoid hot keys DIAG–184
changing to avoid lock conflicts DIAG–146
making keys smaller DIAG–166
keyboard, unlocked ISQL–12
KEYCOLS column SQLREF–371
KEYCOLS column
of SYSKEYS SQLREF–394
KEYLEN column SQLREF–371
KEYLEN column
of SYSINDEXES SQLREF–391
KEYNAME column SQLREF–371
KEYNAME column
of SYSKEYCOLS SQLREF–393
of SYSKEYS SQLREF–394
KEYORD column SQLREF–371
KEYORD column
of SYSKEYCOLS SQLREF–393
KEYTYPE column SQLREF–371
KEYTYPE column
of SYSINDEXES SQLREF–392
of SYSKEYCOLS SQLREF–392
of SYSKEYS SQLREF–394
keyword
additional DIAG–97
ALLUSERS DBA–101
in syntax diagrams APP–x, DBA–xv, DBSU–xiii, DIAG–xi, ISQL–xii, OPER–xi, PERF–xi, SQLREF–3, SYVM–xii, SYVSE–xii
spanning input records DBSU–138
using more than one
ERASE command ISQL–67
FORMAT command ISQL–48, ISQL–54
LIST command ISQL–67, ISQL–135

keyword *(continued)*
PRINT command ISQL–29, ISQL–138
SET command ISQL–61, ISQL–152
keyword, developing
first two DIAG–80
remaining DIAG–81
remaining
abnormal termination DIAG–81
document DIAG–97
first failure data capture DIAG–87
message DIAG–84
NO RESPONSE DIAG–96
output missing/incorrect DIAG–97
SLOW RESPONSE DIAG–96
wait or loop DIAG–96
keyword control statements SYVM–292, SYVSE–215
keyword control statements
formats SYVM–292
keyword types DIAG–80
keyword types
abnormal termination DIAG–81
component identification DIAG–80
document DIAG–97
first failure data capture DIAG–87
incorrect or missing output DIAG–97
message DIAG–84
NO RESPONSE DIAG–96
release level DIAG–80
SLOW RESPONSE DIAG–96
knowledge prerequisites DBSU–xi

L

label SQLREF–304
label
columns SQLREF–304
producing with LABEL ON statement SQLREF–304
tables SQLREF–304
views SQLREF–304
LABEL
SQL APP–258
LABEL ON
how it works DIAG–339
LABEL ON statement
column name qualification SQLREF–64
description SQLREF–304
EXECUTE IMMEDIATE statement SQLREF–272
PREPARE statement SQLREF–315
LABEL option
of CREATE PACKAGE statement SQLREF–204
LABEL preprocessor parameter APP–126, APP–164
LABELDEF command SYVM–75
labeled duration
DAY SQLREF–71, SQLREF–74
DAYS SQLREF–71, SQLREF–74
description DBA–176
HOUR SQLREF–71, SQLREF–75
HOURS SQLREF–71, SQLREF–75
labeled duration *(continued)*
MICROSECOND SQLREF–71, SQLREF–75
MICROSECONDS SQLREF–71, SQLREF–75
MINUTE SQLREF–71, SQLREF–75
MINUTES SQLREF–71, SQLREF–75
MONTH SQLREF–71, SQLREF–74
MONTHS SQLREF–71, SQLREF–74
SECOND SQLREF–71, SQLREF–75
SECONDS SQLREF–71, SQLREF–75
YEAR SQLREF–71, SQLREF–74
YEARS SQLREF–71, SQLREF–74
labeling
archive tapes SYVM–210, SYVSE–154
single-volume tapes SYVM–75
tapes SYVM–75
LABELS
in USING clause
of DESCRIBE statement SQLREF–248
of Extended DESCRIBE statement SQLREF–252
labels for columns DBSU–22
LANGBLK SYVSE–255
LANGID column SQLREF–371
LANGID column
of SYSLANGUAGE SQLREF–395
langid option
CIRB transaction OPER–17
SET LANGUAGE command OPER–50
LANGKEY DBA–138, SYVM–332, SYVSE–254
LANGKEY column SQLREF–371
LANGKEY column
of SYSLANGUAGE SQLREF–395
language
choosing character sets OPER–161
CIRB transaction, langid option OPER–17
SET LANGUAGE operator command OPER–50
LANGUAGE column SQLREF–371
LANGUAGE column
of SYSLANGUAGE SQLREF–395
Language Environment (LE)
related errors DIAG–125
language for message and HELP text ISQL–60
language key DBA–137, SYVM–332, SYVSE–254
language key
reserved ranges DBA–138
when adding HELP text DBA–142
languages
choosing SYVM–303, SYVM–335, SYVSE–225
messages SYVM–330, SYVSE–253
national SYVM–330, SYVSE–253
national
keys and identifiers SYVM–332, SYVSE–254
messages SYVM–60, SYVSE–53
SYSLANGUAGE table SYVM–332, SYVSE–254
LARCHIVE SYVM–204, SYVSE–152
LARCHIVE operator command OPER–45
large display support ISQL–1
large integer definition SQLREF–47
large sort, required on CREATE INDEX DIAG–166
large tables
in same DBSPACE DIAG–200
putting in own DBSPACE DIAG–202, DIAG–234
LASTING GLOBALV file DBA–242
law of diminishing returns PERF–1
layout of special operator command responses DIAG–318, DIAG–322
layout of storage after initialization DIAG–286, DIAG–291
LDATELEN parameter of exec DBA–247
LDIRBUFF counter OPER–52, PERF–22
leading sign, zoned field DBSU–157
leading zeros
controlling ISQL–46, ISQL–115
leaving the application server OPER–10
LEFT command
example ISQL–27
PF key ISQL–179
reference ISQL–133
length
attribute
column SQLREF–44
host variable SQLREF–79
LENGTH
function SQLREF–105
length, column PERF–37
LENGTH (SET command) ISQL–60
length attribute of column
changing ISQL–47
LENGTH column SQLREF–371
LENGTH column
of SYSCOLUMNS SQLREF–383
length of field
output DBSU–177
letter SQLREF–35, SQLREF–36
level 0 trace OPER–146
level 1 trace OPER–146
level 2 trace OPER–146
LFDDBSPACE column SQLREF–371
LFDDBSPACE column
of SYSCATALOG SQLREF–379
LFDLINK column SQLREF–371
LFDLINK column
of SYSCATALOG SQLREF–379
LFDTABID column SQLREF–371
LFDTABID column
of SYSCATALOG SQLREF–379
LIBDEF statements
DB2 Server for VM libraries SYVSE–211
library
space required SYVSE–9
like
description DBA–13
LIKE predicate
description SQLREF–86
limitations on input records DBSU–147, DBSU–152

limiting
privilege by using a view ISQL–88
limits
joins APP–72
system tuning PERF–3
limits in the database manager SQLREF–351
lines per page DBSU–220
LINEWIDTH control parameter DBSU–115
LINK commands in SQLFDEF SYVM–289
link-edit PERF–173
link-edit EXEC
example DBSU–122
link-editing
extra modules required APP–177
module not found APP–143, APP–176
link waits
because of held agents DIAG–148
causes of DIAG–205
definition of DIAG–132
indicator definition DIAG–130
performance problem index DIAG–140
ratio definition DIAG–132
when locks held long time DIAG–205
LINKID column SQLREF–371
LINKID column
of SYSACCESS SQLREF–376
linkmap
access for the database manager DIAG–282
definition of DIAG–280
LIST
examples ISQL–67
obtaining printed reports ISQL–61
reference ISQL–134
setting more than one characteristic ISQL–61
list format Database Services Utility output DBSU–99
LIST parameter
description DBSU–164
unreadable DBCS data in message file DBSU–231
LISTCAT PERF–8, PERF–20
LISTCAT command SYVSE–183
listing
format characteristics ISQL–61
more than one stored command ISQL–67
name
column in table ISQL–80
stored SQL statement ISQL–67
table ISQL–79
view ISQL–79
operational characteristics ISQL–134
stored SQL statement ISQL–134
literal
description SQLREF–59
load
leveling PERF–44
workload PERF–3
LOAD
used by database manager SYVM–82
load-data
commands DBSU–147
committing while loading DBSU–44
into multiple tables DBSU–38
record-count determination DBSU–45
skipping bad records DBSU–45
spanning multiple records DBSU–42
load measurement
checkpoint PERF–22
CPU PERF–14, PERF–17
DASD I/O PERF–17
database machine or partition DASD I/O load PERF–15
description PERF–7, PERF–13
I/O PERF–134
individual device utilization PERF–15
logical unit of work PERF–22
main storage PERF–17
operating system PERF–14
processor PERF–14, PERF–17
real and virtual storage PERF–14
system paging DASD PERF–14, PERF–17
tools PERF–14
load point of DB2 Server for VM user programs SYVM–82
loading
accounting data SYVM–260, SYVSE–201
COBOL considerations APP–114
HELP text
SQLDBINS EXEC SYVM–277
message file SYVM–333
multiple table DBSU–38
multiple table rows DBSU–41
null values DBSU–36
procedures DBSU–36
program APP–143, APP–176
record into several tables DBSU–40
saved segments PERF–176, SYVM–185
sequence SYVM–82
user-specified format DBSU–32
loading commands
DATALOAD TABLE DBSU–147
program-load DBSU–208
RELOAD DBSPACE DBSU–194
RELOAD PACKAGE DBSU–209
RELOAD TABLE DBSU–198
loading data
definition of DIAG–132
exclusive locking in catalogs DIAG–179
for new users DBA–83
from a terminal DBA–60
from CMS file DBA–59
from other table DBA–61
from sequential file DBA–61
from virtual reader file DBA–59
from VSAM file DBA–61
into tables DBA–59
logging during DIAG–207
performance problem index DIAG–138
loading data *(continued)*
possible DBSPACE scan problems DIAG–172
possible I/O problems DIAG–224, DIAG–234
possible lock escalation problems DIAG–203, DIAG–215
possible lock wait problems DIAG–145, DIAG–164, DIAG–183, DIAG–202, DIAG–205, DIAG–234
using a test dbspace DBA–168
using DBS Utility DBA–159
using the DBS Utility DBA–59
loading security audit information into a table DBA–112
LOADLIB
ARISQLLD SYVM–7
FILEDEF SYVM–82
LOADMOD SYVM–82
LOADSYS SYVM–82
local
buffer
DASD I/O system PERF–81
new page PERF–61
NPAGBUF PERF–83
performance indicator PERF–23
virtual addressability extension PERF–77
copy
distributed database PERF–80
definition DBA–13
LOCAL attribute
DATE option
CREATE PACKAGE statement SQLREF–203
local date DBSU–154, DBSU–175
LOCAL resource SYVM–56
local time DBSU–154, DBSU–176
LOCAL time standard
format SQLREF–50
LOCALAXE entry
privileged remote DRDA user PERF–88
locating and dispatching a dispatchable agent DIAG–23
locating SQL statements DIAG–296
locations
physical data PERF–19
lock OPER–51
LOCK APP–254, DBA–74
lock
COMMIT statement SQLREF–184
conversion OPER–91, OPER–99
counter OPER–51
dbspace SQLREF–306
DELETE statement SQLREF–246
description SQLREF–18
escalation OPER–51, OPER–166, SQLREF–20
held for long duration DIAG–205
INSERT statement SQLREF–302
LOCK DBSPACE statement SQLREF–306
LOCK TABLE statement SQLREF–307
modes OPER–91

lock *(continued)*
request mode OPER–100
request state OPER–99
ROLLBACK statement SQLREF–337
show active locks OPER–84
SHOW LOCK DBSPACE OPER–86
SHOW LOCK GRAPH command OPER–88
SHOW LOCK GRAPH example OPER–92
SHOW LOCK MATRIX command OPER–92
SHOW LOCK USER command OPER–95
SHOW LOCK WANTLOCK command OPER–97
table SQLREF–307
types SQLREF–20
UPDATE statement SQLREF–343, SQLREF–344
LOCK
ACQUIRE DBSPACE APP–253
ALTER DBSPACE APP–253
lock escalation PERF–95
LOCK clause
of ACQUIRE DBSPACE statement SQLREF–146
of ALTER DBSPACE statement SQLREF–149
lock concept DIAG–65
lock concept
how it works DIAG–65
how it works
access to private DBSPACEs DIAG–77
deadlock detection DIAG–76
isolation level cursor stability DIAG–66
isolation level repeatable read DIAG–66
isolation level uncommitted read DIAG–67
lock compatibility DIAG–70
lock durations DIAG–69
lock escalation DIAG–76
lock modes DIAG–68
locking done by DB2 Server for VSE & VM DIAG–71
locking hierarchy DIAG–68
isolation levels DIAG–65
lock contention
access path PERF–92
catalog table PERF–94
deadlock PERF–97
index PERF–92
isolation level PERF–93
lock compatibility DIAG–70, PERF–91
logical unit of work PERF–92
measurement PERF–33
minimum lock level PERF–92
NCUSERS PERF–91
operator SHOW command PERF–33
row level locking PERF–92
LOCK DBSPACE statement
description SQLREF–306
LOCK DBSPACE statement *(continued)*
EXECUTE IMMEDIATE statement SQLREF–272
PREPARE statement SQLREF–315
lock escalation DBSU–227, SYVM–64, SYVSE–56
lock escalation
ALTER DBSPACE PERF–95
because of excessive locking DIAG–176
because of low lock levels DIAG–203
because of small NLRB parameters DIAG–215
COUNTER operator command PERF–96
DBS utility PERF–109
deadlock PERF–98
definition of DIAG–131
isolation level PERF–96
LOCK PERF–95
measurement PERF–35
NCUSERS PERF–85
operator SHOW command PERF–35
overview PERF–95
performance problem index DIAG–144
SHOW LOCK MATRIX PERF–96
trading lock level PERF–95
when it is good DIAG–214
lock level
decreasing DIAG–146, DIAG–177, DIAG–184, DIAG–203
definition of DIAG–132
increasing DIAG–165, DIAG–177, DIAG–204
set too low DIAG–203
too high DIAG–202
lock management tracing OPER–146, OPER–171
LOCK parameter DBA–26
lock request block
determining number required PERF–96
insufficient PERF–96
NLRBS PERF–95
NLRBU PERF–95
number in use PERF–35
performance indicator PERF–23, PERF–96
lock request block (LRB)
NLRBS initialization parameter OPER–166
number per user OPER–166
possible paging problems DIAG–214
usage OPER–93
lock size
definition APP–251
LOCK TABLE statement
description SQLREF–307
EXECUTE IMMEDIATE statement SQLREF–272
PREPARE statement SQLREF–315
LOCK trace OPER–146, OPER–171
lock wait rate
definition DIAG–132
lock wait table OPER–93
lock wait timeout SYVM–67, SYVSE–60
lock wait timeout
avoid global deadlocks DIAG–206
use of DIAG–206
lock waits
because of adjacent key locking DIAG–145
because of DBSPACE scans DIAG–169, DIAG–200
because of excessive locking DIAG–176
because of held agents DIAG–148
because of held locks DIAG–205
because of high lock levels DIAG–202
because of key hash conflicts DIAG–164
because of key locking in catalogs DIAG–162
because of large DBSPACEs DIAG–200
because of lock escalations DIAG–215
because of locking in catalogs DIAG–179
because of low lock levels DIAG–203
because of repeatable read usage DIAG–205
because of too many agents DIAG–230
because of UPDATE STATISTICS DIAG–234
definition of DIAG–132
due hot spots in data DIAG–183
indicator definition DIAG–131
performance problem index DIAG–144
locking
adjacent index page DIAG–145
adjacent key, example of DIAG–164
adjacent key, possible problems in catalogs DIAG–163
as overhead PERF–11
automatic override DBSU–227
catalog tables DBSU–227
compatibility DIAG–70, PERF–91
considerations
DATALOAD and RELOAD DBSU–228
description DBSU–227
reducing lock escalation DBSU–228, PERF–109
SHARE lock DBSU–228
UNLOAD PACKAGE and RELOAD PACKAGE DBSU–228
contention
overview PERF–89
performance indicator PERF–95
cost of PERF–11
data DBSU–227, ISQL–91
DBS utility
DATALOAD and RELOAD PERF–109
deadlock PERF–110
UNLOAD PACKAGE and RELOAD PACKAGE PERF–110
dbspace DBSU–227

locking *(continued)*
dbspaces
explicitly APP–254
modifying APP–251
reading APP–251
description APP–254
done by DB2 Server for VSE & VM DIAG–71
duration APP–254, PERF–91
duration
isolation level PERF–94
escalation DBSU–227
excessive DIAG–176
exclusive APP–254
exclusive locking in tables DIAG–179
hierarchy PERF–90
index on locking related problems DIAG–144
isolation level ISQL–91, ISQL–149
isolation level
considerations APP–134, APP–168
key-level DBA–26
lock level PERF–92
lockmode
dbspace PERF–38
index PERF–39
minimum lock level PERF–115
mode DIAG–68, PERF–90
NCUSERS PERF–85
on indexes DIAG–74
operator SHOW commands PERF–33
overview PERF–89
possible adjacent key problems DIAG–145
private dbspace DIAG–70, PERF–91
share APP–254
SHARE lock
DBS utility PERF–110
tables explicitly APP–254
update APP–254
virtual addressability extension PERF–77
LOCKLMT
counter PERF–35
example PERF–22
LOCKLMT counter OPER–51, SYVM–65, SYVSE–57
LOCKLMT counter
uses of DIAG–176, DIAG–214
LOCKMODE, possible lock wait problems DIAG–202, DIAG–203
LOCKMODE column SQLREF–371
LOCKMODE column
of SYSDBSPACES SQLREF–387
of SYSINDEXES SQLREF–391
lockout with cursor stability DIAG–127
log PERF–196
log
activity when ARCHPCT is reached SYVM–70, SYVSE–63
allocation considerations SYVM–17, SYVSE–17
archive PERF–101
archive
at shutdown OPER–11
checkpoint SYVM–204, SYVSE–153
log *(continued)*
archive *(continued)*
continuity SYVM–226, SYVSE–164
creating SYVM–204, SYVSE–152
definition OPER–45
device address SYVM–92
example SYVM–207
FILEDEF needed SYVM–79
introduction SYVM–195, SYVSE–145
LARCHIVE command for SYVM–204, SYVSE–152
SQLEND LARCHIVE command SYVM–204, SYVSE–152
to disk OPER–45, SYVM–206
to tape OPER–45
archive file output (ARILARC) OPER–9
caching PERF–75
capacities of IBM DASDs SYVM–430, SYVSE–337
checkpoint PERF–99
continuity SYVM–226, SYVSE–164
cushion OPER–101, OPER–168, PERF–103
damaged data set SYVSE–162
damaged minidisks SYVM–221
data sets OPER–169
database information DBA–17, SYVM–143, SYVSE–121
defining SYVM–283, SYVSE–208
description DBA–17, SYVM–192, SYVSE–142
determining size OPER–101
dual PERF–101
dual
defining SYVM–16, SYVM–283, SYVSE–16, SYVSE–208
placing SYVM–17, SYVSE–17
recovery SYVSE–142
using SYVM–227, SYVSE–165
dual logging OPER–162
failure
switching log data SYVM–231
file PERF–101
file names (LOGDSK1 and LOGDSK2) SYVSE–211
filtered log recovery OPER–163
full
checkpoint PERF–99
full processing SYVM–69, SYVSE–62
history area SYVM–232, SYVSE–167
increasing size SYVSE–166
increasing the size of SYVM–228
invalid index PERF–71
log-full processing SYVM–69, SYVSE–62
log usage OPER–101
LOGWRITE counter OPER–52
management tracing OPER–146, OPER–171
maximum size by DASD type SYVM–449, SYVSE–355
mode switching SYVM–225, SYVM–229, SYVSE–163, SYVSE–167
log *(continued)*
moving SYVM–228
online log archive, LARCHIVE command OPER–45
placement PERF–75
placement of dual logs SYVM–17, SYVSE–17
purpose SYVM–8, SYVSE–9
reconfiguration SYVM–228, SYVSE–165
reconfiguring SYVSE–166
recovery (filtered) DBA–128
reformatting SYVM–228, SYVM–229, SYVSE–165, SYVSE–167
replacing SYVM–221, SYVSE–162
replacing
damaged dataset SYVSE–146
damaged minidisk SYVM–196
SHOW LOG OPER–101, PERF–103
size SYVM–14, SYVM–17, SYVSE–14, SYVSE–17
space SYVM–69, SYVSE–61
specifying
log mode OPER–164
trace OPER–171
two logs OPER–162
starter database size and placement SYVSE–10
switching log data SYVM–231
switching log modes SYVM–225, SYVSE–163
trace OPER–146
usage by DBS Utility loading SYVM–17, SYVSE–17
volume considerations SYVM–17, SYVSE–17
log buffer PERF–196
log checkpoints DIAG–60
log considerations DBSU–105
log disk PERF–196
log I/O's
because of loading DIAG–207
definition of DIAG–131
performance problem index DIAG–143
LOG job control statement APP–158
log recovery, filtered DIAG–249
log space
requirements DBSU–45
log space, freeing DIAG–59
logging
as overhead PERF–12
decreasing rate DIAG–161
during loads DIAG–207
recovery concepts DIAG–56
running with DIAG–159
logging off the application server OPER–10
logical data design
evaluation of PERF–135
index DBA–47
logical data maximum DBA–263
logical operator APP–43
logical operators SQLREF–89
logical storage management DIAG–43
logical unit of work
load measurement PERF–22

logical unit of work *(continued)*
lock duration PERF–91
locking PERF–92
long versus short PERF–89
recovery PERF–98
storage queue PERF–44
logical unit of work (LUW) DIAG–56, DIAG–146
logical unit of work (LUW)
automatic locking APP–254
automatic rollback APP–254, APP–256
avoiding short ones DIAG–159
batch considerations APP–16
CICS considerations DBA–101
CICS/VSE considerations APP–17, APP–18, APP–151
CMS considerations APP–15, APP–19
COMMIT statement SQLREF–183
committing work done APP–19
concepts DIAG–15
counter OPER–51
CREATE PACKAGE statement SQLREF–207
DBSS initialization DIAG–10
delaying a checkpoint OPER–59, OPER–60
description APP–18, APP–194, DBA–119, SQLREF–18
determination DBSU–23
DROP statement SQLREF–260
error handling APP–194
example OPER–58
Extended CLOSE statement SQLREF–178
Extended DESCRIBE statement SQLREF–252
Extended FETCH statement SQLREF–288
Extended OPEN statement SQLREF–313
Extended PREPARE statement SQLREF–321
Extended PUT statement SQLREF–327
functional description DIAG–15
general rules DBA–121
heuristic decision SYVSE–321
ICCF considerations APP–16
identifier OPER–47, OPER–57
in-doubt OPER–58, OPER–135, SYVM–114, SYVSE–96
initiating closes cursors SQLREF–310
ISO-ANS SQL(89) equivalent term SQLREF–426
lock management OPER–146
management DIAG–15
multiple OPER–121
prepared statement referenced only in SQLREF–314
recovery DBA–119, DIAG–58
recovery
depending on STARTUP parameter SYVM–211
revoking privileges APP–267
ROLLBACK statement SQLREF–336
rolling back work done APP–19
logical unit of work (LUW) *(continued)*
terminating SQLREF–336
terminating destroys prepared statements SQLREF–316
use of multiple DIAG–146, DIAG–150, DIAG–206
use of Multiple DIAG–177
using extended dynamic statements APP–244
logical unit of work identifier (LUWID)
DRDA protocol DBA–111, DBA–114
logical unit type 6.2 (LU 6.2)
security DBA–79
LOGIO COUNTER, use of DIAG–207
logmode
changing PERF–103
selecting PERF–101
short on storage PERF–57
LOGMODE
initialization parameter PERF–99
LOGMODE initialization parameter OPER–164
LOGMODE initialization parameter
archiving SYVM–69, SYVM–146, SYVSE–61
restoring SYVM–213, SYVSE–157
switching log modes SYVM–225, SYVSE–163
LOGMODE=N, use for loading DIAG–207
LOGmode parameter
preprocessor APP–132
LOGMODE startup parameter PERF–196
LOGON procedure for implicit connect DBA–95
LOGREAD counter OPER–52, PERF–22
logs
in DBSS DIAG–46
LOGWRITE counter OPER–52, PERF–22
long character strings in FORTRAN APP–369
long DBSS calls, possible problems DIAG–208
long field DBA–51
long-field value
overhead DBA–218
storage DBA–218
long identifier SQLREF–37
long-running commands, canceling ISQL–15
long string
blocking restriction SQLREF–44
column SQLREF–44
CREATE TABLE statement SQLREF–229
description SQLREF–44, SQLREF–231
limitations in select-list SQLREF–123
restriction in INSERT statement SQLREF–301
long strings
description APP–47
use APP–47
LONG VARCHAR
data type SQLREF–159, SQLREF–223
in column definition DBA–33
LONG VARCHAR *(continued)*
restrictions APP–47
restrictions
unions APP–92
LONG VARCHAR data type
assembler APP–313
C APP–342
COBOL APP–360
FORTRAN APP–374
PL/I APP–387
LONG VARGRAPHIC
data type SQLREF–159, SQLREF–224
in column definition DBA–33
restrictions APP–47
restrictions
unions APP–92
LONG VARGRAPHIC data type
assembler APP–313
C APP–343
COBOL APP–361
FORTRAN APP–374
PL/I APP–387
low
selectivity, false sense of DIAG–153
low CPU utilization, performance problem index DIAG–141
low CPU utilization indicator
definition of DIAG–131
low I/O rate indicator
definition of DIAG–131
LOW2KEY column SQLREF–371
LOW2KEY column
of SYSCOLUMNS SQLREF–384
lowercase SQLREF–35, SQLREF–36
lowercase characters
identifiers DBSU–110
input ISQL–37, ISQL–147
LPAGBUFF OPER–52
LPAGBUFF counter PERF–22
LPAGBUFF counter
use in buffer hit ratio DIAG–155, DIAG–157
LRB (lock request block)
NLRBS initialization parameter OPER–166
number per user OPER–166
usage OPER–93
LRB (see lock request block) DIAG–214
LTIMELEN parameter of exec DBA–247
LTIMEOUT OPER–52
LTIMEOUT initialization parameter OPER–165
LU 6.2 LUWID
DRDA handshaking PERF–105
LUW DIAG–146, SQLREF–183
LUW
explicit termination DIAG–18, DIAG–19
LUW (logical unit of work)
AUTOCOMMIT setting ISQL–31, ISQL–32
canceling ISQL–15
LUW termination
implicit DIAG–18, DIAG–19

M

machine, virtual
  database OPER–7
  user OPER–7
MACHINE directory
  statement PERF–172
macro
  ARISCCS SYVM–58
MACRO
  ARIRCAN SYVM–366
  ARISDBG SYVM–290
  ARISDTM SYVM–351, SYVM–360
  ARISNLSC SYVM–172, SYVM–189, SYVM–333
  ARISSEGC SYVM–185, SYVM–186
  ARISSEGC
    SQLBOOTS EXEC SYVM–472
macroinstruction, CICS
  DFHPCT DBA–126
  DFHSIT DBA–126
mailbox functions
  resource adapter
    interaction DIAG–24
main storage PERF–160
main storage
  buffer pool PERF–83
  dedicating PERF–41
  load measurement PERF–17
  page count PERF–15
  temporary CICS PERF–78
  virtual addressability
    extension PERF–77
  virtual disk PERF–46, PERF–51
main variable APP–57, APP–308, APP–328, APP–350, APP–367, APP–379
main variable
  description SQLREF–68
MAINT machine
  installation PERF–165
  overview PERF–165
  virtual storage PERF–166
MAINT program SYVSE–207, SYVSE–212
maintaining
  accounting data SYVM–256, SYVSE–197
  storage pools SYVM–157, SYVSE–131
maintenance
  application program DBA–172
  database DBA–57, DBA–76
  database consistency DBA–170
  dbspace DBA–73
  index DIAG–192
  procedure for a database DBA–76
  statistics PERF–131
  table DBA–59
maintenance, package SQLREF–10
maintenance procedures for a database SYVSE–117
major control blocks DIAG–294
making key columns smaller DIAG–166
making the HELPTEXT dbspace larger DBA–143
management of storage DIAG–43
managing
  storage pools SYVM–155, SYVSE–129
managing stored procedure servers DBA–207
managing your own table ISQL–79
manipulating a cursor APP–35
manipulation commands, CMS files SYVM–288
manual
  organization PERF–ix
  prerequisite PERF–x
  who should use PERF–ix
manually resolving in-doubt logical units of work OPER–136
many-to-many relationship DBA–3
many-to-one relationship DBA–3
mapped DBNAME SYVSE–23
mapping
  choosing PERF–196, PERF–198
  understanding PERF–157
MAPPING
  initialization parameter OPER–175
mapping DBSPACEs to DASD DIAG–47
mapping macro
  ARIBFPPB SYVM–372, SYVSE–288
master profile routine ISQL–69
MASTERPW password OPER–173
matched index PERF–118
materials
  for reporting a problem DIAG–101
  to send to IBM DIAG–101
  to send to IBM
    environments DIAG–103
matrix, SHOW LOCK MATRIX command OPER–92
MAX
  comparison rules SQLREF–53
  function SQLREF–93
MAXCONN PERF–28
MAXCONN
  decreasing DIAG–232
  increasing DIAG–150
  increasing virtual storage PERF–45
  pseudo agent PERF–87
MAXCONN parameter SYVM–273
MAXCONN parameter
  controlling overloading SYVM–62
  inter-machine
    communications SYVM–94
  new databases SYVM–283
MAXDBSPC control statement
  during database
    generation SYVSE–215
  establishing database
    maximums SYVM–18, SYVSE–17
  estimating SYVM–18, SYVSE–18
MAXDBSPC keyword control statement
  default SYVM–293
  SQLDBGEN SYVM–292
MAXEXTNT control statement
  during database
    generation SYVSE–215
  establishing database
    maximums SYVM–18, SYVSE–17
  estimating SYVM–18, SYVSE–18
MAXEXTNT keyword control statement
  default SYVM–293
  SQLDBGEN SYVM–292
maximum
  column
    index DBA–263
    ISQL query DBA–263
    SELECT-list DBA–263
    table DBA–263
    view DBA–263
  foreign keys per table DBA–263
  indexes per database DBA–263
  indexes per table DBA–263
  joins APP–72
  length
    index key DBA–263
    ISQL command (bytes) DBA–263
    row DBA–263
  logical data limits DBA–263
  programs per database DBA–263
  tables per database DBA–263
  tables per dbspace DBA–263
  values for ISQL DBA–263
  views per database DBA–263
maximum number of DATALOAD commands per INFILE DBSU–41
maximum values
  database SYVM–18, SYVSE–17
  database size SYVM–15, SYVSE–15
  system SYVM–447, SYVSE–353
MAXPOOLS
  keyword PERF–56
MAXPOOLS control statement
  during database
    generation SYVSE–215
  establishing database
    maximums SYVM–18, SYVSE–17
  estimating SYVM–18, SYVSE–17
MAXPOOLS keyword control statement
  default SYVM–293
  SQLDBGEN SYVM–292
MBCS (multi-byte characters) SQLREF–47
MCCSIDGRAPHIC SYVM–34, SYVM–35, SYVM–321, SYVSE–41, SYVSE–42, SYVSE–243
MCCSIDMIXED SYVM–34, SYVM–35, SYVM–321, SYVSE–41, SYVSE–42, SYVSE–243
MCCSIDSBCS SYVM–34, SYVM–35, SYVM–321, SYVSE–41, SYVSE–42, SYVSE–243
MDISK control statements
  allocating dbextent
    minidisks SYVM–158
  directory size SYVM–14
MDISK statements
  adding dbextents SYVM–157
measurement
  production system PERF–6
  relative nature PERF–6
  test system PERF–6
  to indicators PERF–15
  tools PERF–7, PERF–8
  tools
    catalog table PERF–8
    CICS PERF–8
    CICS monitoring facility PERF–8
    CICS statistics PERF–8
    CICSPARS PERF–8

measurement *(continued)*
CIRD transaction PERF–8
COUNTER operator command PERF–9
CP INDICATE USER PERF–8
CP monitor PERF–7
CP QUERY TIME PERF–8
database manager PERF–19
DB2 Server DSS COUNTER POOL PERF–9
DB2 Server DSS SHOW TARGETWS PERF–9
DB2 Server for VSE & VM PERF–8
DB2 Server for VSE & VM accounting PERF–9
DB2 Server for VSE & VM trace PERF–9
IBM DB2 for VM Control Center PERF–9
initialization parameter PERF–8
operating system PERF–14
RTM VM/ESA PERF–8
SHOW operator command PERF–8
VM PERF–7
VM/PRF PERF–7
VMMAP PERF–7
VSAM LISTCAT PERF–8
VSE PERF–8
VSE interactive interface PERF–8
measuring performance PERF–13
media recovery OPER–136
megabytes of data on 4-kilobyte pages SYVM–433, SYVSE–339
members, source OPER–4
members, source
A-type OPER–4
cataloging example OPER–5
memo-to-users PERF–169
memory, when to add DIAG–156, DIAG–214
merge scan join PERF–128
merging data from multiple tables DBA–63
merging results of queries APP–91
message DIAG–84
message
alternate language ISQL–60
ARI0039E SYVM–71, SYVSE–64
ARI0041E SYVM–71, SYVSE–64
ARI0915I SYVM–149, SYVSE–125
ARI7044I SYVSE–70
choosing a national language for SYVM–330, SYVSE–253
description ISQL–8, ISQL–9
ISQL status ISQL–12
loading message file SYVM–333
multiple language messages SYVM–330, SYVSE–253
multiple national languages SYVM–304, SYVSE–226
SET LANGUAGE command SYVM–60, SYVSE–53
message ARI0126E DIAG–237
message file
errors DBSU–224
message file *(continued)*
example DBSU–96
working with DBSU–17
message file display
embedded data DBSU–164
message handling, Resource Adapter
relationship with DSC DIAG–24
relationship with RDS DIAG–24
message traffic
fetch and insert blocking PERF–80
messages
error OPER–4
national language OPER–17, OPER–50
MESSAGES control parameter DBSU–116
methods of dispatching SYVM–66, SYVSE–58
microcode assists PERF–2
MICROSECOND
function SQLREF–106
labeled duration SQLREF–71, SQLREF–75
MICROSECONDS
labeled duration SQLREF–71
migrating from a VSE operating system SYVM–39
migration
CCSID considerations SYVM–33, SYVSE–40
CHARNAME considerations SYVM–33, SYVSE–40
considerations SYVM–31, SYVSE–39
conversion of packages SYVM–33, SYVSE–40
databases multiple SYVM–38, SYVSE–45
defaults changing CCSID SYVM–304, SYVSE–226
changing CHARNAME SYVM–304, SYVSE–226
directory space verification SYVM–32, SYVSE–40
elimination of SET XPCC command SYVSE–40
handling mixed data SYVM–35, SYVSE–42
handling SBCS data SYVM–34, SYVSE–41
HELPTEXT dbspace SYVM–32, SYVSE–39
index considerations DBA–52
invalid indexes SYVM–32, SYVSE–40
MCCSIDGRAPHIC SYVM–34, SYVM–35, SYVSE–41, SYVSE–42
MCCSIDMIXED SYVM–34, SYVM–35, SYVSE–41, SYVSE–42
MCCSIDSBCS SYVM–34, SYVM–35, SYVSE–41, SYVSE–42
mixed primary keys SYVM–36, SYVSE–43
planning SYVM–1, SYVM–31, SYVSE–39
resource names SYVM–45
migration *(continued)*
server name SYVSE–40
setting an application requester default CCSID SYVM–36, SYVSE–45
setting an application requester default CHARNAME SYVM–36, SYVSE–45
setting an application server default CCSID SYVM–33, SYVSE–40
setting an application server default CHARNAME SYVM–33, SYVSE–40
VM/SP to a VM/ESA operating system SYVM–45
VM/XA operating system to a VM/ESA operating system SYVM–41
VSE guest sharing SYVM–40
VSE to a VM operating system SYVM–31, SYVM–39
MIN
comparison rules SQLREF–53
function SQLREF–94
mini-dump DIAG–278
minidisk
4 096-byte blocks SYVM–429
512-byte blocks SYVM–429
caching PERF–75
damaged database SYVM–195
database and log SYVM–196
log SYVM–196
DASD storage requirements for system minidisks SYVM–8
database SYVM–8
defining SYVM–282
defining dbextents SYVM–157
example SYVM–283
directory SYVM–8
formatting SYVM–288
log SYVM–229
passwords SYVM–93, SYVM–283
primary production SYVM–271
production SYVM–7
protecting SYVM–139
replacing SYVM–219
required for a database machine SYVM–7
requirements for the user facility subset SYVM–9
reserving SYVM–288
secondary production SYVM–271
service SYVM–7
service machine SYVM–9
starter database SYVM–9, SYVSE–10
system SYVM–7
user machine SYVM–9
user machine requirements SYVM–9
work SYVM–8
minidump OPER–131
minimum
content of a table ISQL–82
minimum lock level PERF–92
minimum sizes
for a starter database SYVSE–10

MINUTE
function SQLREF–106
labeled duration SQLREF–71, SQLREF–75
MINUTES
labeled duration SQLREF–71
missing output DIAG–97
mixed data
ASCII SQLREF–46
COMMENT ON
statement SQLREF–180, SQLREF–181
conditions SQLREF–46
CREATE TABLE
statement SQLREF–224
DBCS and EBCDIC DBSU–174
description SQLREF–45
EBCDIC SQLREF–46
EUC SQLREF–46
handling after migration SYVM–35, SYVSE–42
in LIKE predicate SQLREF–87
LABEL ON statement SQLREF–305
MBCS SQLREF–46
MCCSIDGRAPHIC SYVM–35, SYVM–321, SYVSE–42, SYVSE–243
MCCSIDMIXED SYVM–35, SYVM–321, SYVSE–42, SYVSE–243
MCCSIDSBCS SYVM–35, SYVM–321, SYVSE–42, SYVSE–243
representation conventions SQLREF–7
rules SQLREF–45, SQLREF–46
SQLDA SQLREF–364
string assignments SQLREF–55, SQLREF–56
using SYVM–314, SYVSE–237
MIXED data subtype DBA–34
mixed INFILE records to separate tables DBSU–38
mixing isolation levels APP–137, APP–171
mode
display ISQL–13, ISQL–35
wait ISQL–13, ISQL–35
MODE keyword
description SQLREF–307
IN SHARE MODE clause
of LOCK DBSPACE statement SQLREF–306
of LOCK TABLE statement SQLREF–307
mode option, CIRR transaction OPER–31
mode switching for logs SYVM–225, SYVM–229, SYVSE–163, SYVSE–167
modeling data designs DBA–159
modes
CIRT transaction OPER–27
database OPER–174
lock OPER–91
multiple user mode OPER–7
single user mode OPER–7
modes of operation
multiple user mode SYVSE–47
single user mode SYVSE–47
MODIFY option
of CREATE PACKAGE statement SQLREF–205
of DROP STATEMENT statement SQLREF–263
modifying
locked dbspace APP–251
tables through a view APP–65
the online HELP in the database DBA–137
modifying table designs PERF–148
modifying the separation between columns ISQL–42, ISQL–58
module
bootstrap SYVM–172
SQLDBBT SYVM–174
SQLISBT SYVM–174
SQLRMBT SYVM–174
module address OPER–60
module not found APP–143, APP–176
monitor, CP PERF–7
Monitor Analysis Program (VMMAP) PERF–7
monitoring
CICS/VS monitoring facility OPER–50
cost PERF–6
dbspace page consumption OPER–76
interval PERF–6
master schedule PERF–6
plan PERF–6
plan
performance PERF–2, PERF–6
real time PERF–5
statistical PERF–5
MONTH
function SQLREF–107
labeled duration SQLREF–71, SQLREF–74
MONTHS
labeled duration SQLREF–71
more than one keyword with FORMAT command ISQL–54
most recently used pages PERF–43
MOVEFILE
restriction SYVM–140
moving
data with INSERT command ISQL–82
dbextents SYVM–168, SYVSE–138, SYVSE–161
log disks SYVM–170, SYVSE–139
through a query result
backward ISQL–24, ISQL–103
forward ISQL–22, ISQL–121
left ISQL–27, ISQL–133
right ISQL–26, ISQL–142
Moving
dbextents SYVM–168
moving a database
from one user ID to another SYVM–47
moving the HELP text to another dbspace DBA–145
moving the logs SYVM–228
multicolumn key DBA–5, DBA–47
multicolumn key
considerations DBA–51
multiple
database DBA–187
row
query results APP–35
tables in a view DBA–43
user mode DBA–188
multiple database migration SYVM–38, SYVSE–45
multiple database mode, to avoid paging effects DIAG–221
multiple foreign keys SQLREF–13
multiple join PERF–130
multiple language HELP text ISQL–16, SYVM–304, SYVSE–226
Multiple Language HELP Text Support DBA–137
multiple language messages SYVM–304, SYVM–330, SYVSE–226, SYVSE–253
multiple logical units of work OPER–121
multiple logs, specifying OPER–162
multiple LUWs
to avoid excessive locking DIAG–177
to avoid lock contention DIAG–206
to reduce link waits DIAG–150
to reduce lock waits DIAG–146
multiple-partition mode
locking considerations APP–254
multiple path
delete-connected SQLREF–14
multiple queries, use of DIAG–196
multiple-row query DBSU–21
multiple row results APP–35
multiple tables DBSU–40
multiple user access SYVM–265
multiple user job control DBSU–108
multiple user mode APP–114, DIAG–13, DIAG–14, OPER–7
multiple user mode
definition SYVM–53, SYVSE–47
DSC DIAG–13, DIAG–14
executing applications APP–146
initialization parameters SYVM–54, SYVSE–47
invoking the preprocessors APP–116, APP–152, APP–154
job control SYVSE–67
job control to start the application server SYVSE–68
operating the application server SYVSE–47
running DBSU–7
running application programs SYVM–80, SYVSE–69
starting DB2 Server for VM PERF–178, PERF–180
starting the application server SYVSE–47
starting the application server with password protected data sets SYVSE–50
startup using a CMS file SYVM–56
multiple user mode (MUM)
allocating user to agents PERF–85
blocking PERF–105

multiple user mode (MUM) *(continued)*
running PERF–89
multiple virtual machine mode
definition SYVM–53, SYVSE–47
multiplication in SQL
expressions APP–54

N

NACTIVE
large values DIAG–200
NACTIVE column
of SYSDBSPACES DBA–143
name
application server SYVM–23, SYVSE–23
changing SYVM–45
column
changing display ISQL–45
description ISQL–1
database SYVM–23, SYVSE–23
server-name OPER–173
table ISQL–2
NAME column SQLREF–371
NAME column
of SYSCHARSETS SQLREF–381
of SYSUSERAUTH and SYSUSERLIST SQLREF–408
NAME option of FORMAT command
description ISQL–45
using several keywords ISQL–48, ISQL–55
NAMED clause
of ACQUIRE DBSPACE statement SQLREF–145
NAMEFIND
restrictions SYVM–12
storage fragmentation SYVM–12
NAMES
in USING clause
of DESCRIBE statement SQLREF–248
of Extended DESCRIBE statement SQLREF–252
names and identifiers
command DBSU–110
NAMESYS macro
example SYSNAME values SYVM–177
naming
column APP–27
data object APP–27
dbspace APP–27
index APP–27
table APP–27
naming a table DBA–28
naming conventions
SQL SQLREF–38
naming conventions, changing DIAG–164, DIAG–182
national language SYVM–303, SYVM–335, SYVSE–225
national language
character set SYVM–303, SYVSE–225
character set
choosing OPER–161
choosing SYVM–303, SYVSE–225
national language *(continued)*
keys and identifiers SYVM–332, SYVSE–254
messages
and HELP text SYVM–330, SYVSE–253
remote support SYVM–269
VSE guest sharing SYVM–333, SYVSE–256
online support OPER–17
SET LANGUAGE operator command OPER–50
support SYVM–303, SYVSE–225
SYSLANGUAGE table SYVM–332, SYVSE–254
NCOLS column SQLREF–371
NCOLS column
of SYSCATALOG SQLREF–377
NCSCANS initialization parameter OPER–165, SYVM–67, SYVSE–59
NCUSERS
buffer pool PERF–83
deadlock PERF–97
decreasing DIAG–158, DIAG–231
determining number of real agents PERF–85
example PERF–28
increasing DIAG–150
increasing virtual storage PERF–45
limit SYVM–62, SYVM–447, SYVSE–54, SYVSE–353
lock contention PERF–91
number of real agents PERF–84
package cache PERF–84
RMTUSERS PERF–88
too high DIAG–230
NCUSERS initialization parameter OPER–165
NCUSERS initialization parameter
guidelines SYVM–62, SYVSE–55
setting SYVM–62, SYVSE–55
VSE guest sharing SYVM–62, SYVSE–55
NDIRBUF
directory buffer PERF–83
directory buffer pool PERF–81
increasing virtual storage PERF–45
large enough DIAG–167
too big DIAG–155
too small DIAG–156
NDIRBUF initialization parameter OPER–165, SYVM–64, SYVSE–56
negative SQLCODE
description APP–11, APP–194
nested loop join PERF–127
nesting correlated subqueries APP–87
network
distributed PERF–80
national language support SYVM–269
response time PERF–4
SNA PERF–78
NEW option
of CREATE PACKAGE statement SQLREF–206
NEW parameter
RELOAD DBSPACE command DBSU–195
RELOAD TABLE DBSU–199
new user support DBA–79
NEXT DIAG–70
NHEADER
ACQUIRE DBSPACE APP–252
changing DBA–73
determining DBA–24
NHEADER clause
of ACQUIRE DBSPACE statement SQLREF–146
NLEAF column SQLREF–371
NLEAF column
of SYSINDEXES SQLREF–391
NLEVELS column SQLREF–371
NLEVELS column
of SYSINDEXES SQLREF–391
NLRB parameters
decreasing DIAG–215
increasing DIAG–216
too large DIAG–214
too small DIAG–215
NLRBS
increasing DIAG–216
increasing virtual storage PERF–45
initialization parameter PERF–95
too large DIAG–214
too small DIAG–215
NLRBS initialization parameter OPER–166, SYVM–64, SYVSE–56
NLRBU
increasing DIAG–216
increasing virtual storage PERF–45
initialization parameter PERF–95
too large DIAG–214
too small DIAG–215
NLRBU initialization parameter OPER–166, SYVM–64, SYVSE–56
no error codes, but problem exists
fetch with cursor stability DIAG–127
lockout with cursor stability DIAG–127
NO RESPONSE DIAG–96
NO RESPONSE
wait or loop DIAG–96
NOBIND preprocessor parameter APP–160
NOBLOCK option
of CREATE PACKAGE statement SQLREF–204
NOBLocK preprocessor parameter APP–122
NOCHECK option
of CREATE PACKAGE statement SQLREF–205
NOCHECK preprocessor parameter APP–161
NOCLOSE option of TRACE command OPER–148
NODESCRIBE option
of CREATE PACKAGE statement SQLREF–205

NOEXIST option
of CREATE PACKAGE statement SQLREF–205
NOEXIST preprocessor parameter APP–124, APP–162
NOFASTTR job control option PERF–76
NOFOR option
UPDATE statement SQLREF–344
NOFOR preprocessor parameter APP–125, APP–163
NOGRaphic preprocessor parameter APP–125, APP–163
NOLINKS
decreasing DIAG–231
increasing DIAG–150
too few agents DIAG–228, DIAG–230
nolinks option
CIRA transaction OPER–30
CIRB transaction OPER–16
NOLOG job control statement APP–158
NOMODIFY option
of CREATE PACKAGE statement SQLREF–205
non-DB2 Server for VM application server
DBS utility SYVM–398, SYVSE–315
ISQL SYVM–399
non-IBM products SYVSE–6
non-SQL work
possible CPU usage problems DIAG–213
possible paging problems DIAG–213, DIAG–231
non-unique index, key locking DIAG–164
non-XC mode
database machine PERF–165
hardware PERF–168
SQL/DS directory PERF–193
verify PERF–178
nonexecutable SQL statements APP–12
nonexecutable statement SQLREF–140, SQLREF–141
nonrecoverable data SYVM–239, SYVSE–174
nonrecoverable data
backing out SYVM–238, SYVSE–173
committing SYVM–238, SYVSE–173
dbspaces SYVM–237, SYVSE–172
restoring SYVM–239, SYVSE–174
rolling back SYVM–238, SYVSE–173
nonrecoverable dbspace
CREATE TABLE statement SQLREF–227
nonrecoverable DBSPACE
for loading without logging DIAG–207
nonrecoverable storage pool DBA–23
nonrecoverable storage pool
checkpoint PERF–99
data placement SYVM–240, SYVSE–175
DATALOAD DBSU–46
dbspace recovery DBSU–227
dbspaces SYVM–243, SYVSE–178
description OPER–75, OPER–109
nonrecoverable storage pool *(continued)*
processing errors DBSU–223
querying SYVM–244, SYVSE–179
RELOAD PURGE DBSU–78
UPDATE statement SQLREF–343
nonselective index scan PERF–112
nonunique index
definition of DIAG–132
key prefix
possible I/O problems DIAG–235
nonunique key prefix
definition of DIAG–132
NOPACKAGE preprocessor parameter APP–164
NOPRint preprocessor parameter APP–127, APP–164
NOPUnch preprocessor parameter APP–127, APP–164
NOREWIND parameter DBSU–143, DBSU–165
NOREWIND parameter, DATAUNLOAD DBSU–181
normal application server
online support shutdown OPER–27
shutdown OPER–12
normal DB2 Server for VM shutdown SYVM–92
normal form
first DBA–9
fourth DBA–11
second DBA–9
third DBA–10
normalization guidelines DBA–29
normalizing a table DBA–9
NOSEQuence preprocessor parameter APP–128, APP–165
NOSQLCA
preprocessor parameter APP–128
support APP–129, APP–166, APP–194
NOT
in a search condition SQLREF–89
NOT EXISTS predicate APP–90
NOT FOUND clause
of WHENEVER statement SQLREF–348
not found SQLCODE (100)
FETCH APP–37
NOT IN predicate APP–81
NOT keyword
concatenation APP–43
in EXISTS predicate SQLREF–83
in LIKE predicate SQLREF–86
NOT NULL clause
of CREATE TABLE statement SQLREF–224
NOT NULL option ISQL–82
NOT NULL option
of CREATE TABLE DBA–31
notification of records reloaded DBSU–79
NOVERFLOW PERF–36
NOVERFLOW column SQLREF–371
NOVERFLOW column
of SYSCATALOG SQLREF–379
NPACKAGE
increasing virtual storage PERF–45
NPACKAGE *(continued)*
package cache PERF–84
NPACKAGE initialization parameter OPER–166
NPACKAGE parameter SYVM–63, SYVSE–55
NPACKPCT
package cache PERF–84
NPACKPCT initialization parameter OPER–166
NPACKPCT parameter SYVM–63, SYVSE–55
NPAGBUF
increasing virtual storage PERF–45
local buffer PERF–83
local buffer pool PERF–81
too big DIAG–155
too small DIAG–156
NPAGBUF initialization parameter OPER–167, SYVM–63, SYVSE–56
NPAGBUF parameter SYVM–63, SYVSE–56
NPAGES column SQLREF–371
NPAGES column
of SYSCATALOG SQLREF–379
of SYSDBSPACES SQLREF–387
NRHEADER column SQLREF–371
NRHEADER column
of SYSDBSPACES SQLREF–387
NTABS column SQLREF–371
NTABS column
of SYSDBSPACES SQLREF–387
NUCEXT QUERY
used by database manager SYVM–83
NUCXDROP
used by database manager SYVM–83
NUCXLOAD
used by database manager SYVM–82, SYVM–83
NUL-terminated strings and truncation
C APP–336
null PERF–37
null
DATALOAD DBSU–36
foreign key DBA–8
in omitted columns during DATALOAD DBSU–30
representation in unloaded data DBSU–191
value DBA–4, DBA–31
NULL
keyword
in INSERT statement SQLREF–299
in UPDATE statement SQLREF–341, SQLREF–342
predicate
description SQLREF–89
NOT keyword SQLREF–89
null value SQLREF–89
null attribute of result column SQLREF–123
null-clause
examples DBSU–179

null/current clause
example DBSU–162
TCI subcommand DBSU–159
null foreign key SQLREF–13
null id string OPER–57
NULL option
FORMAT command ISQL–57, ISQL–118
LIST command ISQL–134
SET command ISQL–61
SET command
description ISQL–59
displayed character ISQL–59
reference ISQL–150
null value APP–88
null value
assign to database SQLREF–51
assigned to host variable SQLREF–339
assignment SQLREF–53
attribute of a result column SQLREF–123
checking SQLREF–52
controlling what is displayed ISQL–56, ISQL–59
CREATE INDEX statement SQLREF–199
definition SQLREF–43
duplicate rows SQLREF–122
elimination with VALUE function SQLREF–117
equality and ordering SQLREF–52
for added column ISQL–83
formatting field ISQL–56
formatting with null field ISQL–55
found in grouped column ISQL–130
grouping columns SQLREF–126
grouping queries APP–73
in expression or predicate SQLREF–52
indicator variables APP–61, APP–62
joins APP–70
preventing occurrences of in a table ISQL–82
return from database SQLREF–52
search conditions APP–42
setting characters displayed
query result ISQL–118
terminal session ISQL–59, ISQL–150
nullifying input
BACKOUT ISQL–102
IGNORE ISQL–124
NULLS column SQLREF–371
NULLS column
of SYSCOLUMNS SQLREF–384
number of items in a select list
ISO-ANS SQL(89) equivalent term SQLREF–426
numbers SQLREF–47
numeric
assignments
COBOL integer SQLREF–55
decimal SQLREF–53, SQLREF–54
floating-point SQLREF–53, SQLREF–54
integer SQLREF–53, SQLREF–54
numeric *(continued)*
comparisons
decimal SQLREF–57
floating-point SQLREF–57, SQLREF–58
integer SQLREF–57
expression SQLREF–73
field punctuation ISQL–58
representation in unloaded data DBSU–191
values in CHAR input data fields DBSU–153
NUMERIC
See DECIMAL APP–47
numeric conversion
DRDA SQLREF–29
NUMERIC data type DBSU–156
NUMERIC data type
synonym for DECIMAL data SQLREF–159, SQLREF–223
numeric data types DBA–32
numeric host variable SQLREF–48

O

object
in a database DBA–17
security DBA–87
object name
qualification DBSU–110
object table SQLREF–66
objectives
performance PERF–2, PERF–4
objects SYVM–143, SYVSE–121
obtaining costs for statements PERF–145
occurrence of an entity DBA–1
offnames;
link maps and access DIAG–282
trace facility DIAG–300
omitting column from a display ISQL–43, ISQL–115
ON clause
of CREATE INDEX statement SQLREF–200
of GRANT statement SQLREF–294, SQLREF–295
of REVOKE statement SQLREF–332, SQLREF–333
ON DELETE clause
of ALTER TABLE statement SQLREF–162
of CREATE TABLE statement SQLREF–222, SQLREF–226
one-phase commit SYVM–109, SYVSE–91
one-time query DBA–149
one-to-many relationship DBA–3
one-to-one relationship DBA–2
online
application recovery DBA–125, DBA–167
application security DBA–167
HELP DBA–137
log archive OPER–45
reference information
HELP command ISQL–122
HELP text ISQL–16
online *(continued)*
reference information *(continued)*
introduction ISQL–2
setting isolation level ISQL–93
status information OPER–18
transaction consideration DBA–167
transaction processing DBA–148, DBA–198
online resource adapter OPER–27, OPER–28, OPER–32, SYVM–102, SYVM–118, SYVM–130, SYVM–132, SYVSE–84, SYVSE–100, SYVSE–112, SYVSE–114
online resource adapter data areas
RMAR SYVSE–283
RMXC SYVM–364
online support
CIRB transaction options OPER–15
considerations for stopping SYVSE–78
definition OPER–1
implicit CONNECT support SYVM–104, SYVSE–86
monitoring OPER–18
online resource adapter OPER–15
operation SYVM–98, SYVSE–80
resource adapter OPER–17
starting OPER–15, SYVM–99, SYVSE–81
stopping OPER–26, SYVM–128, SYVSE–110
VSE guests OPER–15
online support for VSE guest sharing
considerations for stopping SYVM–93
online support parameters OPER–15, OPER–34
online transaction processing
configuration SYVSE–2
ONLY option
FORMAT command ISQL–44
OP Codes DIAG–298
OPEN
description APP–36
format APP–36
OPEN SCAN DIAG–70
open state of a cursor APP–35
open state of cursor
FETCH statement SQLREF–285
OPEN statement SQLREF–308
OPEN statement
description SQLREF–308
dynamic select SQLREF–142
select-statement invocation SQLREF–140
SQLDA SQLREF–361
SQLLEN value SQLREF–365
SQLTYPE value SQLREF–365
static select SQLREF–142
OPEN statement, Extended SQLREF–313, SQLREF–314
operand
datetime SQLREF–74
decimal SQLREF–73
floating-point SQLREF–74
integer SQLREF–73
string SQLREF–72

operating
console SYVM–53
DB2 Server for VMoperator SYVM–53
mode
XA PERF–45
XC PERF–45
modes SYVSE–47
multiple databases SYVM–53
multiple user mode SYVSE–47
online support SYVM–98, SYVSE–80
planning SYVM–53, SYVSE–47
system measurements PERF–14
VSE guest sharing SYVM–98, SYVSE–80
operating environments OPER–vii
operating mode DBA–188
operating mode
changing SYVM–89
operating modes
modes supported
370 mode SYVM–1, SYVM–89
XA mode SYVM–1, SYVM–89
XC mode SYVM–1, SYVM–89
XA mode SYVM–338
XC mode SYVM–338
operating system
non-XC mode PERF–165
requirement PERF–165
operating systems OPER–vii
operating systems
overview SYVM–1
operating the application server OPER–1, OPER–39
operation
assignment SQLREF–53, SQLREF–57
comparison SQLREF–57, SQLREF–59
description SQLREF–53
precedence SQLREF–78
operational characteristic
listing ISQL–61, ISQL–134
setting ISQL–145
operations in SQL SQLREF–53
operator
application server OPER–39
arithmetic APP–54, SQLREF–73
command PERF–24, PERF–31
comparison APP–43
DB2 Server for VSE & VM system OPER–vii
logical APP–43
operator agent OPER–57, PERF–84
operator agent
storage queue PERF–44
operator command
ALTACCT OPER–41
ARCHIVE OPER–42
COUNTER OPER–50
FORCE OPER–47, OPER–58
FORCE RMTUSER OPER–48
issuing OPER–39
LARCHIVE OPER–45
RESET OPER–54
RESET CRR LOGNAMES OPER–54
RESET HIGHSTOR OPER–54
RESET INDOUBT OPER–55
SET OPER–55
operator command *(continued)*
SET APPCVM OPER–15
SET LANGUAGE OPER–50
SHOW ACTIVE OPER–56
SHOW ADDRESS OPER–60
SHOW BUFFERS OPER–61
SHOW CONNECT OPER–64
SHOW CRR LOGNAMES OPER–71
SHOW DBCONFIG OPER–72
SHOW DBEXTENT OPER–74
SHOW DBSPACE OPER–76
SHOW INDOUBT OPER–77
SHOW INITPARM OPER–79
SHOW INVALID OPER–81
SHOW LOCK ACTIVE OPER–84
SHOW LOCK DBSPACE OPER–86
SHOW LOCK GRAPH OPER–88
SHOW LOCK MATRIX OPER–92
SHOW LOCK USER OPER–95
SHOW LOCK WANTLOCK OPER–97
SHOW LOG OPER–45, OPER–101
SHOW LOGHIST OPER–102
SHOW POOL OPER–106
SHOW STORAGE OPER–115
SHOW SYSTEM OPER–118
SQLEND OPER–10
syntax OPER–x
TRACE OPER–144
operator commands OPER–177
operator commands
COUNTER ISQL–108
ending ISQL–110, ISQL–111
layouts of responses to special operator commands DIAG–318, DIAG–322
SHOW ISQL–154
operator console messages DBSU–223
operator console system, issuing operator commands OPER–39
operator ID APP–151, DBA–101
operator response during restore
CONTINUE SYVM–214, SYVSE–158
END RESTORE SYVM–214, SYVSE–158
STOP SYSTEM SYVM–214, SYVSE–158
OPT trace OPER–147, OPER–172
optimization
functional description DIAG–37
optimizer PERF–111
optimizer
tracing OPER–147, OPER–172
OPTION LOG job control statement APP–158
OPTION NOLOG job control statement APP–158
OPTION statement for accounting SYVM–247
optional
default parameter
in syntax diagrams APP–xii, DBA–xvii, DBSU–xv, DIAG–xiv, ISQL–xiv, OPER–xiii, PERF–xiii, SQLREF–5, SYVM–xiv, SYVSE–xiv
installation steps PERF–181
optional *(continued)*
item
in syntax diagrams APP–xi, DBA–xvi, DBSU–xiv, DIAG–xii, ISQL–xii, OPER–xi, PERF–xii, SQLREF–3, SYVM–xii, SYVSE–xii
keyword
in syntax diagrams APP–xii, DBA–xvii, DBSU–xv, DIAG–xiv, ISQL–xiv, OPER–xiii, PERF–xiii, SQLREF–5, SYVM–xiv, SYVSE–xiv
options file, start up PERF–20
OPTIONS(MAIN) clause APP–378
OR
in a search condition SQLREF–89
truth table SQLREF–89
OR operator APP–43
order
clauses APP–75
input records DBSU–147
ORDER BY clause ISQL–131
ORDER BY clause
comparison rules SQLREF–53
description APP–39
ISO-ANS SQL(89) equivalent term SQLREF–426
maximum number of columns SQLREF–352
maximum total length of columns SQLREF–352
of select-statement SQLREF–132
restriction for CREATE VIEW APP–64
unions APP–91, APP–92
order of evaluation SQLREF–78
ORDERFIELD column SQLREF–371
ORDERFIELD column
of SYSCOLUMNS SQLREF–385
ordering
columns of a query result ISQL–128
query results APP–39
rows of a query result ISQL–131
ordinary application server
online support shutdown OPER–27
shutdown OPER–12
ordinary identifier
description SQLREF–37
ordinary token
description SQLREF–36
ORIGINAL column SQLREF–371
OS QSAM
augmented by DB2 Server for VM database manager SYVM–74
OUTCCSID column SQLREF–371
OUTCCSID column
of SYSSTRINGS SQLREF–403
outer reference
DB2 Server for VSE & VM equivalent term SQLREF–425
outer table PERF–127
OUTFILE subcommand DBSU–180
OUTLINE keyword ISQL–118
outlining
columns ISQL–116
controlling ISQL–118
report ISQL–49

output area
correcting line ISQL–33
description ISQL–11, ISQL–12
output class
for printed reports ISQL–137
setting for a session ISQL–147
output format DBSU–218
output host variables APP–37
output record format
example DBSU–186
overcommitting dbspace
storage SYVM–156, SYVSE–130
overflow DBA–173, SQLREF–422
overflow
catalog table PERF–60
reorganization PERF–67
row expansion PERF–59
OVERFLOW error in decimal arithmetic
operation DBA–175
overhead PERF–11
override file
example SYVM–177
overriding initialization
parameters SYVM–56, SYVM–88,
SYVSE–50, SYVSE–74
overview
checkpoint interval PERF–160
data space PERF–151
database machine PERF–165
directory PERF–158
internal dbspace PERF–157
logical mapping PERF–164
MAINT machine PERF–165
operating system PERF–165
performance counter PERF–162
physical mapping PERF–164
save interval PERF–161
storage management PERF–160
storage pool PERF–157
storage pool structure PERF–163
striping PERF–161
target working storage size
parameter PERF–160
working storage residence
priority PERF–160
overview of Database Services
Utility DBSU–3
owner
dbspace APP–250
description DBA–93
OWNER column SQLREF–371
OWNER column
of SYSDBSPACES SQLREF–387
owner_name
description SQLREF–39
owner of catalog tables
(SYSTEM) SQLREF–371
owner of table ISQL–87
OWNER option
of CREATE PACKAGE
statement SQLREF–206
OWner preprocessor
parameter APP–126
owning a database
definition SYVM–264, SYVSE–206

P

PA trace OPER–147, OPER–172
PA1 key ISQL–95
package SYVM–19, SYVM–153,
SYVSE–18, SYVSE–127
package
automatic regeneration APP–145,
APP–178, APP–267
cache PERF–84
cache
NCUSERS PERF–85
threshold PERF–84
virtual addressability
extension PERF–77
concepts DIAG–36
considerations DBSU–229
conversion SYVM–33, SYVM–40,
SYVSE–40
CREATE PACKAGE
statement SQLREF–202,
SQLREF–207
dbspace SYVM–153, SYVSE–127
description APP–116, APP–153,
SQLREF–18
distributing APP–148, APP–183
DROP statement SQLREF–258,
SQLREF–259
DROP STATEMENT
statement SQLREF–263
Extended PREPARE
statement SQLREF–318
GRANT statement SQLREF–289
invalid PERF–71
invalidating
DROP DBSPACE APP–255
DROP VIEW APP–67
REVOKE APP–267
invalidation DBSU–64, SQLREF–165,
SQLREF–258, SQLREF–259
needs re-preprocessing DIAG–218
performance
considerations DBSU–229
performance of DBA–183
preprocessing DBSU–83,
SQLREF–165, SQLREF–263
section SQLREF–18
tasks DBSU–83
unload and reload PERF–110
unused SYVM–155, SYVSE–129
PACKAGE
description DBSU–85
portable package
migration DBSU–87
RELOAD DBSU–87
UNLOAD DBSU–85
package cache management DIAG–40
PACKAGE clause
of DROP statement SQLREF–258
package_id
description SQLREF–39
package_name
description SQLREF–39
in DROP statement SQLREF–258
in GRANT statement SQLREF–289
in REVOKE statement SQLREF–328
length limitation SQLREF–351
PACKAGE preprocessor
parameter APP–164
package_spec
description SQLREF–39
in CREATE PACKAGE
statement SQLREF–202
in DROP STATEMENT
statement SQLREF–263
in Extended DECLARE CURSOR
statement SQLREF–241
in Extended DESCRIBE
statement SQLREF–252
in Extended EXECUTE
statement SQLREF–269
in Extended PREPARE
statement SQLREF–319
packed decimal
input data DBSU–155
output data DBSU–177
padding
bit data SQLREF–55
string SQLREF–55
page
active in a dbspace PERF–37
allocating from storage
pool PERF–57
available in a dbspace PERF–37
DASD I/O system PERF–81
DASD space DBA–19
data
description PERF–58
free space PERF–59
SYS0001 SYVM–439, SYVSE–345
dbspace
running out PERF–62
dbspace storage SYVM–144,
SYVSE–122
dynamic allocation PERF–56
fault
system paging DASD PERF–43
free percentage PERF–38
header APP–252, PERF–58
header
SYS0001 SYVM–440, SYVSE–345
header, in a dbspace DBA–24
index PERF–58
index
reserved in a dbspace PERF–38
running out PERF–63
jumps PERF–65
locking ISQL–149
logical and physical PERF–56
map table PERF–56
map table
shadow page PERF–61
megabytes and 4-kilobyte
pages SYVM–433, SYVSE–339
modified PERF–82
most recently used PERF–43
number used by a table PERF–36
releasing PERF–82
shadow
checkpoint PERF–60
description PERF–58
number in use PERF–61
size PERF–56
size of printed report ISQL–151

page *(continued)*
stealing PERF–82
storage PERF–41
storage buffers SYVM–63, SYVSE–56
type PERF–58
update PERF–61
page buffers, data OPER–167
page consumption, dbspace OPER–76
page fault processing, asynchronous PERF–191
page faults, serialization DIAG–220
PAGE lock size APP–254
page locking
hot pages DIAG–183
possible lock escalation problems DIAG–203, DIAG–215
possible lock wait problems DIAG–145, DIAG–202
to avoid escalations DIAG–204
use of DIAG–177, DIAG–203, DIAG–204
page usage, dbspace OPER–76
PAGE value for LOCK clause
description SQLREF–150
of ACQUIRE DBSPACE statement SQLREF–146
of ALTER DBSPACE statement SQLREF–149
page width DBSU–220
PAGECTL control parameter DBSU–116
PAGEREAD counter OPER–52, PERF–22
PAGEREAD counter
use in buffer hit ratio DIAG–155, DIAG–157
PAGES clause
of ACQUIRE DBSPACE statement SQLREF–146
PAGES parameter of ACQUIRE DBSPACE APP–252
PAGESIZE keyword
LIST command ISQL–134
SET command ISQL–60, ISQL–151
paging
because of code not shared DIAG–227
because of large buffers DIAG–155
because of large NLRB settings DIAG–214
because of too many agents DIAG–230
causing high CPU usage DIAG–212
effects of DIAG–220
performance problem index DIAG–144
possible CPU usage problem DIAG–212
possible problem DIAG–213
rate, high value DIAG–155, DIAG–213
paging devices, need for more DIAG–221
paging faults, effects of DIAG–155
paging indicator
definition of DIAG–131
PAGWRITE counter OPER–52, PERF–22
parameter
ACCOUNT SYVM–60, SYVSE–53
parameter *(continued)*
adding dbspaces SYVM–146
AMODE(24)
SQLSTART EXEC SYVM–78
AMODE(31)
SQLSTART EXEC SYVM–78
CHARNAME DBA–238, DBA–247, SYVM–313, SYVSE–235
database parameters set at database generation time SYVM–13, SYVSE–13
DATE DBA–247, SYVM–121, SYVSE–103
DATEFORMAT DBA–238
DBCS DBA–238, DBA–247
DBMODE SYVM–56
DBNAME DBA–236, DBA–245, DBA–250
DBNAME
specifying in SQLSTART SYVM–56
SQLADBEX EXEC SYVM–162
SQLADBSP EXEC SYVM–146
SQLCDBEX EXEC SYVM–151, SYVM–168
SQLDBGEN EXEC SYVM–286
SQLDBINS EXEC SYVM–285
SQLLOG EXEC SYVM–229
SQLSTART EXEC parameter SYVM–78
DCSSID DBA–236, DBA–250, OPER–2
dcssID
EXEC parameter SYVM–173
SQLADBEX EXEC SYVM–162
SQLADBSP EXEC SYVM–146
SQLDBINS EXEC SYVM–286
DCSSID
SQLLOG EXEC SYVM–229
SQLSTART EXEC SYVM–78
DSPSTATS SYVM–61, SYVSE–53
DVERIFY SYVM–90, SYVSE–76
identifier OPER–167
initialization OPER–3, OPER–161
initialization
overriding OPER–6
initialization, CMS files OPER–4
initialization in CMS files OPER–167
LDATELEN DBA–247
list for a field procedure DBA–35
LOCK DBA–26, DBA–74
LOGMODE SYVM–146
LTIMELEN DBA–247
marker APP–210, APP–229
MAXCONN SYVM–273
MAXDBSPC SYVM–18, SYVSE–18
MAXEXTNT SYVM–18, SYVSE–18
MAXPOOLS SYVM–18, SYVSE–17
NHEADER DBA–24, DBA–73
PARM DBA–250, OPER–3, SYVM–287
PCTFREE DBA–24, DBA–74
PCTINDEX DBA–25, DBA–73
POOL SYVM–162, SYVM–287
PROCMXAB SYVM–68, SYVSE–61
PROTOCOL DBA–237, DBA–246
PTIMEOUT SYVM–68, SYVSE–61
parameter *(continued)*
QRYBLKSIZE DBA–238, DBA–247
QUERY DBA–240, DBA–249
ranges SYVM–13, SYVSE–13
RESET DBA–241, DBA–249
RESID
SQLDBGEN EXEC SYVM–287
SQLDBINS EXEC SYVM–285
RUN command ISQL–143
SECALVER SYVM–61, SYVSE–53
SECTYPE SYVM–61, SYVSE–54
specifying
user APP–147
SSSNAME DBA–240, DBA–249
STACK DBA–240, DBA–249
START command
description ISQL–39
example ISQL–64
reference ISQL–155
STARTER SYVM–287
starter database SYVM–13, SYVSE–13
STORPOOL DBA–23, DBA–73
SYNCHRONOUS DBA–237, DBA–246
SYNCPNT SYVM–60, SYVSE–53
TCPPORT SYVM–61, SYVSE–54
TIME DBA–247
TIMEFORMAT DBA–239
TRACECONV DBA–240, DBA–248
TRACEDRRM DBA–239, DBA–248
TRACERA DBA–239, DBA–247
user program OPER–8
WORKUNIT DBA–239, DBA–247
parameter data set
creation SYVSE–75
parameter file
creation SYVM–88
parameter file, example OPER–5
parameter marker
EXECUTE statement SQLREF–265
Extended EXECUTE statement SQLREF–270
Extended PREPARE statement SQLREF–320
OPEN statement SQLREF–308, SQLREF–309
PREPARE statement SQLREF–315
PUT statement SQLREF–323
rules SQLREF–315
SQLDA SQLREF–363
statement preparation SQLREF–142
parameter values
spanning input records DBSU–138
parameterized statement
description APP–210
parent table
definition SQLREF–12
description DBA–7
table APP–285
parentheses
in syntax diagrams APP–x, DBA–xv, DBSU–xiii, DIAG–xii, ISQL–xii, OPER–xi, PERF–xi, SQLREF–3, SYVM–xii, SYVSE–xii
with UNION SQLREF–128
PARENTS column SQLREF–371

PARENTS column
of SYSCATALOG SQLREF–379
PARM option OPER–3
PARM parameter SYVM–287
PARM parameter of exec DBA–250
PARMID initialization
parameter OPER–167, SYVSE–50, SYVSE–74
PARMID preprocessor
parameter APP–132
PARSE trace OPER–171
parser tracing OPER–147, OPER–171, OPER–172
parsing
functional description DIAG–37
partial dump OPER–162
partial row updates SYVM–240, SYVSE–175
partition
application server OPER–1
DB2 OPER–7
dump, specifying OPER–162
single partition mode OPER–8
user OPER–7
partition problems DIAG–271
partition size for database manager SYVSE–8
password ISQL–4
password
catalog SQLREF–371
changing user's DBA–107
CONNECT statement SQLREF–186, SQLREF–192
description SQLREF–40
GRANT statement SQLREF–291, SQLREF–292
minidisk SYVM–93, SYVM–283
naming convention APP–27
specifying database OPER–173
VSAM OPER–173
PASSWORD column SQLREF–371
PASSWORD column
of SYSUSERAUTH and SYSUSERLIST SQLREF–408
password implications OPER–28, SYVM–132, SYVSE–114
password option
CIRB transaction OPER–16
CIRR transaction OPER–31
CIRT transaction OPER–27
password protected data sets
starting the application server SYVSE–50
VSAM SYVSE–50
path length PERF–191
PCTFREE
changing DBA–74
clause of CREATE INDEX statement DBA–48
creating an index DBA–48
default for index DBA–48
determining DBA–24
initialization parameter PERF–59
parameter of ACQUIRE dbspace APP–252
parameter of ALTER DBSPACE APP–253
PCTFREE *(continued)*
reorganize a dbspace PERF–69
reorganize a single table PERF–68
reserved for an index DBA–48
PCTFREE clause
description SQLREF–201
of ACQUIRE DBSPACE statement SQLREF–146
of ALTER DBSPACE statement SQLREF–149
of ALTER TABLE statement SQLREF–161, SQLREF–163
of CREATE INDEX statement SQLREF–200
of CREATE TABLE statement SQLREF–225, SQLREF–227
PCTINDEX DBA–25, DBA–73, DBA–227
PCTINDEX
parameter of ACQUIRE DBSPACE APP–252
proportion of page types PERF–58
PCTINDEX clause
of ACQUIRE DBSPACE statement SQLREF–146
PCTINDX
proportion of page types PERF–58
PCTINDX column SQLREF–371
PCTINDX column
of SYSDBSPACES SQLREF–387
PCTPAGES
high values DIAG–200
inaccurate values DIAG–188
low values DIAG–177
PCTPAGES column SQLREF–371
PCTPAGES column
of SYSCATALOG SQLREF–379
PDUMP
TRACE
CLOSE option OPER–147
NOCLOSE option OPER–147
peparing a sored pocedure to run DBA–211
percent
archive percent OPER–161
free space, dbspace OPER–76
log cushion percent OPER–168
percent free space DBSU–75
percent sign (%)
in LIKE predicate SQLREF–86
performance
considerations APP–134, APP–168, APP–283
considerations
package DBSU–229
reorganizing indexes DBSU–230
elements of PERF–1
improvement process PERF–2
improving PERF–151
indicator PERF–3
measurement
description PERF–7
translating to indicators PERF–15
monitoring plan PERF–2, PERF–6
objectives PERF–2, PERF–4
resource trade-offs SYVM–423
performance *(continued)*
trade-off PERF–2
performance, query ISQL–90
performance analysis
chapter on diagnosing DIAG–129
performance indicator
AVGROWLEN PERF–60
CICSPARS PERF–86
CIRD transaction PERF–86
COUNTER PERF–83
deadlock PERF–22, PERF–98
directory buffer PERF–23
FREEPCT PERF–60
IPCTFREE PERF–60
local buffer PERF–23
lock contention PERF–95
lock request block PERF–23, PERF–96
lockmode PERF–92
NOVERFLOW PERF–60
operating system PERF–14
PCTINDX PERF–58
performance improvement process PERF–2
SHOW POOL PERF–57
SHOW USERS PERF–88
tools PERF–14
waitlock PERF–22
PERFORMANCE INDICATOR, definition of DIAG–130
performance management
application programs DBA–14
CLUSTERED index DBA–48
multiple database considerations DBA–194
performance monitoring OPER–50
performance problem
diagnosing DIAG–129
index by DIAG–133
index by
application function DIAG–133
data authorization functions DIAG–137
data definition functions DIAG–137
data manipulation functions DIAG–137
data utilities functions DIAG–138
recovery control functions DIAG–139
index on DIAG–135
index on
agent related problems DIAG–140
CPU related problems DIAG–141
general problems DIAG–135
I/O related problems DIAG–143
locking related problems DIAG–144
special case problems DIAG–145
storage related problems DIAG–144
Performance Reporting Facility, VM PERF–7
performance symptom, index to problems DIAG–139
performance tuning
asynchronous processing PERF–191

performance tuning *(continued)*
blocking PERF–192
buffer pool PERF–191
checkpoint PERF–196, PERF–197
checkpoint interval PERF–196
DASD cache PERF–191
data space PERF–191
dynamic storage management PERF–192
internal dbspace PERF–193
mapping PERF–198
more asynchronous writes PERF–192
path length PERF–191
prefetching PERF–192
save interval PERF–197
SQL/DS directory PERF–193
storage pool PERF–193
storage size PERF–194
striping PERF–191, PERF–198
target working storage size PERF–194
period
concatenation DBSU–110
PERiod preprocessor parameter APP–127
periodic
back-up of critical data DBA–131
query DBA–149
periodic high response time
because of big CHKINTVL DIAG–160
because of forced checkpoints DIAG–159
because of logging during loads DIAG–207
because of long DBSS calls DIAG–208
because of sequential processing DIAG–224
because of small CHKINTVL DIAG–160
DRDA protocol used to access a Like-database DIAG–174
DRDA usage DIAG–174
indicator, definition of DIAG–131
performance problem index DIAG–145
permanent dbspace
shadow page PERF–61
PF key
description ISQL–3
FULLSCREEN ISQL–179
resetting ISQL–179
summary ISQL–179
template ISQL–3
using ISQL–101, ISQL–159
PF keys ISQL–179
PF1 key ISQL–17
PF10 key ISQL–27
PF11 key ISQL–27
PF12 key ISQL–34
PF2 key ISQL–33
PF4 key ISQL–28
PF7 key ISQL–24
PF8 key ISQL–23
PF9 key ISQL–38
phantom row SQLREF–21
phase file
ARISCCSD SYVSE–374
ARISSCRD SYVSE–374
ARISSTRD SYVSE–374
physical data locations PERF–19
physical database SYVM–144, SYVSE–122
physical database concept DBA–19
PL/I APP–387
PL/I
application program
BEGIN DECLARE SECTION statement SQLREF–171
graphic string constants SQLREF–61
host structure SQLREF–69
host variable SQLREF–68, SQLREF–271
INCLUDE statement SQLREF–298
PREPARE statement SQLREF–314
SQLCA SQLREF–355, SQLREF–361
SQLDA SQLREF–361, SQLREF–368
varying-length string variables SQLREF–44
attributes of variables APP–381
continuation of SQL statements APP–378
data conversion considerations APP–382
declaring host variables APP–379
declaring SQLCA APP–384
declaring SQLDA APP–385
declaring static external variables APP–379
delimiting SQL statements APP–378
dynamic allocation of SQLDA APP–385
embedding SQL statements example APP–11
placement of SQL statements APP–378
preprocessing programs coded APP–154
preprocessor SYVM–6, SYVM–426, SYVSE–335
preprocessor parameter APP–120
release level SYVM–4, SYVSE–6
sample program APP–378
stored procedures APP–388
using the INCLUDE statement APP–379
PL/I, invoking the Database Services Utility DBSU–114
PLABEL column SQLREF–371
PLABEL column
of SYSACCESS SQLREF–377
placeholder
profile routine ISQL–69
routine ISQL–72
RUN command ISQL–143
START command ISQL–155
used in
current SQL statement ISQL–38
routine ISQL–73
placeholder *(continued)*
used in *(continued)*
stored SQL statement ISQL–64
placement in dbspace PERF–115
placement of SQL statements DBSU–137
placement of SQL statements
assembler APP–310
C APP–326
COBOL APP–348
FORTRAN APP–366
PL/I APP–378
placing table in dbspace DBA–40
plan, performance monitoring PERF–2, PERF–6
PLAN clause
of EXPLAIN statement SQLREF–274
plan explain table PERF–139
PLAN_TABLE
EXPLAIN statement SQLREF–276
planning
database generation SYVM–13, SYVSE–13
database manager SYVM–10, SYVSE–11
DB2 Server for VM database machine SYVM–1
DB2 Server for VSE SYVSE–1
distributing data DBA–13
DRDA protocol DBA–13
installation SYVM–1, SYVM–13, SYVSE–1, SYVSE–13
migration SYVM–1, SYVM–31, SYVSE–39
operation SYVM–53, SYVSE–47
storage pool structure PERF–163
pointer type attribute
C APP–333
points of consistency SQLREF–19
POOL
keyword control statement SYVM–293
parameter SYVM–162, SYVM–287
POOL column SQLREF–371
POOL column
of SYSDBSPACES SQLREF–388
POOL control statements SYVSE–216
pools storage
description OPER–106
nonrecoverable OPER–75, OPER–109
SHOW POOL example OPER–106, OPER–107
showing OPER–106
PORTUGUESE character set SYVM–454, SYVSE–360
Positioned form
of DELETE statement SQLREF–243
of UPDATE statement SQLREF–340
positions of a cursor APP–35
positive SQLCODE
description APP–11, APP–194
POSSIBLE PROBLEM, definition of DIAG–130
post installation PERF–181
potential deadlocks APP–254
pre-enable checklist PERF–170
precedence
level SQLREF–78

precedence *(continued)*
operation
addition SQLREF–78
concatenation SQLREF–79
datetime arithmetic SQLREF–79
division SQLREF–78
expression SQLREF–78
multiplication SQLREF–78
parentheses SQLREF–78
prefix operator SQLREF–78
subtraction SQLREF–78
precedence rules APP–43, APP–54
precision
decimal data SQLREF–48
decimal input data DBSU–156
of a number SQLREF–47
results of arithmetic operations SQLREF–73
zoned data DBSU–156
precision of decimal result DBA–175
predicate
basic SQLREF–79
BETWEEN SQLREF–81
CCSID PERF–37
column attribute PERF–117
comparison rules SQLREF–53
condition SQLREF–79
description SQLREF–79
EXISTS SQLREF–83
false SQLREF–79
filter factors PERF–124
IN SQLREF–84
in a search condition SQLREF–89
join PERF–120
key-matching PERF–117
LIKE SQLREF–86
NULL SQLREF–89
processing PERF–116
processing examples PERF–125
quantified SQLREF–80
residual PERF–119
sargable PERF–119
suitable indexes for PERF–118
true SQLREF–79
unknown SQLREF–79
predicates
adding more DIAG–196, DIAG–210, DIAG–223
constants APP–55
description APP–43
host variables APP–54
rules for evaluating APP–44
prefetch
improving performance PERF–192
prefix operator SQLREF–73
PREP, locking problems DIAG–215
PREPARE
format APP–229
usage techniques APP–210
PREPARE statement
building statements SQLREF–141
description SQLREF–314
EXECUTE IMMEDIATE statement SQLREF–272
PREPARE statement, Extended SQLREF–318, SQLREF–322
prepared SQL statement
DECLARE CURSOR statement SQLREF–239
dynamically prepared by PREPARE SQLREF–314, SQLREF–316
executing SQLREF–265, SQLREF–268
Extended DECLARE CURSOR statement SQLREF–241
Extended DESCRIBE statement SQLREF–252
Extended EXECUTE statement SQLREF–269
Extended PREPARE statement SQLREF–318
maximum number SQLREF–352
obtaining information with DESCRIBE SQLREF–248
SQLDA provides information SQLREF–361
preparing input for SQLDBGEN SYVM–286
preparing statements SQLREF–9
PrepFile preprocessor parameter APP–122, APP–159
preplanned database access SQLREF–10
PREPNAME preprocessor parameter APP–121, APP–159
PREPPARM preprocessor parameter APP–122, APP–159
preprocess
ALTER TABLE statement SQLREF–165
DROP statement SQLREF–259
DROP STATEMENT statement SQLREF–263
preprocessing
compile partition size PERF–77
description APP–116
multiple user mode APP–116, APP–152
multiple user mode PL/I APP–154
parameters APP–116
programs APP–153
single user mode APP–116, APP–152
Preprocessing
option file APP–133, APP–166
preprocessing programs
re-preprocessing DBA–186
under development DBA–161
with unauthorized statement DBA–184
preprocessor APP–116, SQLREF–10
preprocessor
CHECK option DBA–170
coding your own DBA–147
definition of DIAG–132
description DIAG–8, SQLREF–240
exclusive locking in catalogs DIAG–179
KEEP option DBA–186
NOFOR option SQLREF–240
performance problem index DIAG–138
possible locking problems DIAG–215
storage requirement SYVSE–335
preprocessor *(continued)*
storage requirements SYVM–6, SYVM–426
termination DBA–127
preprocessor parameters APP–134, APP–168
preprocessor parameters
APOST APP–122, APP–159
ASM APP–120
BIND APP–160
BLocK APP–122
C APP–120
CCSIDGraphic APP–123
CCSIDMixed APP–123, APP–160
CCSIDSbcs APP–123, APP–160
CHARSUB APP–123, APP–161
CHECK APP–161
COB2 APP–161, APP–354
COBOL APP–120, APP–355
COBRC APP–162
COMma APP–127
CTOKEN APP–124, APP–162
DATE APP–124, APP–162
DBFile APP–132
DBList APP–133
DBname APP–131
dcssID APP–132
ERROR APP–123, APP–161
EXIST APP–124, APP–162
EXPLAIN APP–125, APP–162
FORTRAN APP–120
GRaphic APP–125, APP–163
ISOLation APP–125, APP–163
ISOLATION APP–137, APP–171
KEEP APP–126, APP–164
LABEL APP–126, APP–164
LineCount APP–126, APP–164
LOGmode APP–132
NOBIND APP–160
NOBLocK APP–122
NOCHECK APP–161
NOEXIST APP–124, APP–162
NOFOR APP–125, APP–163
NOGRaphic APP–125, APP–163
NOPACKAGE APP–164
NOPRint APP–127, APP–164
NOPUnch APP–127, APP–164
NOSEQuence APP–128, APP–165
NOSQLCA APP–128
OWner APP–126
PACKAGE APP–164
PARMID APP–132
PERiod APP–127
PL/I APP–120
PrepFile APP–122, APP–159
PREPNAME APP–121, APP–159
PREPPARM APP–122, APP–159
PRint APP–127, APP–164
PUnch APP–127, APP–164
QUALifier APP–127
QUOTE APP–122, APP–159, APP–353
RELease APP–127
REVOKE APP–126, APP–164
SBLocK APP–122
SEQuence APP–128, APP–165
SQLApost APP–128

preprocessor parameters *(continued)*
SQLFLAG APP–165
SQLQuote APP–128
STDSQL APP–128, APP–165
suppressing display APP–158
sysIN APP–129
SYSIN APP–165
sysPRint APP–130
sysPUnch APP–130
TIME APP–129, APP–166
USERid APP–121, APP–159
preprocessorparameters
DYNALC APP–125, APP–163
prerequisite manual PERF–x
prerequisite programs SYVSE–7
preventing
selection of duplicate row ISQL–128
SQL statement from being processed ISQL–38, ISQL–123
prevention of log-record overlay DIAG–60
preventive service PERF–169
previous SQL statement
recalling ISQL–65, ISQL–140
storing restriction ISQL–63
primary
activating and deactivating keys SQLREF–17
index SQLREF–11
key SQLREF–11, SQLREF–12
primary database machine SYVM–270, SYVM–272
primary key APP–286
primary key
activating ISQL–86
activating and deactivating SQLREF–17
adding ISQL–85
clause of CREATE TABLE statement DBA–37
CREATE TABLE DBA–39
creating ISQL–84
deactivating ISQL–86
description DBA–37
identifying DBA–4
index DBA–39
multicolumn DBA–5
planning for DBA–6
privilege required ISQL–84
reorganizing index DBA–68
PRIMARY KEY clause
of ALTER TABLE statement SQLREF–161
of CREATE TABLE statement SQLREF–224, SQLREF–225
primary production minidisk SYVM–271
PRINT DBA–154, ISQL–28, ISQL–136, ISQL–179
print characteristics ISQL–96
PRint preprocessor parameter APP–127, APP–164
printed reports
bottom title ISQL–53, ISQL–114
date ISQL–28, ISQL–138
introduction ISQL–2
printed reports *(continued)*
multiple copies
CP SPOOL command ISQL–96
PRINT command ISQL–29, ISQL–137
page number ISQL–28, ISQL–138
page size, specifying ISQL–151
printing ISQL–2, ISQL–136
remote printer ISQL–96
routine ISQL–138
routing ISQL–61, ISQL–138, ISQL–151
routing to alternate printer ISQL–96
SET command ISQL–59, ISQL–148
top title
example ISQL–52
TTITLE option of FORMAT command ISQL–114
printing
report writing support DBA–199
security audit information DBA–116
the HELP text
using ISQL DBA–146
using the DBS utility DBA–145
PRINTROUTE keyword
LIST command ISQL–134
SET command ISQL–151
prioritization of agents DIAG–21
prioritization of agents
overview DIAG–21
priority
agent prioritization PERF–88
dispatching (VSE) PERF–76
priority dispatcher SYVM–66, SYVSE–58
PRIVATE clause
in ACQUIRE DBSPACE statement SQLREF–145
private dbspace
cursor stability PERF–93
description ISQL–88
isolation level repeatable read ISQL–149
privileges for CREATE TABLE SQLREF–220, SQLREF–227
setting isolation level ISQL–93
storing table ISQL–81
PRIVATE dbspace
description DBA–21
in application development DBA–162
private query user data DBA–163
PRIVATE table, editing DBA–155
privilege
access objects SQLREF–33
application program DBA–94
automatic revocation APP–267
create index SQLREF–33
dependencies SQLREF–333
description APP–266
GRANT option DBA–93
granting DBA–93
monitoring DBA–94
package APP–267
programs APP–269
references APP–288
remote user DBA–94
privilege *(continued)*
restricting
specific column ISQL–88
specific row ISQL–88
revoking APP–269, DBA–83, DBA–94, DBA–107
revoking
from others APP–266
table DBA–92
table or view
alter APP–266
delete APP–266
description APP–266
index APP–266
insert APP–266
references APP–266
select APP–266
update APP–266
user DBA–92
view DBA–92
privilege classes
user machine SYVM–280
privileged remote DRDA user, VSE PERF–88
problem
determination OPER–139
handling DIAG–271
in the database partition DIAG–271
isolation and the trace facility DIAG–300
problems in the database machine DIAG–273
procedure
DATALOAD DBSU–31
DATAUNLOAD DBSU–51
general loading DBSU–36
UNLOAD
unloading dbspaces DBSU–61
unloading tables DBSU–61
PROCEDURE clause
of COMMENT ON PROCEDURE statement SQLREF–181
procedure-name SQLREF–255
procedures
abnormal termination DIAG–81
document DIAG–97
first failure data capture DIAG–87
incorrect or missing output DIAG–97
message DIAG–84
NO RESPONSE DIAG–96
SLOW RESPONSE DIAG–96
stored PERF–80
procedures, ARIS080D OPER–16
process
performance improvement PERF–2
processing
current SQL statement ISQL–33, ISQL–155
debug mode DBSU–225
load-program commands DBSU–208
routine ISQL–73
stored SQL statement ISQL–155
processing cost PERF–134
processing dumps DIAG–275
processing summary for the Database Services Utility DBSU–146

processor
as a resource PERF–9
load measurement PERF–14, PERF–17
time used PERF–28
processor requirement PERF–168
processor storage
requirements SYVM–423
PROCMXAB initialization
parameter OPER–167, SYVM–68, SYVSE–61
PROCMXAB parameter DBA–212
product-supplied archiving facilities
description SYVM–194, SYVSE–144
using to archive
databases SYVM–199, SYVSE–150
using to archive logs SYVM–204, SYVSE–152
production minidisk SYVM–7
production minidisk
primary SYVM–271
secondary SYVM–272
secondary
example SYVM–271
storage requirements SYVM–8
production workload PERF–3, PERF–6
PROFILE EXEC
additional database
machine SYVM–279
database machine SYVM–276, SYVM–279
user machine SYVM–281, SYVM–282
PROFILE EXEC, modifying PERF–54
profile routine ISQL–69
PROGNAME column SQLREF–371
PROGNAME column
of SYSPROGAUTH SQLREF–399
PROGNAME initialization
parameter OPER–167
program
affected by implicit
CONNECT DBA–96
as an application
process SQLREF–18
creator DBA–96
declaring a
host_identifier SQLREF–37
Extended CLOSE
statement SQLREF–178
Extended DESCRIBE
statement SQLREF–252
Extended FETCH
statement SQLREF–288
Extended OPEN
statement SQLREF–313
Extended PUT
statement SQLREF–327
inserting declarations SQLREF–297
inserting statements SQLREF–297
interrupts
FORTRAN APP–372
PL/I APP–385
name OPER–167
naming convention APP–27
privilege DBA–94
privileges
revoking APP–269
program *(continued)*
runner DBA–96, DBA–108
sample APP–21
termination
batch applications APP–16
user
options OPER–8
single user mode OPER–8
program control
isolation level SQLREF–22
program directory
loading PERF–169
program-load commands,
reference DBSU–208
program_name
in ALTER TABLE
statement SQLREF–159, SQLREF–161
in CREATE TABLE
statement SQLREF–222, SQLREF–225
program products required by database manager SYVSE–6
program products required by DB2 Server for VM database manager SYVM–4
program temporary fix (PTF) PERF–2
program termination
CICS/VSE programs APP–17
CMS programs APP–15
ICCF applications APP–16
programmed query DBA–153
programmed report DBA–154
programming interface
description APP–403
programming interfaces provided by the Database Services Utility DBSU–257
programming languages
double-byte character set (DBCS)
support SYVM–4, SYVSE–237
release level SYVM–4
programs, prerequisite SYVSE–7
programs using DBCS data
assembler APP–311
C APP–337
COBOL APP–356
FORTRAN APP–370
PL/I APP–382
PROGS (package cache management) DIAG–40
PROJ_ACT sample table DBSU–243, ISQL–173, SQLREF–418
PROJECT sample table DBSU–241, ISQL–171, SQLREF–417
PROMPTS control parameter DBSU–116
proportion
of available pages PERF–24
of index to data and header pages PERF–58
proportion of index to data and header pages
PCTINDEX PERF–58
PCTINDX PERF–58
protected conversation
AXE transaction DIAG–11
DAXP transaction DIAG–13
messages DIAG–12
protecting
existing stored commands ISQL–63
protecting minidisks SYVM–139
protecting VSAM data sets SYVSE–117
PROTOCOL
AUTO option PERF–105
CCSID conversion PERF–105
DRDA
communications PERF–104
option PERF–104, PERF–105
SQLDS option PERF–104
PROTOCOL initialization parameter
description OPER–175
PROTOCOL parameter SYVM–57
PROTOCOL parameter
for initialization OPER–175
PROTOCOL parameter of exec
AUTO DBA–237, DBA–246
DRDA DBA–237, DBA–246
SQLDS DBA–237, DBA–246
prototyping
application function DBA–160
of data DBA–159
PSERVER
problems DIAG–275
setup problems DIAG–126
PSERVERs
characteristics APP–260
example of a definition APP–261
execution APP–260
pseudo agent
description PERF–86
number waiting PERF–86
pseudo-agent structure DIAG–20, SYVM–94
pseudo-conversational programming
use to reduce link waits DIAG–151
pseudo-conversational transactions DBA–168, SYVSE–70
pseudocode
description APP–4
PTF tape PERF–169
PTIMEOUT initialization parameter OPER–167, SYVM–68, SYVSE–61
PTIMEOUT parameter DBA–212
PUBLIC clause
in ACQUIRE DBSPACE statement SQLREF–145
in GRANT statement SQLREF–289, SQLREF–294, SQLREF–295
in REVOKE statement SQLREF–328, SQLREF–332, SQLREF–333
public dbspace SYVM–19, SYVM–294, SYVSE–19
PUBLIC dbspace DBA–163
public dbspace
creating tables in ISQL–88
isolation level
cursor stability ISQL–149
repeatable read ISQL–149
uncommitted read ISQL–149
setting isolation level ISQL–91, ISQL–93
storing tables in ISQL–81
PUBLIC dbspace
description DBA–21

PUnch preprocessor
parameter APP–127, APP–164
punctuation
for display of a numeric
column ISQL–58, ISQL–148
punctuation mark
in syntax diagrams APP–x, DBA–xv,
DBSU–xiii, DIAG–xii, ISQL–xii,
OPER–xi, PERF–xi, SQLREF–3,
SYVM–xii, SYVSE–xii
PURGE parameter
description DBSU–74
RELOAD DBSPACE
command DBSU–74, DBSU–195
RELOAD TABLE
command DBSU–200
purging the trace buffer OPER–11
PUT
assignment rules SQLREF–53
description APP–37
format APP–37
PUT statement
description SQLREF–323
OPEN statement SQLREF–310
SQLDA SQLREF–361
SQLLEN value SQLREF–365
SQLTYPE value SQLREF–365
PUT statement, Extended SQLREF–326,
SQLREF–327

Q

Q-disk
storage requirements SYVM–8
QCE, definition of DIAG–132
QCE (Query Cost Estimate)
description ISQL–21
how to display ISQL–148
QDROP OFF USERS
not being used DIAG–226
setting DIAG–227
QMF SQLREF–10
QRYBLKSIZE
blocking PERF–106
QRYBLKSIZE parameter of
exec DBA–238, DBA–247
QSAM, as augmented by DB2 Server for
VM database manager SYVM–74
QUALF column SQLREF–371
QUALF column
of SYSDROP SQLREF–388
qualification of column
names SQLREF–64
QUALIFIER option
of CREATE PACKAGE
statement SQLREF–206
QUALifier preprocessor
parameter APP–127
qualifiers
column names APP–68
table names APP–27
qualify
fully APP–27
qualifying
object names DBSU–110
table name DBSU–111
quantified predicate
description SQLREF–80
query
adhoc
isolation level PERF–108
performance
considerations PERF–107
temporary table PERF–108
view PERF–108
cost estimate DBA–160
description ISQL–1, ISQL–21,
SQLREF–121
expression
DB2 Server for VSE & VM
equivalent term SQLREF–425
multiple-row DBSU–21
one-time DBA–149
periodic DBA–149
programmed DBA–153
separating into subquery
structures PERF–144
several tables PERF–126
specification
DB2 Server for VSE & VM
equivalent term SQLREF–425
SQLGLOB parameters SYVSE–247
stored DBA–149, DBA–160, DBA–170
term
DB2 Server for VSE & VM
equivalent term SQLREF–425
terminal settings ISQL–127
to test DBA–169
user data control DBA–163
user identification DBA–171
Query
Connected Database APP–55
query block size
possible problem with
size DIAG–222
query cost estimate
definition of DIAG–132
inaccurate results DIAG–151,
DIAG–188
query cursor
in DECLARE CURSOR
statement SQLREF–236
in OPEN statement SQLREF–308
query format characteristics
listing ISQL–61
setting ISQL–57, ISQL–61
query management facility
(QMF) SQLREF–10
QUERY parameter of exec DBA–240,
DBA–249
query/report writing DBA–201
query/report writing
configuration SYVSE–5
database support DBA–163
implementation
considerations DBA–171
query/report writing
capability DBA–149
query result
displaying ISQL–22, ISQL–27
ending ISQL–28, ISQL–110
formatting ISQL–41, ISQL–61,
ISQL–113
grouping rows ISQL–130
query result *(continued)*
moving
backward ISQL–103
display to a particular
column ISQL–107
forward ISQL–121
left ISQL–133
right ISQL–142
ordering rows
ORDER BY clause ISQL–131
printing ISQL–28, ISQL–136
viewing columns too wide for the
display ISQL–159
query set PERF–178, PERF–180
QUERY TIME
command PERF–15
description PERF–8
example PERF–16
querying
nonrecoverable storage
pools SYVM–244, SYVSE–179
tables through a view APP–65
querying the status of an application
SQLQRY command DBA–259
question mark SQLREF–265
queue, storage PERF–26
quick application server
online support shutdown OPER–27
return code OPER–13
shutdown OPER–13
quick DB2 Server for VM
shutdown SYVM–93
quick DB2 Server for VSE
shutdown SYVSE–77
quick DB2 system
shutdown OPER–11
SQLEND QUICK OPER–11
quick dispatch
SET QUICKDSP PERF–76
QUICKDSP ON DIAG–226
quotation mark
considerations in COBOL APP–122,
APP–159
constants APP–58
double, in identifier DBSU–110
parameter value DBSU–138
single, in comment DBSU–140
QUOTE preprocessor
parameter APP–122, APP–159,
APP–353

R

range predicates, possible path selection
problems DIAG–222
ratio
cost-benefit PERF–1
hit PERF–7
RDIEXT (data area) DIAG–316
RDIIN (data area) DIAG–313
RDIIN (data area)
functional description DIAG–36
RDIIN control block DIAG–36
RDIIN trace OPER–171
RDS (Relational Data
System) OPER–146
RDS (Relational Data System)
calls OPER–51

RDS (Relational Data System) *(continued)*
list of functions and subcomponents OPER–147
tracing OPER–146
RDSCALL counter OPER–51, PERF–22
re-preprocess
package needs DIAG–218
to improve performance DIAG–218
reactivate referential constraint SQLREF–13
read counters OPER–52
READ FILE DBSU–131
read-only
cursor SQLREF–237
table SQLREF–237
view SQLREF–234
read stability
isolation level SQLREF–22, SQLREF–204
READCARD
restriction SYVM–140
reading from a locked dbspace APP–251
READS counter PERF–15
ready/recovery agent OPER–57
READY/RECOVERY agent SYVM–110, SYVSE–92
real agent
description PERF–84
number available PERF–86
storage queue PERF–44
real agent structure DIAG–20
real agents SYVM–95
REAL data type DBSU–155, DBSU–177, SQLREF–159, SQLREF–223
real storage
as a resource PERF–9
description PERF–41
increasing virtual storage PERF–45
load measurement PERF–14
when to add DIAG–156, DIAG–214, DIAG–221
real storage requirements
summary SYVM–6, SYVSE–9
Real Time Monitor VM/ESA program, (RTM VM/ESA) PERF–8
real time monitoring PERF–5
REBIND PACKAGE APP–145, APP–178
REBIND PACKAGE command
reference DBSU–214
reblocking directory PERF–187
RECALL command
description ISQL–65
PF5 ISQL–179
reference ISQL–140
recalling a stored SQL statement
description ISQL–65
isolation level ISQL–93
RECALL command ISQL–140
RECEIVE
restriction SYVM–140
RECFM V input DBSU–35
reclaiming storage space DIAG–48
reconfiguring the log SYVM–228, SYVSE–166
records
spanned SYVM–76
records reloaded DBSU–79
recoverable
DBS utility command SYVM–240, SYVSE–175
SQL statements SYVM–239, SYVSE–174
recoverable storage pool DBA–23
recoverable storage pool
UPDATE statement SQLREF–343
recovering from DBSS errors DIAG–237, DIAG–266
recovering from DBSS errors
bypassing UNDO WORK failure DIAG–252
causes for errors DIAG–238
committed work, rolling back DIAG–255
disabling a DBSPACE DIAG–265
enabling a DBSPACE DIAG–266
examples of diagnostic displays DIAG–237
extended processing DIAG–250
forward processing failure action DIAG–244
interpreting the diagnostic display DIAG–237
invoking DB2 Server for VSE & VM DIAG–249
invoking DB2 Server for VSE & VM
example to process EXTEND input file commands DIAG–250
meanings of fields in display DIAG–238, DIAG–239, DIAG–240, DIAG–241, DIAG–242, DIAG–243, DIAG–244
REDO processing failures DIAG–247
REDO processing failures
during restore DIAG–248
during warm start DIAG–247
ROLLBACK processing failure DIAG–246
rolling back committed work DIAG–255
UNDO processing failure DIAG–246
UNDO processing failure
during restore DIAG–247
during warm start DIAG–246
recovery SYVM–239, SYVSE–174
recovery
abnormal end in a field procedure SYVM–370, SYVSE–287
application design DBA–121
application failure DBA–121
application failure
multiple user mode DBA–124
single user mode DBA–125
archive PERF–101
as overhead PERF–11
batch and VSE/ICCF application DBA–165
checkpoint PERF–98
concept DBA–119
considerations DBA–119, DBA–135, SYVM–191, SYVM–247, SYVSE–141, SYVSE–181
DASD failures
damaged database SYVM–195, SYVSE–145
recovery *(continued)*
DASD failures *(continued)*
damaged database and log SYVM–196, SYVSE–146
damaged log SYVM–196, SYVSE–146
DBS Utility application DBA–166
DBS Utility failure DBA–126
dual copy SYVM–227
dual logging SYVM–227, SYVSE–165
dual logs SYVM–211, SYVSE–142
dynamic application backout DBA–120
filtered log DBA–128, DIAG–249
general OPER–131
history area SYVM–232, SYVSE–167
ISQL failure DBA–126
log PERF–101
log reconfiguration SYVM–228
log reformatting SYVM–229, SYVSE–167
logical unit of work PERF–98
LUW DIAG–58
management tracing OPER–171
media failure OPER–136
nonrecoverable data SYVM–237, SYVSE–172
nonrecoverable dbspaces SYVM–237, SYVSE–172
nonrecoverable storage pools SYVM–236, SYVM–240, SYVSE–171, SYVSE–175
of DBSPACE DIAG–48
online application DBA–125, DBA–167
processing failures with nonrecoverable data SYVM–239, SYVSE–174
recovery management tracing OPER–146
shadow page PERF–61
special topics SYVM–225, SYVSE–163
SQLEND SYVM–93, SYVSE–79
storage queue PERF–44
switching log data between logs SYVM–231
switching log modes SYVM–225, SYVSE–163
system failure SYVM–211, SYVSE–154
user error DBA–127, DBA–128, DBA–131
within application program DBA–129
recovery control
commands, definition of DIAG–132
performance problem index DIAG–139
recovery list SYVM–110, SYVSE–92
recreate referential constraint SQLREF–13
RECSZ parameter of VSAM DEFINE command SYVSE–209, SYVSE–210
redefining the log data sets OPER–169
reducing
lock escalation DBSU–228, PERF–109
log space requirements DBSU–45

redundant data PERF–149
redundant data
stored results DIAG–148
table splitting DIAG–148
to avoid DIAG–146
to avoid
I/O's DIAG–158, DIAG–233
key lock contention DIAG–184
lock contention DIAG–206
lock waits on keys DIAG–146
transaction tables DIAG–148
reentrant code PERF–45
reentrant programs
assembler APP–315, APP–344
C APP–344
COBOL APP–362, APP–363
REFAUTH column SQLREF–371
REFAUTH column
of SYSTABAUTH SQLREF–406
REFER feature of PL/I APP–386
reference
command specification DBSU–137
Database Services Utility
commands DBSU–137
REFERENCE clause
of EXPLAIN statement SQLREF–274
reference explain table PERF–141
reference information
online ISQL–16, ISQL–122
reference information for storage space
calculations SYVM–429, SYVSE–337
reference material DBSU–225
reference material
Database Services Utility DBSU–105
DBCS considerations DBSU–230
debugging DBSU–225
double-byte character set DBSU–230
entering File Identifiers DBSU–252
FILEDEF command DBSU–249
ideographic character DBSU–230
improving performance DBSU–227
locking considerations DBSU–227
nonrecoverable storage
pool DBSU–227
sample tables DBSU–235, ISQL–165
specifying
CMS tape label
processing DBSU–252
ddname DBSU–251
device type DBSU–251
options DBSU–252
storage dump, Database Services
Utility-initiated DBSU–225
storage pool,
nonrecoverable DBSU–227
tables, example, DB2 Server for VSE &
VM DBSU–235, ISQL–165
usage considerations DBSU–229
REFERENCE_TABLE
EXPLAIN statement SQLREF–279
REFERENCES clause
of ALTER TABLE
statement SQLREF–162
of CREATE TABLE
statement SQLREF–222,
SQLREF–226
REFERENCES clause *(continued)*
of GRANT statement SQLREF–294,
SQLREF–295
of REVOKE statement SQLREF–332,
SQLREF–333
references privilege APP–288
references privilege
existing applications APP–288
modifying the contents of tables with
referential constraints APP–289
REFERENCES privilege
in ALTER TABLE
statement SQLREF–158
referential
constraint APP–285
cycle
definition APP–285
description APP–284
integrity APP–284
integrity
existing tables APP–287
new tables APP–286
rules APP–293
structure APP–285
referential constraint
deactivate SQLREF–13
delete rule
cascade SQLREF–13
restrict SQLREF–13
set null SQLREF–13
description DBA–39, SQLREF–13
drop SQLREF–13
GRANT statement SQLREF–295
INSERT statement SQLREF–301
key SQLREF–11
reactivate SQLREF–13
recreate SQLREF–13
UPDATE statement SQLREF–343
referential constraints, filtered log
recovery DIAG–250
referential cycle
definition SQLREF–15
referential integrity SQLREF–12
referential integrity
activate foreign key DBA–67
activate primary key DBA–67
CREATE TABLE DBA–38
dbspace DBA–19
deactivate foreign key DBA–68
deactivate primary key DBA–68
deferred constraint
enforcement DBA–69
delete rule DBA–40
dependently inactive table DBA–66
description DBA–7
explicitly inactive key DBA–65
explicitly inactive table DBA–66
filtered log recovery DIAG–261
foreign key DBA–7
immediate constraint
enforcement DBA–68
implicitly inactive key DBA–66
insert rule DBA–40
performance considerations DBA–69
planning for DBA–6
primary key DBA–6
primary key index DBA–39
referential integrity *(continued)*
RELOAD commands DBSU–72
repairing violations DBA–70
storage pool DBA–18, DBA–23
unique constraint DBA–6
update rule DBA–40
referential structure
description DBA–39
EXPLAIN PERF–142
organization PERF–115
reformatting
log SYVM–228, SYVM–229,
SYVSE–165, SYVSE–167
reformatting, database OPER–169
REFTCREATOR column SQLREF–371
REFTCREATOR column
of SYSKEYS SQLREF–394
REFTNAME column SQLREF–371
REFTNAME column
of SYSKEYS SQLREF–394
regenerating a database SYVM–27,
SYVSE–33
register contents for dynamic
startup DBSU–113
register save conventions
support APP–179
regular application server
online support shutdown OPER–27
shutdown OPER–12
regular DB2 Server for VM
shutdown SYVM–92
Relational Data System
(RDS) OPER–146
relational data system (RDS)
executives DIAG–10
functional description DIAG–10
invocation DIAG–10
loading and storing of
packages DIAG–10
optimizing DIAG–10
overview DIAG–10
parsing DIAG–10
Relational Data System (RDS)
calls OPER–51
list of functions and
subcomponents OPER–147
tracing OPER–146
relational database
description SQLREF–10
distributed SQLREF–23
relationship APP–285
relationship
many-to-many DBA–3
many-to-one DBA–3
multivalued DBA–2
one-to-many DBA–3
one-to-one DBA–2
single-valued DBA–2
table definition DBA–2
relative performance
measurement PERF–13
relative share PERF–76
RELEASE column SQLREF–371
RELEASE column
of SYSINDEXES SQLREF–392
RELEASE keyword
of COMMIT statement SQLREF–183

RELEASE keyword *(continued)*
ROLLBACK statement SQLREF–336
release level PERF–39
release level
coexistence SYVM–38, SYVSE–45
products required by DB2 Server for VM database manager SYVM–4
release levels of products required by database manager SYVSE–6
RELEASE option
COMMIT APP–16
of CREATE PACKAGE statement SQLREF–206
ROLLBACK APP–16
RELease preprocessor parameter APP–127
release to release incompatibilities
2.1 and 1.3.5 SQLREF–430, SQLREF–432, SYVM–480, SYVM–482, SYVSE–382, SYVSE–384
2.2 and 2.1 SQLREF–432, SQLREF–435, SYVM–482, SYVM–485, SYVSE–384, SYVSE–387
3.1 and 2.2 SQLREF–435, SQLREF–446, SYVM–485, SYVM–495, SYVSE–387, SYVSE–397
3.2 and 3.1 SYVM–495, SYVM–502, SYVSE–397, SYVSE–403
3.3 and 3.2 (VM only) SQLREF–446, SQLREF–452, SYVM–502, SYVM–509
3.4 and 3.2 (VSE only) SQLREF–456, SQLREF–466, SYVSE–403, SYVSE–412
3.4 and 3.3 (VM only) SQLREF–452, SQLREF–456, SYVM–509, SYVM–513
3.5 and 3.4 SQLREF–466, SYVM–513, SYVSE–412
5.1 and 3.5 SQLREF–466, SYVM–513, SYVSE–413
6.1 and 5.1 SQLREF–467, SYVM–514, SYVSE–413
7.1 and 6.1 SYVM–515, SYVSE–414
description SQLREF–429, SYVM–479, SYVSE–381
releasing, page PERF–82
releasing your connection
batch applications APP–16
CICS/VSE applications APP–17
CMS applications APP–19
ICCF applications APP–16
to DB2 Server for VSE & VM APP–19
RELOAD
automatic statistics collection PERF–109
clustering index PERF–64
free page space PERF–38
locking PERF–109
NEW PERF–69
PCTFREE PERF–59
PURGE PERF–68
single table PERF–68
RELOAD command
description DBSU–80
errors DBSU–91
NEW parameter DBSU–195
PURGE parameter DBSU–74
reload-data tasks
nonrecoverable storage pools affecting reloading DBSU–78
receiving reload-notification DBSU–79
updating statistics DBSU–81
RELOAD DBSPACE command
description DBSU–69, DBSU–194
RELOAD PACKAGE
DBS utility PERF–110
usage considerations PERF–110
RELOAD PACKAGE command
description DBSU–209
locking conditions DBSU–228
synonym DBSU–85
syntax diagram DBSU–209
task DBSU–87
TIMESTAMP DBSU–85
usage considerations DBSU–229
RELOAD TABLE command DBSU–198
reloading
CCSID-related package SYVSE–220
CMS communications directory SYVM–12
COMDIR SYVM–12
remarks
in catalog SQLREF–179, SQLREF–181
REMARKS
column of SYSCATALOG DBA–52
REMARKS column SQLREF–371
REMARKS column
of SYSCATALOG SQLREF–179, SQLREF–181, SQLREF–377
of SYSCOLUMNS SQLREF–180, SQLREF–384
of SYSLANGUAGE SQLREF–395
of SYSOPTIONS SQLREF–396
remote
access to DB2 Server for VSE & VM DBA–11
application server
administration DBA–15
connecting implicitly DBA–97
definition DBA–13
distributed database DBA–11
remote, privileged DRDA user PERF–88
remote DRDA application server
connecting with CICS DIAG–36
Remote Server Name
resolving to target database DBA–104
remote spooling communications subsystem (RSCS)
release required SYVM–4
Remote unit of work SYVM–1
remote unit of work
application program APP–3
application server
renaming SYVM–49
blocking APP–123, APP–141
considerations in using extended dynamic statements APP–245
CURRENT SERVER APP–55
extended dynamic processing APP–237, APP–238
isolation level APP–137
remote unit of work *(continued)*
PACKAGE
description DBSU–85
unloading DBSU–85
special register APP–55
unsupported commands
SET ISOLATION command DBSU–219
SET UPDATE STATISTICS command DBSU–221
USER isolation APP–126
remote unit of work (RUOW) SQLREF–26
removing
a user DBA–83, DBA–85
a user from a VSE guest DBA–85
table DBA–72
user machines DBA–85
RENAME command ISQL–67, ISQL–141
renaming
stored SQL statement ISQL–67, ISQL–141
renaming a database SYVM–45
renaming a resource identifier SYVM–50
reorganization
to avoid DBSPACE scans DIAG–170, DIAG–177, DIAG–201
to avoid I/O's DIAG–225, DIAG–233, DIAG–234
reorganize
all the tables in a dbspace PERF–68
clustering index PERF–71
dbspace DBA–74, DBA–216, PERF–62
index PERF–70
index, primary key DBA–68
indexes on the catalog tables DBA–76
invalid index PERF–72
PCTFREE PERF–68, PERF–69
reasons to reorganize data PERF–67
selecting a method PERF–67
single table PERF–68
REORGANIZE INDEX
advantages PERF–70
DBS utility command PERF–70
indexes are fragmented DIAG–194
invalid index PERF–72
to avoid DBSPACE Scan DIAG–169
to avoid large sorts DIAG–166
REORGANIZE INDEX command DBSU–140
reorganizing indexes DBSU–140, DBSU–230
reorganizing the catalog index OPER–169
repeat symbol
in syntax diagrams APP–xi, DBA–xvi, DBSU–xiv, DIAG–xiii, ISQL–xiii, OPER–xii, PERF–xii, SQLREF–4, SYVM–xiii, SYVSE–xiii
repeatable read DIAG–66
repeatable read
guidelines ISQL–94
isolation level ISQL–92, ISQL–149, SQLREF–20

repeatable read *(continued)*
locking problems with ISQL usage DIAG–205
SET command ISQL–149
repeatable read (RR)
isolation level DBSU–219, PERF–93
ISQL PERF–108
repeatable read locking APP–135, APP–168
REPLACE keyword
introduction ISQL–63
message ISQL–64
reference ISQL–157
saving format information ISQL–66
REPLACE option
of CREATE PACKAGE statement SQLREF–206
replacing
database and log dataset SYVSE–146
database and log minidisk SYVM–196
database minidisk SYVM–219
dbextents SYVSE–161
log data set SYVSE–162
log dataset SYVSE–146
log minidisk SYVM–196
log minidisks SYVM–221
report
errors DBSU–223
example DBSU–95
formatting ISQL–49, ISQL–57, ISQL–113
isolation level setting ISQL–93
isolation level setting formal reports ISQL–94
obtaining multiple copies ISQL–29, ISQL–59
page size ISQL–59
printed
bottom title ISQL–53, ISQL–114
date ISQL–28, ISQL–138
page number ISQL–28, ISQL–138
page size ISQL–59, ISQL–151
setting output class ISQL–147
setting output class for a particular report ISQL–137
setting the number of copies ISQL–148
setting the number of copies for a particular report ISQL–137
top title ISQL–52, ISQL–114
printing ISQL–28, ISQL–136
working with DBSU–9
report writing
capability DBA–153
DB2 Server for VSE SYVSE–5
printer support DBA–199
through application program DBA–154
through ISQL DBA–153
through the DBS Utility DBA–154
reporting a problem DIAG–81
repository
storage requirements SYVM–6
reprep
concepts DIAG–40
invalid packages DIAG–40
repreprocessing DIAG–40
REPRO (VSAM) DBA–61
request
blocks OPER–166
mode for locks OPER–100
state for locks OPER–99
SYNCPOINT DBA–167
required item
in syntax diagrams APP–x, DBA–xv, DBSU–xiii, DIAG–xii, ISQL–xii, OPER–xi, PERF–xi, SQLREF–3, SYVM–xii, SYVSE–xii
required program products for database manager SYVSE–6
requirements
DB2 Server for VM database machine software SYVM–4
real storage PERF–199
RES counter PERF–15
resave the saved segment PERF–175
RESERVE SYVM–288
RESERVE
restriction for SYVM–140
reserved pages DIAG–49
reserved word SQLREF–37
reserved words
DBSU DBSU–111
SQL APP–xiii, DBA–xix, DBSU–xvii, DBSU–111, DIAG–xv, ISQL–xv, OPER–xiv, PERF–xiv, SQLREF–6, SYVM–xv, SYVSE–xv
using as identifiers DBSU–111
RESET
example PERF–21
operator command PERF–21
RESET CRR LOGNAMES operator command OPER–54
RESET HIGHSTOR operator command OPER–54
RESET INDOUBT command OPER–55
RESET operator command OPER–54
RESET parameter of exec DBA–241, DBA–249
RESET POOL command
description OPER–179
resetting
a database DBA–134
a dbspace from a backup copy DBA–133
counters OPER–54
data using DBS RELOAD processing DBA–131
database DBA–135
the log SYVM–228, SYVM–229, SYVSE–165, SYVSE–167
resetting log names OPER–54
RESID SYVM–23
RESID
renaming SYVM–49, SYVM–50
RESID NAMES file SYVM–23, SYVM–43, SYVM–49
RESID parameter
SQLDBGEN EXEC SYVM–287
SQLDBINS EXEC SYVM–285
residual predicate PERF–116, PERF–119
resolving in-doubt logical units of work OPER–136
resource
authority SQLREF–33
Resource Adapter DIAG–8
resource adapter
ARISRMBT module DBA–242
bootstrap module DBA–243
cancel support SYVM–365
definition SYVM–338, SYVSE–258
dropping code DBA–124, DBA–252
for communication DBA–187
keeping code DBA–252, DBA–253
online, description OPER–15
rmid (resource adapter ID), CIRB transaction OPER–17
resource adapter data areas
RMAR SYVSE–283
RMXC SYVM–364
resource and performance trade-offs SYVM–423, SYVSE–331
resource authority ISQL–79, ISQL–81
RESOURCE authority DBA–88, DBA–163
RESOURCE authority
ACQUIRE DBSPACE statement SQLREF–145
CREATE TABLE statement SQLREF–220
granting APP–264
RESOURCE clause
of GRANT statement SQLREF–292
of REVOKE statement SQLREF–330
Resource Definition Online Facility (RDO) APP–18
resource names migration SYVM–45
resource utilization calculations SYVM–423, SYVSE–331
RESOURCEAUTH column SQLREF–371
RESOURCEAUTH column
of SYSUSERAUTH and SYSUSERLIST SQLREF–408
resources PERF–9
response size
estimating PERF–147
response time
application program PERF–4
application server PERF–4
components PERF–4
network PERF–4
performance PERF–1, PERF–4
restart recovery
definition SYVM–193, SYVSE–143
restart resynchronization facility OPER–135
RESTARTCOUNT option DBSU–167
RESTARTCOUNT parameter
RELOAD TABLE command DBSU–201
restarting
ARISMEX SYVM–211, SYVSE–155
data load processing DBSU–46, DBSU–167
from COLDLOG operation failure SYVM–217, SYVSE–161
from database generation failure SYVM–217, SYVSE–161
from database restore operation SYVM–215, SYVSE–159

restarting *(continued)*
from system failure while archiving SYVM–217, SYVSE–160
procedures SYVM–211, SYVSE–155
SQLADBEX SYVM–211, SYVSE–155
SQLADBSP SYVM–211, SYVSE–155
SQLCIREO SYVM–211, SYVSE–155
SQLSTART SYVM–211, SYVSE–155
STARTUP parameter SYVM–211, SYVSE–155
the application server PERF–178
RESTARTTABLE parameter
RELOAD DBSPACE command DBSU–196
restore set SYVM–233, SYVSE–169
restore virtual disk backup PERF–50
restoring
database
restarting from failure of SYVM–215, SYVSE–159
restore set and history area SYVM–233, SYVSE–169
starting the application server when restoring SYVM–213, SYVSE–156
STARTUP=R SYVM–213, SYVSE–156
nonrecoverable data SYVM–239, SYVSE–174
restoring a database
ARISRST procedure SYVSE–156
procedures SYVM–211, SYVSE–155
restoring data APP–19
restoring data
archive tape OPER–169
RESTRICT DBA–7
restrict
delete rule SQLREF–13
DELETE statement SQLREF–245
ON DELETE clause
of ALTER TABLE statement SQLREF–162
of CREATE TABLE statement SQLREF–226
restricting
privilege by using a view ISQL–88
restriction
ACQUIRE DBSPACE DBA–27
CMS SYVM–140
commands
ACCESS SYVM–140
DISK LOAD SYVM–140
ERASE SYVM–140
EXECIO SYVM–140
FORMAT SYVM–140
MOVEFILE SYVM–140
READCARD SYVM–140
RECEIVE SYVM–140
RESERVE SYVM–140
creating a view DBA–44
EXEC SQL DBSU–145
macros
FSERASE SYVM–140
FSWRITE SYVM–140
unions APP–92
using a view DBA–44
restrictions
delete rule SQLREF–16
delete with subquery SQLREF–16
DRDA AR protocol SYVSE–381
DRDA protocol SQLREF–427, SQLREF–429, SYVM–477, SYVM–479, SYVSE–377
isolation level SQLREF–22
result
ISO-ANS SQL(89) equivalent term SQLREF–426
result columns of subselect SQLREF–124
result set locator data type SQLREF–43
result specification
DB2 Server for VSE & VM equivalent term SQLREF–425
result table
cursor APP–35
DECLARE CURSOR statement SQLREF–237
definition SQLREF–11
RESYNCH command SYVM–114, SYVSE–96
resynchronization SYVM–119, SYVSE–101
resynchronization
facility, CICS OPER–135
resynchronization
transaction SYVM–109, SYVSE–91
RETRIEVE facility
CHANGE command ISQL–37
description ISQL–33
introduction ISQL–15
PF12 ISQL–36, ISQL–179
retrieving
catalog information
authorization DBA–54
on columns DBA–53
on indexes DBA–53
on tables DBA–52
on views DBA–54
columns of a row APP–31
comments in catalog tables DBA–55
data ISQL–21
RETURN ISQL–95
return code reference information
error codes DBSU–224
return codes DBSU–224
return codes from the Database Services Utility DBSU–113
returns from DBSS entry calls OPER–146, OPER–171
REVOKE APP–266, DBA–92, DBA–94
REVOKE
performance problem index DIAG–137
revoke authorities DIAG–329
REVOKE option
of CREATE PACKAGE statement SQLREF–204
of preprocessor DBA–186
REVOKE preprocessor parameter APP–126, APP–164
revoke run privilege (Authorization) DIAG–329
REVOKE statement
EXECUTE IMMEDIATE statement SQLREF–272
GRANT option SQLREF–334
PREPARE statement SQLREF–315
used to revoke
Package Privileges SQLREF–328, SQLREF–329
System Authorities SQLREF–330, SQLREF–331
Table Privileges SQLREF–332, SQLREF–335
revoke table privilege (Authorization) DIAG–329
revoking
a user's password DBA–83
CONNECT authority DBA–83
privilege DBA–83, DBA–107
privileges APP–267
privileges
automatic APP–267
overview APP–266
programs APP–269
remote user DBA–92
REWIND parameter DBSU–143, DBSU–165
REWIND parameter, DATAUNLOAD DBSU–181
rewinding tapes OPER–144
REXX SYVM–4
REXX
application program
BEGIN DECLARE SECTION statement SQLREF–170
host variable SQLREF–68, SQLREF–271
PREPARE statement SQLREF–314
varying-length string variables SQLREF–44
dynamic SQL SQLREF–9
extended dynamic SQL SQLREF–10
RIGHT command
example ISQL–26
PF11 ISQL–179
reference ISQL–142
RINO
EXPLAIN PERF–142
RMAR SYVSE–283
rmid option, CIRB transaction OPER–17
RMTUSERS
concurrency PERF–87
RMTUSERS initialization parameter SYVSE–49
RMTUSERS parameter
for initialization OPER–174
RMXC SYVM–364
ROLLBACK APP–16, APP–19, PERF–22
rollback
description APP–194, SQLREF–18
ROLLBACK
Batch/ICCF recovery DBA–165
counter OPER–51
hyothetical question support DBA–186
option of FORCE command OPER–47
use of ISQL–31

ROLLBACK *(continued)*
work in application programs DBA–167, DBA–171
rollback, automatic
data definition statements APP–256
deadlocks APP–254
ROLLBACK statement SQLREF–336, SQLREF–337
ROLLBACK WORK APP–254, DBA–119, DBA–129, SYVM–249, SYVSE–189
ROLLBACK WORK
checkpoint PERF–99
invalid index PERF–71
ISQL PERF–107
locking PERF–92
performance problem
index DIAG–139
statement PERF–98
to reduce link waits DIAG–150
use to avoid lock wait problems DIAG–147
ROLLBACK WORK
command SYVM–192, SYVSE–142
rolling back
changes ISQL–31, ISQL–104
nonrecoverable data SYVM–238, SYVSE–173
rolling back changes APP–19
rolling back committed work DIAG–255
round-robin dispatcher SYVM–66, SYVSE–58
routine
ARINEWUS DBA–80
creating ISQL–72
description ISQL–69
DISPLAY commands ISQL–75
displaying query result ISQL–109
editing DBA–158
entering data into table ISQL–72
error mode processing ISQL–74, ISQL–152
estimating dbspace size SYVM–444, SYVSE–349
INPUT command ISQL–75
ISQL DBA–149, DBA–160, DBA–163
profile ISQL–69
running ISQL–73, ISQL–143
SELECT statements ISQL–75
setting isolation level ISQL–93
sharing ISQL–74
storing ISQL–72
table ISQL–71
updating ISQL–73
where they are stored ISQL–71
ROUTINE table DBA–149, DBA–163, ISQL–71
routing
printed output
to POWER remote workstation ISQL–61
to terminal ISQL–61
printed reports ISQL–61
the display of parameters OPER–174
row
deleting SQLREF–243
description ISQL–1
expansion PERF–59
row *(continued)*
granting privilege ISQL–88
inserting SQLREF–299
inserting
data from another table ISQL–82
length
blocking PERF–106
level locking
unique index PERF–92
locking ISQL–149
maximum byte count SQLREF–352
maximum number in a table SQLREF–352
ordering for display
ORDER BY clause ISQL–131
overflow PERF–36
overhead DBA–218
pointer DBA–217, DBA–228
selecting ISQL–127
total number PERF–36
ROW lock size APP–254
row locking
hot rows DIAG–183
in catalogs DIAG–162, DIAG–179
possible lock escalation problems DIAG–203, DIAG–215
possible lock wait problems DIAG–145, DIAG–164, DIAG–203
use of DIAG–177, DIAG–184, DIAG–203
ROW value for LOCK clause
of ACQUIRE DBSPACE statement SQLREF–146
of ALTER DBSPACE statement SQLREF–149
ROWCOUNT
catalog table PERF–36
estimating response size PERF–148
use in determining column selectivity DIAG–152
use to find hot spots DIAG–183
ROWCOUNT column SQLREF–371
ROWCOUNT column
of SYSCATALOG SQLREF–378
RPL control block of VSAM DIAG–281
RR attribute
isolation level SQLREF–20
isolation level
CREATE PACKAGE statement SQLREF–204
RR isolation level DBSU–220
RS attribute
isolation level SQLREF–22, SQLREF–204
isolation option
CREATE PACKAGE statement SQLREF–204
rs-locator-variable SQLREF–167
rules
evaluating predicates APP–44
naming data object APP–27
naming data objects DBSU–110
SQL in assembler APP–308
SQL in C APP–326
SQL in FORTRAN APP–366
SQL in PL/I APP–378
RUN authority DBA–186
RUN command
description ISQL–73, ISQL–143
example ISQL–73
isolation level setting ISQL–93
run-time authorization ID SQLREF–41
RUNAUTH column SQLREF–371
RUNAUTH column
of SYSPROGAUTH SQLREF–399
RUNMODE keyword
LIST command ISQL–75, ISQL–134
SET command ISQL–74, ISQL–152
running
application programs
multiple user mode SYVSE–69
single user mode SYVM–80, SYVSE–71
Database Services Utility
multiple user mode DBSU–7
single user mode DBSU–7
multiple user mode SYVM–80
routines
description ISQL–73
isolation level ISQL–93
RUN command ISQL–143
SQLLOG EXEC SYVM–229
running out of
DASD PERF–56
RUOW (remote unit of work) SQLREF–26
RXSQL SYVM–4

S

SAM
files managed by SYVSE–183
space management
accounting files SYVSE–185
sample
character sets SYVM–306, SYVSE–228
database sizes SYVSE–10
sample program
ARIS6ASD APP–304
ARIS6CBC APP–348
ARIS6CBD APP–348
ARIS6CC APP–326
ARIS6CD APP–326
ARIS6FTC APP–366
ARIS6FTD APP–366
ARIS6PLC APP–378
ARIS6PLD APP–378
EXECs APP–22
list APP–21
sample table
ACTIVITY DBSU–242, ISQL–172, SQLREF–412
CL_SCHED DBSU–247, ISQL–177, SQLREF–413
DEPARTMENT DBSU–235, ISQL–165, SQLREF–413
EMP_ACT DBSU–245, ISQL–175, SQLREF–415
EMPLOYEE DBSU–237, ISQL–167, SQLREF–414
IN_TRAY DBSU–247, ISQL–177, SQLREF–417

sample table *(continued)*
PROJ_ACT DBSU–243, ISQL–173, SQLREF–418
PROJECT DBSU–241, ISQL–171, SQLREF–417
sampling interval PERF–14
sargable
affect of CCSID PERF–125
predicate PERF–116, PERF–119
SAVE command ISQL–144
save interval
choosing PERF–197
SET OPER–182
SHOW OPER–188
understanding PERF–161
saved segment OPER–2
saved segment
defining SYVM–11
resaving PERF–169
saved segments PERF–45
saved segments
defining SYVM–177
DMKSNT entries (base code) SYVM–179
DMKSNT entries (DRDA) SYVM–179
loading PERF–176, SYVM–185
overlaps SYVM–177
SEGMENT RESERVE command SYVM–171, SYVM–177, SYVM–189
stop using SYVM–189
saved segments (DCSS)
national language SYVM–333
saved segments, use to avoid paging DIAG–227
SAVEINTV
DB2 Server DSS PERF–100
SAVEINTV initialization parameter OPER–175
saving
segments PERF–176, SYVM–185
saving format information
CHANGE ISQL–106
reference ISQL–127
START ISQL–156
STORE ISQL–65, ISQL–157
saving input
on an INPUT command ISQL–144
SBCS
character SQLREF–7
SBCS character set
folding rules SYVM–303, SYVSE–225
SBCS data
CREATE TABLE statement SQLREF–224
description SQLREF–44
handling after migration SYVM–34, SYVSE–41
MCCSIDGRAPHIC SYVM–34, SYVSE–41
MCCSIDMIXED SYVM–34, SYVSE–41
MCCSIDSBCS SYVM–34, SYVSE–41
SQLDA SQLREF–364
subtype DBA–34
SBCSID column SQLREF–371
SBCSID column
of SYSCCSIDS SQLREF–380
SBLOCK option
of CREATE PACKAGE statement SQLREF–204
SBLocK preprocessor parameter APP–122
scalar function
CCSID SQLREF–32
description SQLREF–96
scale
decimal data SQLREF–48
scale of data
comparisons in SQL SQLREF–57
conversion of numbers in SQL SQLREF–54
determined by SQLLEN variable SQLREF–363
results of arithmetic operations SQLREF–73
scale of decimal result DBA–175
scan
dbspace PERF–111
index PERF–112
scan control blocks SYVM–67, SYVSE–59
scan table SYVM–67, SYVSE–59
scans, concurrent OPER–165
SCHEDULE authority DBA–88
SCHEDULE authority
granting APP–264
SCHEDULE clause
of GRANT statement SQLREF–291, SQLREF–292
of REVOKE statement SQLREF–330, SQLREF–331
SCHEDULEAUTH column SQLREF–371
SCHEDULEAUTH column
of SYSUSERAUTH and SYSUSERLIST SQLREF–408
scheduling
fair share PERF–75
SCHEMA
command DBSU–142
input file DBSU–144
SCIF facility OPER–39
scope
cursor APP–36
WHENEVER statement APP–197
SCREATOR column SQLREF–371
SCREATOR column
of SYSTABAUTH SQLREF–405
scrolling through a query result
backward ISQL–103
description ISQL–22, ISQL–23
forward ISQL–121
left ISQL–133
right ISQL–142
search
inefficient DIAG–195
missing condition DIAG–209
search condition
AND operator APP–43
arithmetic operators APP–54
comparison operators APP–43
constant APP–55
DELETE statement SQLREF–244
search condition *(continued)*
description APP–41, SQLREF–89
expressions APP–55
false SQLREF–89
group ISQL–130
host variables APP–54
join conditions APP–68
missing DIAG–209
NOT keyword APP–43
OR operator APP–43
order of evaluation SQLREF–90
parentheses SQLREF–90
precedence rules APP–43, APP–54
predicate SQLREF–89
predicates APP–43
true SQLREF–89
unknown SQLREF–89
search_condition
in DELETE statement SQLREF–244
in HAVING clause SQLREF–126
in UPDATE statement SQLREF–341, SQLREF–342
in WHERE clause SQLREF–125
Searched form
of DELETE statement SQLREF–243
of UPDATE statement SQLREF–340
SECALVER initialization parameter SYVM–61, SYVSE–53
SECALVER initialization parameter
description OPER–170
SECALVER parameter
for initialization OPER–170
SECOND
function SQLREF–107
labeled duration SQLREF–71, SQLREF–75
second level guest PERF–78
secondary database machine SYVM–270
secondary production minidisk SYVM–271
secondary production minidisk
defining SYVM–272
example SYVM–271
SECONDS
labeled duration SQLREF–71
section
in package SQLREF–18
section_variable
description SQLREF–40
in DROP STATEMENT statement SQLREF–263
in Extended DECLARE CURSOR statement SQLREF–241
in Extended DESCRIBE statement SQLREF–252
in Extended PREPARE statement SQLREF–319
SECTNO column SQLREF–371
SECTTYPE column SQLREF–371
SECTYPE initialization parameter SYVM–61, SYVSE–54
SECTYPE initialization parameter
description OPER–170
SECTYPE parameter
for initialization OPER–170
securing the database catalog table DBA–107

security
audit tracing OPER–147, OPER–172
auditing OPER–147, SYVSE–65
auditing
loading information into a table DBA–112
printing information DBA–116
through the catalog table DBA–109
tracing DBA–109
authority DBA–87
batch and VSE/ICCF applications DBA–165
conversation level SYVM–136
database catalog table DBA–107
DBS Utility application DBA–166
distributed processing
administration SYVM–139
security SYVM–138
DRDA SYVSE–120
maintaining SYVM–135, SYVM–143, SYVSE–117, SYVSE–119
online application DBA–167
privilege DBA–87
providing DBA–87
session level SYVM–136
user ID translation SYVM–139
VM directory control statement
IUCV *IDENT SYVM–138
IUCV ALLOW SYVM–138
IUCV ANY SYVM–138
VM/ESA operating systems SYVM–138
SEGMENT FIND
used by database manager SYVM–83
SEGMENT LOAD
used by database manager SYVM–83
SEGMENT RESERVE
command SYVM–171, SYVM–177, SYVM–189
segment saving PERF–176, SYVM–185
segments, saved PERF–45
SELECT
ALL APP–31
ALL keyword APP–80
ANY keyword APP–80
clause APP–30
constants APP–31
correlation APP–82
DISTINCT keyword APP–30
error handling APP–203
EXISTS APP–90
group-by-clause APP–32
grouping APP–72
having-clause APP–32
INTO clause APP–40
introduction APP–28
joins APP–68
NOT EXISTS predicate APP–90
order of clauses APP–75
ordering results APP–39
performance problem index DIAG–137
SELECT * form APP–31
select-clause APP–30
select-list APP–30
subqueries APP–77
SELECT *(continued)*
unions APP–91
where-clause APP–32
SELECT *
basic queries APP–31
join APP–72
views APP–64
SELECT clause
of GRANT statement SQLREF–294, SQLREF–295
of REVOKE statement SQLREF–332, SQLREF–333
of SELECT INTO statement SQLREF–338
of subselect SQLREF–121, SQLREF–122
SELECT DBSPACENO statement OPER–76
SELECT INTO
assignment rules SQLREF–53
description SQLREF–338, SQLREF–339
select list SQLREF–122
select list
application SQLREF–123
constants APP–31
description APP–30
error handling APP–203
maximum number of elements SQLREF–352
notation SQLREF–122
restrictions
GROUP BY APP–74
SELECT list, inefficient DIAG–198
SELECT privilege
routine ISQL–74
SELECT statement ISQL–127
select-statement
description APP–29
fullselect SQLREF–132
in DECLARE CURSOR statement SQLREF–236, SQLREF–237
in EXECUTE IMMEDIATE statement SQLREF–272
in PREPARE statement SQLREF–315
invocation SQLREF–140
Select statement
terminating DBSU–172
SELECT statement
arithmetic exception DBSU–145
command processing DBSU–21
data and isolation level setting ISQL–93
isolation level setting ISQL–94
multiple-row query DBSU–21
online reference information ISQL–122
routine ISQL–75
using ISQL–21
using with DATAUNLOAD DBSU–172
SELECTAUTH column SQLREF–371
SELECTAUTH column
of SYSTABAUTH SQLREF–406
selecting
all columns of a row APP–31
selecting *(continued)*
character sets SYVM–57, SYVSE–50
column ISQL–21
data from
another user's table or view ISQL–89
data from a table ISQL–127
isolation level APP–136, APP–170
online help information ISQL–16
typing a command while viewing a HELP display ISQL–17
selective
archive PERF–101
index
scan PERF–112
selective index, definition of DIAG–132
selectivity, false sense of DIAG–152
self-referencing table APP–286, DBA–7
self-referencing table
definition SQLREF–15
separating queries into subquery structures PERF–144
separation between columns, modifying ISQL–42, ISQL–58
separator
column
character displayed ISQL–58
modify ISQL–42
setting for a session ISQL–152
setting for current query result ISQL–119
decimal ISQL–58, ISQL–148
thousands ISQL–58, ISQL–148
SEPARATOR keyword
FORMAT command
description ISQL–42
multiple keywords ISQL–48, ISQL–55
reference ISQL–119
STORE ISQL–63
LIST command ISQL–61, ISQL–134
SET command
character displayed ISQL–58
example ISQL–61
reference ISQL–152
SEPINTDB
unmapped internal dbspaces PERF–186
SEPINTDB initialization parameter OPER–176
SEQNO column SQLREF–371
SEQNO column
of SYSFPARMS SQLREF–390
of SYSVIEWS SQLREF–409
sequence numbers in input control card file records DBSU–137
sequence of clauses APP–75
sequence of loading SYVM–82
SEQuence preprocessor parameter APP–128, APP–165
sequential access method
files managed by SYVSE–183
space management SYVSE–182
sequential file output DBSU–180
sequential processing, possible I/O problems DIAG–224
serialization, on page faults DIAG–220

server name SYVSE–23
server name
choosing SYVSE–23
migration consideration SYVSE–40
server_name
description SQLREF–40
in CONNECT
statement SQLREF–186, SQLREF–192
length limitation SQLREF–351
server_name option
CIRA transaction OPER–30, OPER–31
CIRB transaction OPER–17
CIRC transaction OPER–33
CIRD transaction OPER–18
server_names
on the CIRA transaction SYVM–107, SYVSE–89
on the CIRB transaction SYVM–102, SYVSE–84
service
corrective PERF–169
preventive PERF–169
service disk storage requirements SYVM–8
service machine DBA–187
service machine
converting to a database machine SYVM–48
defining SYVM–11
example SYVM–269
in a collection SYVM–268
minidisks SYVM–9
size SYVM–5
service minidisk SYVM–7
session
DB2 Server for VSE & VM terminal
definition ISQL–3
starting ISQL–3, ISQL–5
DB2/VM terminal
starting ISQL–4
session limit
exceeded DIAG–226
session limit (AVS) SYVM–268
session manager
support ISQL–4
SET
isolation level ISQL–92, ISQL–149
LIST command ISQL–61, ISQL–75
SET APPCVM OPER–15, SYVM–97, SYVSE–79
SET clause
of UPDATE statement SQLREF–341
SET command OPER–55
SET command
AUTOCOMMIT option ISQL–32
description ISQL–58, ISQL–61
reference ISQL–145
SET ERRORMODE DBA–166
set function
DB2 Server for VSE & VM equivalent term SQLREF–425
set-item commands DBSU–219
set-item commands
SET AUTOCOMMIT DBSU–215
SET ERRORMODE DBSU–216
set-item commands *(continued)*
SET FORMAT DBSU–218
SET ISOLATION DBSU–219
SET LINECOUNT, SET LINEWIDTH DBSU–220
SET UPDATE STATISTICS DBSU–221
SET keyword of LIST command ISQL–134
SET LANGUAGE operator command OPER–50
SET MACHINE command SYVM–89
SET NULL DBA–7
set null
delete rule SQLREF–13
DELETE statement SQLREF–245
ON DELETE clause
of ALTER TABLE statement SQLREF–162
of CREATE TABLE statement SQLREF–226
set_null_clause
reference DBSU–178
SET POOL OPER–180, PERF–185
SET QDROP OFF USERS
not being used DIAG–226
specifying DIAG–227
to avoid paging DIAG–221
SET QUERYNO clause
of EXPLAIN statement SQLREF–275
SET QUICKDSP
fair share scheduling PERF–76
SET QUICKDSP ON DIAG–226
SET RUNMODE DBA–161
SET SAVEINTV OPER–182
SET SHARE
fair share scheduling PERF–76
SET STATISTICS OFF, on DATALOAD DIAG–234
SET TARGETWS OPER–182
setting
autocommit of changes to tables ISQL–32
autocommit of data ISQL–147
characters displayed
FORMAT command ISQL–119
FORMAT NULL command ISQL–118
SET command ISQL–58, ISQL–152
SET NULL command ISQL–59, ISQL–150
continuation character ISQL–148
default character subtype SYVM–325, SYVSE–247
displayed width for variable character field ISQL–119
language for message and HELP text ISQL–60
lines per page DBSU–220
number of copies for printed reports ISQL–59, ISQL–148
operational characteristics ISQL–145
output class for printed reports ISQL–147
output format DBSU–218
page size for printed report ISQL–59
setting *(continued)*
page width DBSU–220
punctuation displayed for numeric column ISQL–58, ISQL–148
routing printed output
to POWER remote workstation ISQL–61
to terminal ISQL–61
RUNMODE option ISQL–74
uppercase input ISQL–147
SETTING clause
of Extended PREPARE statement SQLREF–319
setting fair share interval size DIAG–22
setting up
a new DB2 Server for VSE & VM user DBA–79
new ISQL user DBA–80
setting up a stored procedure server DBA–204
setting up job control for the accounting files SYVSE–181
setting up your database job control SYVSE–211
SG trace OPER–147, OPER–172
shadow page PERF–196
shadow page
accumulating PERF–57
checkpoint PERF–100
checkpoint process PERF–98
dbspace full PERF–63
description PERF–58, PERF–60, PERF–99
number in use PERF–61
page map table PERF–61
short on storage PERF–57
shadow pages DIAG–57
shadow paging SYVM–435, SYVSE–340
share
description PERF–91
isolation level SQLREF–20
lock
description PERF–90
with intent exclusive lock PERF–91
SHARE lock DBSU–228, PERF–110
share lock
description APP–254, APP–255, DIAG–68
SHARE option
IN SHARE MODE clause
LOCK DBSPACE statement SQLREF–306
LOCK TABLE statement SQLREF–307
share with intent exclusive lock
description DIAG–69
shared file system directory (SFS directory)
production minidisk size SYVM–8
service minidisk size SYVM–8
work minidisk size SYVM–8
shared segment SYVM–171
shared system area (SVA)
eligible phases SYVSE–222
sample SYVSE–222
shared virtual area (SVA)
defining components SYVSE–221

shared virtual area (SVA) *(continued)*
eligible phases SYVSE–221
sharing
routines ISQL–74
table with another user ISQL–87, ISQL–88
sharing, guest OPER–vii, OPER–15
sharing, VSE guest DBA–195
shift-in character APP–52
shift-in character
convention (>) SQLREF–7
not truncated by assignments SQLREF–56
representation of DBCS delimiter character X'0F' SQLREF–7
shift-in character X'0F'
mixed data values SQLREF–45
shift in/out delimiters, DBCS DBSU–230
shift-out character APP–52
shift-out character
convention (<) SQLREF–7
representation of DBCS delimiter character X'0E' SQLREF–7
shift-out character X'0E'
mixed data values SQLREF–45
short identifier SQLREF–37
short on storage
checkpoint PERF–99
example PERF–25
flag OPER–76, OPER–109
initialization parameter PERF–57
level OPER–168
managing pool space PERF–57
SHOW POOL PERF–57
SOSLEVEL PERF–57
short string
column SQLREF–44
shorter path length PERF–191
SHOW ISQL–154
SHOW
operator command PERF–8, PERF–24
SHOW ACTIVE OPER–183, SYVM–114, SYVSE–96
SHOW ACTIVE
operator command PERF–27
SHOW ACTIVE command
description OPER–56
display
NEW OPER–57
NIW OPER–57
R/O OPER–57
R/W OPER–57
example OPER–59
forcing OPER–46
forcing remote users to end work OPER–48
SHOW ADDRESS command OPER–60
SHOW BUFFERS OPER–184
SHOW BUFFERS command OPER–61
SHOW command OPER–120
SHOW commands OPER–56, OPER–118
SHOW CONNECT
command OPER–64
command
forcing remote users to end work OPER–48
SHOW CONNECT *(continued)*
command *(continued)*
forcing users to end work OPER–46
concurrency PERF–86
for CRR in VM/ESA OPER–69
for Stored Procedures OPER–70
operator command PERF–28, PERF–31, PERF–33
SHOW CRR LOGNAMES command OPER–71
SHOW DBCONFIG command OPER–72
SHOW DBEXTENT
available storage pool space PERF–62
command OPER–74
operator command PERF–24
SHOW DBSPACE DBA–27, DBA–76
SHOW DBSPACE
command OPER–76
operator command PERF–24
SHOW INDOUBT
records DIAG–322
SHOW INDOUBT command OPER–77
SHOW INITPARM command OPER–79
SHOW INVALID
command OPER–81
invalid index PERF–71
transient index PERF–72
SHOW LOCK
ACTIVE, use to find communication waits DIAG–149
ACTIVE command OPER–84
AGENT, uses of DIAG–176
DBSPACE command OPER–86
GRAPH command OPER–88
MATRIX, use to find LRBs needed DIAG–214
MATRIX command OPER–92
operator command PERF–33
USER, uses of DIAG–176
USER command OPER–95
WANTLOCK, to find key lock conflicts DIAG–164
WANTLOCK command OPER–97
SHOW LOCK ACTIVE OPER–185
SHOW LOCK ACTIVE
operator command PERF–34
SHOW LOCK GRAPH OPER–185
SHOW LOCK GRAPH
operator command PERF–34
SHOW LOCK MATRIX
lock escalation PERF–96
operator command PERF–34, PERF–35
SHOW LOCK MATRIX command SYVM–65, SYVSE–57
SHOW LOCK USER
operator command PERF–35
SHOW LOG
log cushion PERF–103
scheduling archives SYVM–200, SYVSE–151
scheduling log archives SYVM–205, SYVSE–154
scheduling user archives SYVM–203, SYVSE–152
SHOW LOG command OPER–101
SHOW LOGHIST command OPER–102
SHOW POOL OPER–186
SHOW POOL
available dbextent space PERF–62
operator command PERF–25
shadow page PERF–61
short on storage PERF–57
SHOW POOL command OPER–106
SHOW PROC command OPER–110
SHOW PSERVER command OPER–113
SHOW SAVEINTV OPER–188
SHOW STORAGE
operator command PERF–26
SHOW STORAGE command OPER–115
SHOW SYSTEM command OPER–118
SHOW TARGETWS OPER–189
SHOW TARGETWS
DB2 Server DSS PERF–9
SHOW USERS SYVM–92, SYVM–95, SYVSE–77
SHOW USERS
concurrency PERF–86
operator command PERF–28
pseudo-agents PERF–88
SHOW USERS command OPER–120
shutdown
checkpoint PERF–99
shutdown of the application server SYVM–90, SYVSE–76
shutting down the application server
archives OPER–12
description OPER–10
normal shutdown OPER–12
online support OPER–26
signing off the DB2 Server for VM system console SYVM–90, SYVM–140
signing off the DB2 Server for VSE system console OPER–10
signing on
to ISQL ISQL–7
to ISQL from another CICS task ISQL–183
signon screen
description ISQL–6
suppressing ISQL–183
single-byte character in LIKE predicates SQLREF–87
single console image facility (SCIF) SYVM–53
Single Console Image Facility (SCIF) OPER–39
single partition mode OPER–8
single-partition mode
locking considerations APP–254
single precision float APP–46
single-precision float DBSU–184
single precision floating-point SQLREF–47
single quotation mark
COBOL considerations APP–122, APP–159, APP–353
COMMENT command DBSU–140
considerations in COBOL APP–122, APP–159
constant APP–58
option values DBSU–138

single record into several
tables DBSU–40
SINGLE ROW clause
of Extended PREPARE
statement SQLREF–319
single-row query results APP–41
single row select SQLREF–338
single user mode APP–114, DIAG–13
single user mode
AMODE(24) SYVM–80, SYVM–82
CALL/RETURN protocols for
application programs SYVM–86,
SYVSE–72
DBSS DIAG–13
definition SYVM–53, SYVSE–47
description OPER–7
executing applications APP–146
initialization parameter OPER–170
initialization parameters SYVM–72,
SYVSE–65
invoking a program
example APP–147
invoking the preprocessors APP–116,
APP–152
job control example DBSU–106
program name OPER–167
RDS DIAG–13
running DBSU–7
running application
programs SYVM–80, SYVSE–71
specifying user parameters APP–147
starting application server SYVSE–71
starting the application
server SYVM–80
starting the application server and
providing user
parameters SYVM–85
starting the Database Services
Utility DBSU–106
the application server OPER–7
use for loading DIAG–207
user program OPER–8
single user mode (SUM)
allocating users to agents PERF–85
blocking PERF–106
fetch and insert blocking PERF–80
logmode PERF–102
running PERF–89
single value queries DBSU–22
single virtual machine mode APP–114
single virtual machine mode
definition SYVM–53, SYVSE–47
single-volume tapes SYVM–75
size
database SYVM–15, SYVSE–15
directory SYVM–14, SYVM–283,
SYVSE–14
internal dbspaces needed SYVM–20,
SYVSE–20
log SYVM–14, SYVM–17, SYVSE–14,
SYVSE–17
log
by DASD type SYVM–449,
SYVSE–355
printed page for reports ISQL–151
SIZE=AUTO
invoking preprocessors APP–154
size of dbspace, estimating DBA–23,
DBA–215
size of responses, estimating PERF–147
size parameter DBA–23
skipping bad records DBSU–45
slash (/) initialization option OPER–8
SLOGCUSH
tuning parameter PERF–103
SLOGCUSH initialization option
log size OPER–101
SLOGCUSH initialization parameter
description OPER–168, SYVM–70,
SYVSE–62
freeing log space SYVM–200,
SYVM–204, SYVSE–150, SYVSE–153
slots
use of SYVM–155, SYVSE–129
SLOW RESPONSE DIAG–96
small integer
definition SQLREF–47
SMALLINT
data type SQLREF–159, SQLREF–223
SMALLINT data type DBSU–155
SMALLINT data type
assembler APP–313
C APP–342
COBOL APP–360
FORTRAN APP–374
PL/I APP–387
SMALLINT data type of
column DBA–32
smoothing keys DIAG–153
SNA (see Systems Network
Architecture) SYVM–266
SNA NETID file SYVM–12
SNA network
distributed database PERF–78
snapshot dump OPER–145
software problems PERF–2
software requirement PERF–166
software requirements SYVM–4
Solutions Directory PERF–8
SOME
in a quantified predicate SQLREF–80
SOME keyword APP–80
sort
concepts DIAG–54
description DIAG–54
possible I/O problems DIAG–224
required on CREATE
INDEX DIAG–166
spreading DIAG–166
sort specification
DB2 Server for VSE & VM equivalent
term SQLREF–425
SORT trace OPER–146, OPER–171
sorting
index PERF–114
sorting sequence, altering by a field
procedure SYVM–367, SYVSE–284
SOSLEVEL
initialization option OPER–109
initialization parameter OPER–168
SOSLEVEL initialization
parameter SYVM–71, SYVSE–63
source code
ARIS6ASC APP–304
source code *(continued)*
ARIS6ASD APP–304
ARIS6CBC APP–348
ARIS6CBD APP–348
ARIS6CC APP–326
ARIS6CD APP–326
ARIS6FTC APP–366
ARIS6FTD APP–366
ARIS6PLC APP–378
ARIS6PLD APP–378
source members OPER–4
source members
A-type OPER–4
ARISDTM member SYVSE–270,
SYVSE–278
cataloging example OPER–5
cataloguing SYVSE–75
Source Statement Library
input APP–175
source value APP–50
space SQLREF–36
space
DB2 Server for VM production
minidisk SYVM–8
DB2 Server for VM service
minidisk SYVM–8
space allocations
log and dbextent data
sets SYVSE–338
log and dbextent
minidisks SYVM–431
space management DIAG–51
SPANISH character set SYVM–313,
SYVSE–235
spanned records SYVM–76
spanning records
control file records DBSU–163
input control card file
records DBSU–163
multiple input records DBSU–42
special character SQLREF–35
special characters
identifiers DBSU–111
special register
CCSID SQLREF–32
CURRENT DATE SQLREF–62
CURRENT SERVER SQLREF–62
CURRENT TIME SQLREF–63
CURRENT TIMESTAMP SQLREF–63
CURRENT TIMEZONE SQLREF–63
description APP–55, SQLREF–62
expressions APP–55
remote unit of work APP–55
USER SQLREF–62
special_register
in IN predicate SQLREF–84
in INSERT statement SQLREF–299
special statements
UPDATE STATISTICS APP–258
specification file
storage pool
changing PERF–182
format PERF–201, PERF–202
identifying PERF–183
writing PERF–202
specifying
initial dbspace SYVM–294

specifying *(continued)*
user parameters SYVM–84, SYVSE–71
specifying isolation levels DIAG–65
SPIE exit
considerations SYVM–86
splitting
tables DIAG–148, DIAG–233
work among DB machines DIAG–217
spreading sorts DIAG–166
SQL
command buffer ISQL–33
command line buffer ISQL–33, ISQL–37
description ISQL–1
keyword
LIST command ISQL–67, ISQL–134
reserved words DBSU–111
statement processing DBSU–145
statements
ALTER TABLE ISQL–83
COMMENT ISQL–80
COMMIT ISQL–31
CREATE INDEX ISQL–90
CREATE SYNONYM ISQL–89
CREATE TABLE ISQL–81, ISQL–82
current ISQL–63, ISQL–65
DROP INDEX ISQL–90
DROP SYNONYM ISQL–90
DROP TABLE ISQL–82
GRANT ISQL–87
INSERT ISQL–82
listing more than one stored ISQL–67
listing those previously stored ISQL–67
preventing immediate processing ISQL–38
previous ISQL–63, ISQL–65
recalling one previously stored ISQL–65
renaming one previously stored ISQL–67
replacing ISQL–63
ROLLBACK ISQL–31
SELECT ISQL–21
starting stored statement ISQL–64
UPDATE STATISTICS ISQL–91
SQL-89
conformance checking APP–133, APP–165, APP–166, APP–248
SQL comment
in Database Services Utility commands DBSU–23
SQL comments
assembler APP–311
C APP–327
COBOL APP–349
FORTRAN APP–366
in static SQL statements APP–94
PL/I APP–378
SQL communication area (SQLCA)
contents SQLREF–355
SQL communication area (SQLCA) *(continued)*
entry changed by UPDATE SQLREF–343
INCLUDE statement SQLREF–297
INSERT statement SQLREF–302
PUT statement SQLREF–324
SQL declare section APP–8, APP–56, APP–57, APP–308, APP–328, APP–350, APP–367, APP–379
SQL descriptor area (SQLDA)
contents SQLREF–361
DESCRIBE statement SQLREF–250
EXECUTE statement SQLREF–265
Extended EXECUTE statement SQLREF–270
Extended PREPARE statement SQLREF–320
FETCH statement SQLREF–285
INCLUDE statement SQLREF–297
LABEL ON statement SQLREF–305
maximum size SQLREF–352
OPEN statement SQLREF–309
PUT statement SQLREF–324
SQL Descriptor Area (SQLDA)
assembler declaration APP–312
C declaration APP–341
COBOL declaration APP–358
FORTRAN declaration APP–372
PL/I declaration APP–385
Structure APP–226
SQL dynamic statement support DBA–154
SQL identifier SQLREF–36
SQL identifier
description APP–27
SQL statements
COMMIT DBSU–18
CONNECT DBSU–18
embedding in application program examples APP–12
SELECT DBSU–18
using DBSU–18
within Database Services Utility DBSU–18
SQL statements, analyzing PERF–135
SQL statements associated with a system error DIAG–296
SQL system
user identification DBSU–19
SQLABC field of SQLCA SQLREF–355
SQLADBEX EXEC SYVM–162
SQLADBEX EXEC
example SYVM–159, SYVM–161
SQLADBEX file SYVM–164
SQLADBSP EXEC SYVM–20, SYVM–145, SYVM–146
SQLADBSP EXEC
example SYVM–150
SQLADBSP file SYVM–147
SQLADBSP file SYVM–147
SQLAID field of SQLCA SQLREF–355
SQLApost preprocessor parameter APP–128
SQLBOOTS EXEC SYVM–189
SQLCA (SQL Communications Area)
assembler declaration APP–312
SQLCA (SQL Communications Area) *(continued)*
C declaration APP–340
COBOL APP–357
description APP–195
FORTRAN APP–371
PL/I declaration APP–384
testing APP–197
SQLCABC field of SQLCA SQLREF–355
SQLCAID field of SQLCA SQLREF–355
SQLCDBEX EXEC SYVM–151, SYVM–168
SQLCIREO EXEC DBA–77
SQLCOD field of SQLCA SQLREF–355
SQLCODE APP–11, APP–194, ISQL–10
SQLCODE
+100 SQLREF–284, SQLREF–300, SQLREF–338, SQLREF–348
-522 SYVM–67, SYVSE–60
-649 PERF–137
-911 PERF–98
-912 PERF–96
-915 PERF–96
-932 SYVSE–334
-937 SYVM–132, SYVSE–114
-945 SYVM–155, SYVSE–129
-946 SYVM–155, SYVSE–129
description SQLREF–143
field of SQLCA SQLREF–355
negative SQLREF–348
positive SQLREF–348
statement execution SQLREF–141
SQLCODE 100 (not found)
FETCH APP–37
SQLD field in the SQLDA APP–228
SQLD field of SQLDA SQLREF–248, SQLREF–362
SQLDA SQLREF–361
SQLDA
CCSID values in SQLDATA field SQLREF–366
CCSID values in SQLNAME field SQLREF–366
date field length SQLREF–48
SQLLEN field values for host variables SQLREF–365
SQLTYPE field values for host variables SQLREF–365
time field length SQLREF–49
timestamp field length SQLREF–49
SQLDA (SQL Descriptor Area)
summary APP–226
SQLDABC field of SQLDA SQLREF–248, SQLREF–362
SQLDAID field of SQLDA SQLREF–248, SQLREF–362
SQLDATA field of SQLDA SQLREF–249, SQLREF–363
SQLDAX structure (in PL/I) APP–385
SQLDBA
bootstrap package SYVM–172
password SYVM–298
SQLDBBT module SYVM–174
SQLISBT module SYVM–174
SQLRMBT module SYVM–174
user ID SYVM–298
SQLDBA.ARINEWUS DBA–80

SQLDBA.ROUTINE
CHARNAME change SYVM–58, SYVSE–51
SQLDBA SQLDBBT Q SYVM–474, SYVM–475
SQLDBA SQLISBT Q SYVM–474, SYVM–475
SQLDBA SQLRMBT Q SYVM–474, SYVM–475
SQLDBA.STORED QUERIES
CHARNAME change SYVM–58, SYVSE–51
SQLDBA.SYSLANGUAGE
CHARNAME change SYVM–58, SYVSE–51
SQLDBA.SYSLANGUAGE table SYVM–332, SYVSE–254
SQLDBA.SYSTEXT2
CHARNAME change SYVM–58, SYVSE–51
SQLDBA.SYSUSERLIST
CHARNAME change SYVM–58, SYVSE–51
SQLDBAPW password OPER–27
SQLDBGEN example SYVM–290
SQLDBGEN EXEC SYVM–286
SQLDBGEN EXEC
files used by SYVM–290
format SYVM–286
preparing input for SYVM–286
SQLDBGEN file SYVM–49, SYVM–298
SQLDBGEN file
renaming a resource identifier SYVM–50
SQLDBID EXEC DBA–251
SQLDBINS EXEC SYVM–284, SYVM–285
SQLDBINS EXEC
format SYVM–284
running SYVM–284
SQLDBN file
content DBA–242
contents SYVM–289, SYVM–298
purpose SYVM–298
renaming a database SYVM–49
renaming a resource identifier SYVM–50
use of SYVM–174
SQLDBN files
definition of DBA–242
updating DCSSID DBA–242
used by SQLINIT DBA–243
SQLDBSU EXEC
description DBSU–109
invocation task DBSU–15
multiple user mode DBSU–129
single user mode DBSU–130
syntax diagram DBSU–129
SQLDS communication protocol SQLREF–25
SQLDS protocol DBA–13, PERF–104, SYVM–57
SQLDSECT, acquiring APP–304
SQLDSIZ variable APP–304
SQLEND
ARCHIVE SYVM–199, SYVSE–150
DVERIFY SYVM–90, SYVSE–76
SQLEND *(continued)*
LARCHIVE SYVM–204, SYVSE–152
QUICK SYVM–90, SYVSE–76
recovery considerations SYVSE–79
UARCHIVE SYVM–203, SYVSE–151
SQLEND ARCHIVE DBA–133
SQLEND operator command SYVM–91, SYVSE–76
SQLEND operator command
ARCHIVE OPER–11
description OPER–10
DVERIFY OPER–11
LARCHIVE OPER–11
QUICK OPER–11
syntax OPER–10
TRCPURGE OPER–11
UARCHIVE OPER–11, OPER–44
SQLER fields of SQLCA SQLREF–356, SQLREF–357
SQLERL field of SQLCA SQLREF–356
SQLERM field of SQLCA SQLREF–356
SQLERP field of SQLCA SQLREF–356
SQLERR(n) fields of SQLCA SQLREF–356, SQLREF–357
SQLERRD(3)
CLOSE statement SQLREF–176
DELETE statement SQLREF–246
INSERT statement SQLREF–302
UPDATE statement SQLREF–343
SQLERRD(n) fields of SQLCA SQLREF–356, SQLREF–357
SQLERRD2
-30 SYVM–67, SYVSE–60
SQLERRM
description APP–196
SQLERRMC field of SQLCA SQLREF–356
SQLERRML field of SQLCA SQLREF–356
SQLERROR clause
of WHENEVER statement SQLREF–348
SQLERRP field of SQLCA SQLREF–356
SQLFDEF file SYVM–298
SQLFDEF file
creating SYVM–288
renaming a database SYVM–49
renaming a resource identifier SYVM–50
single logging SYVM–230
updated by SQLADBEX SYVM–163
SQLFLAG preprocessor parameter APP–165
SQLGENLD EXEC PERF–177, SYVM–172, SYVM–188
SQLGLOB
program to query, update, insert or delete SYVSE–247
SQLGLOB EXEC DBA–244
SQLGLOB EXEC
setting DBCS option SYVM–326
setting default CHARNAME SYVM–324
SQLGLOB Parameters (VSE Only) DBA–265
SQLGLOB VSAM file
setting default CHARNAME SYVSE–246
setting default DBCS SYVSE–249
SQLHX APP–16, DBA–98, DIAG–228
SQLHX
canceling the Database Services Utility DBSU–24
synchronous communication PERF–107
SQLIND field of SQLDA SQLREF–249, SQLREF–364
SQLINIT
PROTOCOL parameter PERF–104
QRYBLKSIZE PERF–106
SYNCHRONOUS PERF–107
SQLINIT EXEC APP–115, DBA–191, DBA–194, ISQL–5
SQLINIT EXEC
CONNECT statement SQLREF–187
default application server DBA–95
default database DBA–189
description DBA–235
issuing for a user SYVM–282
optional CMS work unit APP–283
parameters DBA–236
reasons to reissue DBA–241, DBA–243
resource adapter bootstrap module DBA–243
setting DBCS option SYVM–327
setting default CHARNAME SYVM–324
syntax DBA–235
SQLLEN field of SQLDA SQLREF–249, SQLREF–363
SQLLOG EXEC SYVM–216, SYVM–229
SQLMACH machine
DASD requirement PERF–168
modes of operation PERF–165
overview PERF–165
virtual storage PERF–166
SQLN
field in SQLDA APP–228
setting APP–226
SQLN field of SQLDA SQLREF–248, SQLREF–362
SQLNAME field of SQLDA SQLREF–249, SQLREF–365
SQLOPTION column SQLREF–371
SQLOPTION column
of SYSOPTIONS SQLREF–395
SQLPREP EXEC APP–116
SQLPREP EXEC
format APP–116
parameters APP–116
SQLQRY ISQL–15
SQLQRY
querying the current status DBSU–24
remote unit of work APP–299
synchronous communication PERF–107
SQLQRY command
querying the status of an application DBA–259
SQLQuote preprocessor parameter APP–128

SQLRMEND DBA–124
SQLRMEND EXEC APP–16, DBA–251, DBA–252
SQLSTART PERF–19
SQLSTART EXEC APP–146, SYVM–77, SYVM–149
SQLSTART EXEC
accessing SQLDBN file DBA–242
description DBA–242
example APP–147
parameter options OPER–174
restoring the database
example SYVM–212
syntax diagram OPER–2
SQLSTATE
'02000' SQLREF–284, SQLREF–300, SQLREF–338, SQLREF–348
40001 PERF–98
42704 PERF–137
57028 PERF–96
57029 PERF–96
description SQLREF–143
SQLSTATE field of SQLCA SQLREF–359
SQLSTT field of SQLCA SQLREF–359
SQLTRFMT EXEC control statements OPER–149
SQLTXL field of SQLCA SQLREF–356
SQLTXT field of SQLCA SQLREF–356
SQLTYPE field of SQLDA SQLREF–249, SQLREF–362
SQLVAR array of SQLDA SQLREF–362
SQLVAR field of SQLDA SQLREF–248
SQLWARN
description APP–196
SQLWARN fields of SQLCA SQLREF–357, SQLREF–359
SQLWARN0
WHENEVER statement SQLREF–348
SQLWARN3
FETCH statement SQLREF–285
SELECT INTO
statement SQLREF–338
SQLWARN6
automatic rollback APP–254
DELETE statement SQLREF–246
INSERT statement SQLREF–302
UPDATE statement SQLREF–344
SQLWARNING clause
of WHENEVER
statement SQLREF–348
SQLWRN fields of SQLCA SQLREF–357, SQLREF–359
SSSNAME parameter of exec DBA–240, DBA–249
STACK parameter of exec DBA–240, DBA–249
stack storage DIAG–42
stacking SQL and ISQL commands ISQL–97
STAE exit, considerations for SYVM–86
START command
correcting errors ISQL–37
description ISQL–33
isolation level setting ISQL–93
no parameter ISQL–64
parameter ISQL–39
PF key ISQL–179
START command *(continued)*
reference ISQL–155
START PROC command OPER–122
START PSERVER command OPER–123
START TCPIP command OPER–125
start up
mode PERF–89
options file PERF–20
starter database APP–150, DBSU–106
starter database
control statements SYVM–291
size allocations SYVSE–10
STARTER parameter SYVM–287
starting
accounting facility SYVM–248
current SQL statement ISQL–33, ISQL–155
Database Services Utility DBSU–7
DATALOAD after an error DBSU–46
ISQL ISQL–3, ISQL–4, ISQL–5, ISQL–8
online support SYVM–99, SYVSE–81
stored queries and isolation level setting ISQL–93
stored SQL statement ISQL–64, ISQL–155
starting application server
after restoring the database SYVM–213, SYVSE–157
FRENCH character set
example SYVM–314, SYVSE–236
restoring SYVM–213
restoring a database SYVSE–156
STARTUP=R SYVM–213, SYVSE–156
starting the application server SYVM–53, SYVM–89, SYVSE–47
starting the application server
multiple user mode SYVM–77
single user mode OPER–7, SYVM–80
starting the database manager
after a user archive OPER–169
error messages OPER–4
initialization parameters OPER–161
multiple user mode OPER–1, OPER–7
online support OPER–15
single user mode OPER–7, OPER–8
starting the Database Services Utility with single user mode DBSU–106
starting the DB2 Server for VM machine
multiple user mode OPER–7
single user mode OPER–7
STARTUP=C initialization of database manager SYVSE–213
STARTUP initialization parameter OPER–169
STARTUP initialization parameter
restart procedures SYVM–211, SYVSE–155
restoring SYVSE–156
restoring a database SYVM–213
STAT trace OPER–146, OPER–171
statement
ACQUIRE DBSPACE DBA–26
ALTER DBSPACE DBA–74
ALTER TABLE DBA–64, DBA–184
binding SQLREF–9
statement *(continued)*
COMMIT WORK DBA–119
CONNECT DBA–87, DBA–97, DBA–167, DBA–191
CREATE INDEX DBA–47
CREATE TABLE DBA–27, DBA–88, DBA–172
DBS job control DBA–148
DROP DBSPACE DBA–75
DROP TABLE DBA–57, DBA–72, DBA–184
executable SQLREF–140
EXPLAIN DBA–160
explainable SQLREF–275
extended dynamic DBA–153
GRANT DBA–90, DBA–93
GRANT SCHEDULE DBA–89
INCLUDE DBA–162
INSERT with subselect DBA–168, DBA–184
invocation SQLREF–140
maximum length SQLREF–352
nonexecutable SQLREF–140, SQLREF–141
preparation SQLREF–9
REVOKE DBA–83, DBA–92, DBA–94
ROLLBACK DBA–186
ROLLBACK WORK DBA–119, DBA–129, DBA–167, DBA–171
SHOW DBSPACE DBA–27
WHENEVER DBA–129
statement generator DIAG–38
statement generator
description DIAG–38
tracing OPER–147, OPER–172
statement_name
description SQLREF–40
in DECLARE CURSOR statement SQLREF–236, SQLREF–239
in DESCRIBE statement SQLREF–248
in EXECUTE statement SQLREF–265
in PREPARE statement SQLREF–314
length limitation SQLREF–351
statement_variable
in Extended EXECUTE statement SQLREF–269
statements
ACQUIRE DBSPACE SQLREF–145, SQLREF–146
ALLOCATE CURSOR SQLREF–147, SQLREF–148
ALTER DBSPACE SQLREF–149, SQLREF–150, SQLREF–151
ALTER PROCEDURE SQLREF–155
ALTER PSERVER SQLREF–156, SQLREF–157
ALTER TABLE APP–257, SQLREF–158, SQLREF–166
ASSOCIATE LOCATORS SQLREF–167, SQLREF–169
BEGIN DECLARE SECTION APP–8, SQLREF–170, SQLREF–171
CALL SQLREF–172, SQLREF–175
CLOSE APP–39, SQLREF–176, SQLREF–177

statements *(continued)*
CLOSE, Extended SQLREF–178
COMMENT ON APP–258, SQLREF–179, SQLREF–180
COMMENT ON PROCEDURE SQLREF–181
COMMIT APP–19, SQLREF–183, SQLREF–185
CONNECT APP–12
CONNECT (for VM) SQLREF–186, SQLREF–191
CONNECT (for VSE) SQLREF–197
CREATE INDEX APP–257, SQLREF–199, SQLREF–201
CREATE PACKAGE SQLREF–202, SQLREF–208
CREATE PROCEDURE SQLREF–209, SQLREF–216
CREATE PSERVER SQLREF–217, SQLREF–218
CREATE SYNONYM APP–258, SQLREF–219
CREATE TABLE APP–257, SQLREF–220, SQLREF–231
CREATE VIEW APP–63, SQLREF–232, SQLREF–235
DECLARE APP–35
DECLARE CURSOR SQLREF–236, SQLREF–240
DECLARE CURSOR, Extended SQLREF–241, SQLREF–242
DELETE SQLREF–243, SQLREF–247
DESCRIBE SQLREF–248, SQLREF–251
DESCRIBE, extended SQLREF–252
DESCRIBE, Extended SQLREF–252
DESCRIBE CURSOR SQLREF–253, SQLREF–254
DESCRIBE PROCEDURE SQLREF–255, SQLREF–257
description SQLREF–166, SQLREF–177, SQLREF–208, SQLREF–251, SQLREF–252, SQLREF–260, SQLREF–270, SQLREF–273, SQLREF–283, SQLREF–287, SQLREF–288, SQLREF–298, SQLREF–303, SQLREF–306, SQLREF–314, SQLREF–317, SQLREF–327, SQLREF–345
DROP SQLREF–258, SQLREF–260
DROP DBSPACE APP–255
DROP PROCEDURE SQLREF–261
DROP PSERVER SQLREF–262
DROP STATEMENT SQLREF–263
DROP SYNONYM APP–258
DROP TABLE APP–257
DROP VIEW APP–67
END DECLARE SECTION APP–8, SQLREF–264
EXECUTE SQLREF–265, SQLREF–268
EXECUTE, Extended SQLREF–269, SQLREF–270

statements *(continued)*
EXECUTE IMMEDIATE SQLREF–271, SQLREF–273
EXPLAIN SQLREF–274, SQLREF–283
FETCH APP–37, SQLREF–284, SQLREF–287
FETCH, Extended SQLREF–288
GRANT (Package Privileges) SQLREF–289, SQLREF–290
GRANT (System Authorities) SQLREF–291, SQLREF–293
GRANT (Table Privileges) SQLREF–294, SQLREF–296
INCLUDE APP–141, APP–175, SQLREF–297, SQLREF–298
INCLUDE SQLCA APP–11, APP–194, SQLREF–359, SQLREF–360, SQLREF–361
INCLUDE SQLDA APP–213, SQLREF–367, SQLREF–368
INSERT SQLREF–299, SQLREF–303
inserting into a program SQLREF–297
LABEL APP–258
LABEL ON SQLREF–304, SQLREF–306
LOCK APP–254
LOCK DBSPACE SQLREF–306
LOCK TABLE SQLREF–307
naming convention APP–27
obtaining costs PERF–145
OPEN APP–36, SQLREF–308, SQLREF–312
OPEN, Extended SQLREF–313, SQLREF–314
PREPARE APP–229, SQLREF–314, SQLREF–317
PREPARE, Extended SQLREF–318, SQLREF–322
PUT APP–37, SQLREF–323, SQLREF–325
PUT, Extended SQLREF–326, SQLREF–327
REVOKE APP–266
REVOKE (Package Privileges) SQLREF–328, SQLREF–329
REVOKE (System Authorities) SQLREF–330, SQLREF–331
REVOKE (Table Privileges) SQLREF–332, SQLREF–335
ROLLBACK APP–19, SQLREF–336, SQLREF–337
SELECT
basic use APP–28
correlation APP–82
grouping APP–72
joins APP–68
subqueries APP–77
testing for existence APP–90

statements *(continued)*
SELECT *(continued)*
unions APP–91
SELECT INTO SQLREF–338, SQLREF–339
UPDATE SQLREF–340, SQLREF–345
UPDATE STATISTICS APP–258, SQLREF–346, SQLREF–347
WHENEVER APP–197, SQLREF–348, SQLREF–349
static assign, archive OPER–42
static select
DECLARE CURSOR statement SQLREF–142
FETCH statement SQLREF–142
OPEN statement SQLREF–142
static SQL SQLREF–9
static SQL
description APP–27
invocation SQLREF–141
statement SQLREF–9
statistics ISQL–91
statistics
automatic collection PERF–109
catalog table PERF–36
CICS PERF–8
DBSS update statistics tracing OPER–146
generating DBSU–48
inaccurate values DIAG–187
influencing data access PERF–133
maintenance PERF–131
misleading values DIAG–151
monitoring PERF–5
possible accuracy problems DIAG–187
suppressing DBSU–222
tables APP–258
tracing OPER–171
update all PERF–132
updating DIAG–189
updating on a DBSPACE DIAG–339
STATISTICS keyword
in UPDATE STATISTICS statement SQLREF–346
statistics update tasks
receiving reload notification DBSU–79
status
area ISQL–11, ISQL–12
STATUS column SQLREF–371
STATUS column
of SYSKEYS SQLREF–394
status shared segment, name DBA–240, DBA–249
STDOPT JCC/JCS SYVM–121, SYVSE–103
stealing, page PERF–82
STG (Storage) OPER–143
STMT column SQLREF–371
STNAME column SQLREF–371
STNAME column
of SYSTABAUTH SQLREF–405
STOP clause
of WHENEVER statement SQLREF–348, SQLREF–349

STOP PROC command OPER–126
STOP PSERVER command OPER–128
STOP SYSTEM response SYVM–214, SYVSE–158
stopping
application server
archives OPER–12
description OPER–10, OPER–26
online support OPER–26
ISQL ISQL–19, ISQL–112
logical units of work ISQL–15
running command ISQL–15
stopping the application server
online support SYVM–93, SYVM–128, SYVSE–78, SYVSE–110
recovery considerations SYVM–91, SYVSE–76
STOR trace OPER–146, OPER–171
storage
16MB line PERF–26
31-bit addressing PERF–26
address space size PERF–45
allocation above 16MB PERF–26
as a resource PERF–9
auxiliary PERF–41
available dbextent storage PERF–25
available storage pool space PERF–24
capacity IBM DASD SYVM–429, SYVSE–337
concepts SYVM–143, SYVSE–121
DASD PERF–55
DASD I/O system PERF–81
database manager PERF–81
devices SYVM–15, SYVSE–15
estimating SYVM–429, SYVSE–337
initial SYVM–423
initial storage formula SYVM–423
initial storage requirements SYVM–425, SYVSE–333
main and expanded PERF–160
operator SHOW commands PERF–24
package cache PERF–84
page PERF–41
paging system PERF–43
processor requirements SYVM–423
proportion of available pages PERF–24
queue PERF–26, PERF–44
real and virtual PERF–41
requirements
CICS SYVSE–335
DB2 Server for VM production minidisk SYVM–8
DB2 Server for VM service minidisk SYVM–8
DBS utility SYVM–426
processor SYVM–423
resetting OPER–54
saved segments PERF–45
short on storage PERF–57
short on storage level OPER–168
temporary CICS PERF–78
virtual OPER–1, PERF–26
virtual
recommended SYVM–5
storage *(continued)*
virtual disk PERF–46, PERF–51
virtual machine PERF–41
virtual partition PERF–41
virtual storage requirements
CICS partitions SYVSE–333
partitions SYVSE–333
user machines SYVM–425
storage, short on storage level OPER–168
storage, SHOW STORAGE command OPER–115
Storage (STG) OPER–143, OPER–146
storage component DIAG–46
storage component
buffer pool management DIAG–49
DBSPACE recovery DIAG–48
directory, logs, DBEXTENTs, and I/O DIAG–46
how it works DIAG–46
mapping DBSPACEs to DASD DIAG–47
storage pools DIAG–48
storage concept DBA–17
storage dump analysis
DEBUG DBSU–226
guidelines DBSU–226
storage layout after initialization DIAG–286, DIAG–291
storage management
logical DIAG–43
tracing OPER–146, OPER–171
storage management concepts DIAG–41
storage of ISQL routine DBA–163
storage pool SYVSE–216
storage pool
adding dbextents SYVM–157, SYVSE–131
allocating page from PERF–57
assign DASD PERF–73
assigning dbextent PERF–56
available space PERF–24
catalog placement PERF–74
concepts SYVM–143, SYVSE–121
controlling
channel utilization SYVM–156, SYVSE–130
device utilization SYVM–156, SYVSE–130
controlling data location SYVM–156, SYVSE–130
Data Spaces Support PERF–183
dbspace PERF–38
definition APP–250, SYVM–293
deleting dbextents SYVM–160, SYVSE–133
description DBA–18, OPER–106, PERF–56
design considerations SYVM–155, SYVSE–129
directory and log placement PERF–75
estimating size SYVM–156, SYVSE–130
existing pool and virtual disk PERF–49
free allocated pages PERF–62
storage pool *(continued)*
full PERF–62
in DBSS DIAG–48
internal dbspace placement PERF–74
maintaining SYVM–157, SYVSE–131
management SYVM–155, SYVSE–129
managing space PERF–57
monitoring SYVM–157, SYVSE–130
nonrecoverable APP–250, DBA–23, DBSU–227, OPER–75, OPER–109, SQLREF–343, SYVM–236, SYVSE–171
nonrecoverable checkpoint PERF–99
performance PERF–193
putting internal DBSPACEs in DIAG–166
reassign dbspace PERF–73
reclaiming empty pages DIAG–48
recoverable APP–250, DBA–23, SQLREF–343
referential integrity DBA–18, DBA–23
relation to CHKINTVL DIAG–162
reorganizing a dbspace to free pages DBA–74
requirements SYVM–434, SYVSE–340
shadow pages in DIAG–161
SHOW POOL example OPER–106, OPER–107
showing OPER–106
space SYVM–69, SYVSE–61
specification
checking PERF–185
dynamically changing PERF–185
specification file
changing PERF–182
example PERF–202
format PERF–201
identifying PERF–183
writing PERF–202
specifying initial SYVM–293, SYVSE–216
specifying the placement of dbspaces APP–253
support
application dbspaces SYVM–22, SYVSE–22
internal dbspaces SYVM–22, SYVSE–22
system dbspaces SYVM–21, SYVSE–21
virtual disk PERF–49, PERF–53
storage pool
planning structure PERF–163
understanding PERF–157
storage pools
definition SYVM–294
storage related performance problem index DIAG–144
storage required for the starter database SYVSE–10
storage requirements
batch environment SYVSE–335
DBS utility SYVM–6
processor SYVSE–331
virtual SYVSE–331

storage requirements (virtual and real) SYVM–423
storage services DIAG–42
storage services
  stack storage DIAG–42
  working storage DIAG–42
storage space calculations SYVM–429, SYVSE–337
STORE command ISQL–63, ISQL–157
stored procedure
  altering DBA–212
  ARISPRC DBA–204
  concepts DBA–203
  dropping DBA–212
  executing PERF–30
  handler DBA–204
  managing servers DBA–207
  parameters affecting execution DBA–212
  preparing to run DBA–211
  server DBA–203
  server groups DBA–204
  setting up a server DBA–204
stored procedure handler (SPH)
  description DIAG–8
stored procedures
  assembler APP–320
  authorizing APP–99
  benefits APP–95
  C APP–344
  calling APP–98
  characteristics APP–259
  client application programs APP–104
  COBOL APP–363
  coding examples APP–103
  datatype compatibility APP–101
  example of a definition APP–259
  execution of SQL statements APP–97
  GENERAL linkage convention APP–101
  GENERAL WITH NULLS linkage convention APP–102
  Language Environment considerations APP–98
  parameters APP–100
  passing parameters APP–101
  PL/I APP–388
  preparing APP–98
  result sets APP–103
  specifying AUTHIDs APP–99
  using APP–94, APP–259
  using the DECLARE CURSOR statement SQLREF–240
  writing APP–96
stored procedures program PERF–4
stored query
  deleting DBA–85
  description DBA–149
  testing SQL statements DBA–160
  testing SQL statements using ISQL DBA–169
stored results DIAG–148
stored results
  to avoid I/O's DIAG–233
stored SQL statements
  changing ISQL–66
  effect of table changes ISQL–87
stored SQL statements *(continued)*
  erasing ISQL–67, ISQL–111
  estimating dbspace size SYVM–445, SYVSE–350
  isolation level setting ISQL–93
  listing ISQL–67, ISQL–134
  protecting ISQL–63
  recalling ISQL–65, ISQL–140
  renaming ISQL–67, ISQL–141
  routine ISQL–74
  starting ISQL–64, ISQL–155
storing
  current SQL statement ISQL–63, ISQL–157
  display format information ISQL–63, ISQL–157
  isolation level setting ISQL–93
  joins of tables PERF–149
  logical table as two tables PERF–149
  routine ISQL–72
storing information in dbspaces DBA–19
STORPOOL DBA–73
STORPOOL clause
  description SQLREF–146
  of ACQUIRE DBSPACE statement SQLREF–146
STORPOOL parameter of ACQUIRE DBSPACE APP–253
str SQLREF–7
strategy-of-reload tasks
  nonrecoverable storage-pool effects DBSU–78
string
  assignment
    conversion rules SQLREF–56
    trailing blanks SQLREF–55
  column
    CCSID SQLREF–32
  comparison SQLREF–58
  constant
    CCSID SQLREF–32
    character SQLREF–60
    graphic SQLREF–61
    hexadecimal SQLREF–60
  definition SQLREF–29
  empty SQLREF–44
  expression SQLREF–72
  operand SQLREF–72
  padding SQLREF–55
  truncation SQLREF–55
  variable
    fixed-length SQLREF–44
    varying-length SQLREF–44
string_constant
  in LIKE predicate SQLREF–86
string data types DBA–32
STRIP
  function SQLREF–108
striping
  choosing PERF–198
  dbextent size PERF–198
  existing data PERF–198
  number of dbextents PERF–198
  one dbextent PERF–198
  performance PERF–191
  physical device PERF–198
  turning on an off PERF–184
striping *(continued)*
  understanding PERF–161
structure DIAG–20
structure
  pseudo-agent DIAG–20
  real agent DIAG–20
structure, basic index DIAG–49
STRUCTURE clause
  of EXPLAIN statement SQLREF–275
structure explain table PERF–143
STRUCTURE_TABLE
  EXPLAIN statement SQLREF–282
Structured Query Language (SQL)
  configuration DBA–187
  dynamic statement support DBA–153
structures
  based APP–212
STXIT exit SYVSE–73
STXIT macroinstructions DBA–125
SUBBYTE column SQLREF–371
SUBBYTE column
  of SYSSTRINGS SQLREF–403
subcommands
  DFI (Data Field Identification) DBSU–173
  ENDDATA DBSU–168
  INFILE DBSU–162
  OUTFILE DBSU–180
  TCI (Table Column Identification) DBSU–152
subfield
  of a structure SQLREF–69
subqueries
  possible I/O problems DIAG–224
  possible problems DIAG–232
subquery
  ALL keyword APP–80
  ANY keyword APP–80
  correlation APP–82
  CREATE VIEW command ISQL–88
  description SQLREF–67
  HAVING clause SQLREF–126
  in a basic predicate
    ISO-ANS SQL(89) equivalent term SQLREF–426
  in DELETE statement SQLREF–243
  IN predicate APP–81
  in UPDATE statement SQLREF–340
  INSERT command ISQL–82
  introduction APP–77
  involving unions (restriction) APP–92
  many values returned APP–80
  NOT IN predicate APP–81
  single value returned APP–80
  subselect SQLREF–121
  WHERE clause SQLREF–134
subquery structures, determining PERF–144
SUBS (subsystem)
  definition OPER–57
subselect SQLREF–341
subselect
  description APP–28, SQLREF–67, SQLREF–121, SQLREF–128
  FROM clause SQLREF–121

subselect *(continued)*
GROUP BY clause SQLREF–121
HAVING clause SQLREF–121
in a basic predicate SQLREF–79
in a quantified predicate SQLREF–80
in CREATE VIEW statement SQLREF–233
in EXISTS predicate SQLREF–83
in fullselect SQLREF–128
in INSERT statement SQLREF–299, SQLREF–300
in parentheses
ISO-ANS SQL(89) equivalent term SQLREF–426
ISO-ANS SQL(89) equivalent term SQLREF–426
quantified predicate SQLREF–80
SELECT clause SQLREF–121
WHERE clause SQLREF–121
subset mode of CMS DBA–150
substitution character SQLREF–31
SUBSTR
function SQLREF–110
substring SQLREF–110
subsystem
calls to DBSS OPER–51
DBSS update statistics tracing OPER–146
tracing CONV (CCSID and Data Conversion) OPER–146
tracing DBSS (Database Storage Subsystem) OPER–146
subsystemid
in GRANT statement SQLREF–291, SQLREF–292
in REVOKE statement SQLREF–330, SQLREF–331
subtotal
creating ISQL–51
report ISQL–51
specifying when to subtotal ISQL–116
specifying which columns to subtotal ISQL–116
SUBTOTAL keyword (FORMAT command)
multiple keyword ISQL–55
reference ISQL–116
report total ISQL–51, ISQL–52
subtraction in SQL expressions APP–54
subtype
application server uses SYVM–24, SYVSE–31
BIT DBA–34
character APP–48, DBA–34
character
Using APP–59
SQLDA SQLREF–364
SUBTYPE column SQLREF–371
SUBTYPE column
in CREATE TABLE SQLREF–224
of SYSCCSIDS SQLREF–380
of SYSCOLUMNS SQLREF–385
SUM function SQLREF–95
summary
Database Services Utility processing DBSU–146
summary *(continued)*
of archives OPER–12
program framework APP–20
super exclusive lock
description DIAG–69, PERF–90
supervisor mode
ESA PERF–45
VMESA PERF–45
support, online
CIRB transaction options OPER–15
definition OPER–1
resource adapter OPER–15, OPER–17
starting OPER–15
VSE guests OPER–15
supporting your users
authorizing access DBA–82
loading initial table DBA–83
new user support DBA–79
removing a user DBA–83
specifying a default application server DBA–82
training DBA–83
suppressed blocking PERF–106
suppressing
automatic statistics collection PERF–109
suppressing statistics DBSU–222
suppressing SYSPCH and SYSLST output APP–153
suppressing the preprocessor parameter display APP–158
switching
log data between logs SYVM–231
log modes SYVM–225, SYVSE–163
switching accounting files OPER–41
switching between application servers DBA–97
symptom strings DIAG–279
sync point manager (SPM) OPER–170
sync point manager (SPM)
disabling OPER–170
synchronization point
request in CICS DBA–125
synchronous
SQLINIT parameter DIAG–228
SYNC(YES) DIAG–228
SYNCHRONOUS
communication PERF–107
SYNCHRONOUS parameter of exec DBA–237, DBA–246
SYNCPNT initialization parameter OPER–170, SYVM–60, SYVSE–53
SYNCPNT parameter
multiple-site read multiple-site update SYVM–398
multiple-site read single-site update SYVM–398
SYNCPOINT
requests in the CICS subsystem DBA–167
syncpoints APP–17
synonym
creating APP–258, ISQL–89
defining SQLREF–219
description SQLREF–40
dropping ISQL–90, SQLREF–259
synonym *(continued)*
in DROP statement SQLREF–258, SQLREF–259
naming convention APP–27
qualifying a column name SQLREF–64
routine ISQL–74
used in application development DBA–169
SYNONYM clause
of DROP statement SQLREF–258, SQLREF–259
syntax diagram
COMMENT DBSU–140
DATALOAD DBSU–148
DATAUNLOAD DBSU–171
notation conventions APP–x, DBA–xv, DBSU–xiii, DIAG–xi, ISQL–xi, OPER–xi, PERF–xi, SQLREF–2, SYVM–xi, SYVSE–xi
REBIND PACKAGE DBSU–214
RELOAD DBSPACE DBSU–194
RELOAD PACKAGE DBSU–209
RELOAD TABLE DBSU–198
REORGANIZE INDEX DBSU–140
SCHEMA DBSU–142
schema file DBSU–144
SET AUTOCOMMIT DBSU–215
SET ERRORMODE DBSU–216
SET FORMAT DBSU–218
SET ISOLATION DBSU–219
SET LINECOUNT DBSU–220
SET LINEWIDTH DBSU–220
SET UPDATE STATISTICS DBSU–221
SQLDBSU EXEC
multiple user mode DBSU–129
single user mode DBSU–130
UNLOAD DBSPACE DBSU–203
UNLOAD PACKAGE DBSU–212
syntax diagram, SQLSTART EXEC OPER–2
SYS0001, reorganizing indexes within DBA–76
SYS0001 dbspace SYVM–19, SYVSE–18, SYVSE–218
SYS0001 dbspace
storage estimating SYVM–436, SYVSE–341
storage estimating
derivation of the formula SYVM–439, SYVSE–345
examples SYVM–440, SYVSE–346
modifying the formula SYVM–442, SYVSE–347
SYS0002 dbspace SYVM–19, SYVSE–18, SYVSE–218
SYS0002 dbspace
allocation SYVM–153, SYVSE–127
SYS000n dbspace DBA–131, DBA–133, SYVM–154, SYVSE–128
SYSACCESS
exclusive locking on DIAG–179
SYSACCESS catalog table SQLREF–375, SQLREF–377
SYSCATALOG
exclusive locking on DIAG–179

SYSCATALOG catalog
table SQLREF–377, SQLREF–380
SYSCCSIDS catalog table SQLREF–380, SYVM–306, SYVSE–228
SYSCHARSETS catalog
table SQLREF–380, SQLREF–381, SYVM–306, SYVSE–228
SYSCOLAUTH
exclusive locking on DIAG–180
SYSCOLAUTH catalog
table SQLREF–381, SQLREF–382
SYSCOLSTATS catalog
table SQLREF–382, SQLREF–383
SYSCOLUMNS
exclusive locking on DIAG–180
SYSCOLUMNS catalog
table SQLREF–383, SQLREF–386
SYSDBSPACES
exclusive locking on DIAG–179
SYSDBSPACES catalog
table SQLREF–386, SQLREF–388
SYSDBSPACES catalog table
of SYSDBSPACES SQLREF–388
SYSDEF PERF–47
SYSDROP catalog table SQLREF–388
SYSFIELDS catalog table SQLREF–388, SQLREF–390
SYSFPARMS catalog table SQLREF–390
SYSIN, valid assignments for SYVM–76, SYVM–77
sysIN preprocessor parameter APP–129
SYSIN preprocessor parameter APP–165
SYSINDEXES
exclusive locking on DIAG–180
SYSINDEXES catalog
table SQLREF–390, SQLREF–392
SYSKEYCOLS catalog
table SQLREF–392, SQLREF–393
SYSKEYS catalog table SQLREF–393, SQLREF–395
SYSLANGUAGE catalog
table SQLREF–395
SYSLANGUAGE catalog table
example SYVM–332, SYVSE–254
SYSLANGUAGE table DBA–137
SYSLENGTH column SQLREF–371
SYSLENGTH column
of SYSCOLUMNS SQLREF–384
of SYSKEYCOLS SQLREF–393
SYSLST, suppressing preprocessor output APP–153
SYSMODE initialization
parameter OPER–170, SYVM–56, SYVSE–49
SYSNAME values for NAMESYS
example SYVM–177
SYSOPTIONS catalog
table SQLREF–395, SQLREF–397
SYSOPTIONS catalog table
updating SYVM–360, SYVSE–278
SYSPARMS catalog table SQLREF–397
SYSPCH, suppressing preprocessor output APP–153
SYSPRINT, valid assignments for SYVM–76, SYVM–77
sysPRint preprocessor
parameter APP–130
SYSPROGAUTH
exclusive locking on DIAG–179
SYSPROGAUTH catalog
table SQLREF–398, SQLREF–399
SYSPSERVERS catalog
table SQLREF–399
SYSPUNCH, valid assignments for SYVM–76, SYVM–77
sysPUnch preprocessor
parameter APP–130
SYSROUTINES catalog
table SQLREF–400
SYSSTRINGS catalog table SQLREF–402, SQLREF–404, SYVM–306, SYVSE–228
SYSSYNONYMS catalog
table SQLREF–404
SYSTABAUTH
exclusive locking on DIAG–180
SYSTABAUTH catalog
table SQLREF–405, SQLREF–407
system
code
description SYVM–172
console, signing off OPER–10
dbspace considerations for query users DBA–164
dbspaces
size SYVM–20, SYVSE–20
failure SYVM–211, SYVSE–154
maximums SYVM–447, SYVSE–353
minidisk SYVM–7
minidisk
DASD storage requirements SYVM–8
minidisks SYVM–7
SHOW SYSTEM
command OPER–118
signing off console SYVM–90, SYVM–140
software requirements SYVM–4
virtual storage
requirements SYVM–5, SYVSE–8
SYSTEM
(in PRINT command) ISQL–62
(in SET command) ISQL–62
keyword ISQL–138
owner of catalog tables SQLREF–371
system-determined format, DATAUNLOAD DBSU–52
system initialization table APP–18
system mode, specifying OPER–170
system operator console, issuing operator commands OPER–39
system paging DASD
auxiliary storage PERF–41
buffer pool PERF–81
hidden cost PERF–43
increasing virtual storage PERF–45
load measurement PERF–14, PERF–17
monitoring load PERF–45
NCUSERS PERF–85
saved segments PERF–45
virtual disk PERF–46, PERF–51
system-related error
codes DIAG–119
SQL statements DIAG–296
system-related error codes DIAG–119
SYSTEM.SYSCATALOG
average row length PERF–36, PERF–60
catalog table PERF–36
clustering PERF–64
number of page used by a table PERF–36
overflow rows PERF–36, PERF–60
total number of rows PERF–36
SYSTEM.SYSCOLUMNS
catalog table PERF–37
CCSID PERF–37
column length PERF–37
column type PERF–37
null PERF–37
SYSTEM.SYSDBSPACES
active pages PERF–37
available pages PERF–37
catalog table PERF–37
ever increasing index PERF–63
free space in a data page PERF–38, PERF–60
lockmode PERF–38, PERF–92
percentage of reserved index pages PERF–38, PERF–58
storage pool number PERF–38
SYSTEM.SYSINDEXES
catalog table PERF–38
changing clustering index PERF–65
cluster ratio PERF–38, PERF–65
cluster value PERF–65
clustered PERF–38
clustering PERF–38
free index space PERF–39, PERF–60
lockmode PERF–39
page jumps PERF–65
release level PERF–39
row count PERF–65
SYSTEM tables
SYSCATALOG DBA–55
SYSCOLAUTH DBA–54
SYSCOLUMNS DBA–53, DBA–55
SYSINDEXES DBA–53
SYSPROGAUTH DBA–54
SYSUSERAUTH DBA–54
SYSVIEWS DBA–54
Systems Application Architecture (SAA)
conformance checking APP–133, APP–165, APP–166, APP–248
Systems Network Architecture (SNA)
AVS session limit considerations SYVM–268
AVS session limit exceeded DIAG–226
database machines SYVM–265
definition SYVM–266
NETID file SYVM–12
SYSTEXT1 DBA–139
SYSTEXT2 DBA–139
SYSUSAGE
exclusive locking on DIAG–179
SYSUSAGE catalog table SQLREF–407, SQLREF–408
SYSUSERAUTH
exclusive locking on DIAG–180

SYSUSERAUTH and SYSUSERLIST
catalog table SQLREF–408, SQLREF–409
SYSUSERLIST view on SYSUSERAUTH SQLREF–408
SYSUSERLIST view on SYSUSERAUTH SYSUSERLIST SQLREF–408
SYSVIEWS
exclusive locking on DIAG–180
SYSVIEWS catalog table SQLREF–409, SQLREF–411

T

TAB ISQL–27, ISQL–159
TABID column SQLREF–371
TABID column
of SYSACCESS SQLREF–375
of SYSCATALOG SQLREF–378
of SYSDROP SQLREF–388
table
accessing APP–31
accessing those belonging to other users ISQL–89
adding
column ISQL–83
data ISQL–125
foreign key ISQL–86
primary key ISQL–85
referential constraint ISQL–86
allocation to dbspace PERF–73
altering APP–257, DBA–64, DBA–184, ISQL–85, ISQL–86
average row length PERF–36
backing up DBA–131
catalog
automatic statistics collection PERF–109
information PERF–36
locking PERF–94
changing
ALTER TABLE SQLREF–158
character classification SYVM–456, SYVSE–362
clustering rows on an index DBA–48
column ISQL–1
copying DBA–62
copying data DBA–61
copying data from another table ISQL–82
creating APP–257, DBA–17, DBA–27, SQLREF–220
creating
description ISQL–81
foreign key ISQL–85
indexes APP–257
primary key ISQL–84
share ISQL–88
synonyms APP–258
creator DBA–40
customized for specific user DBA–42
defining a relationship DBA–2
defining labels APP–258
definition SQLREF–10
delete-connected APP–286
deleting DBA–72, ISQL–82
dependent APP–286, DBA–7
descendent APP–286
table *(continued)*
description ISQL–1
design
normalizing DBA–29
design modification PERF–148
designator SQLREF–66
designator
rules APP–71, APP–90
determining name ISQL–79
dropping APP–257, DBA–72, DBA–184, SQLREF–258, SQLREF–259
editing DBA–155
entering comments in catalog tables APP–258
estimating storage for DBA–216
example ISQL–1
explanation PERF–137
exposed table name APP–71
in dbspace DBA–21
index
creating ISQL–90
dropping ISQL–90
labels APP–70
large table problems DIAG–170, DIAG–200
limiting access to DBA–42
listing name ISQL–79
loading DBA–148
loading data DBA–59
location in dbspaces DBA–20, SYVM–145, SYVSE–123
LOCK TABLE statement PERF–109
locking
to avoid escalations DIAG–204
maintaining DBA–59
maintenance
altering DBA–57
copying DBA–57
loading data DBA–57
merging data DBA–57
moving DBA–57
referential integrity DBA–57
removing DBA–57
mapping to DBSPACEs DIAG–158, DIAG–170
maximum byte count SQLREF–352
maximum number in a relational database SQLREF–352
maximum number referenced in a statement SQLREF–352
maximum number referenced in a view SQLREF–352
merging data from multiple tables DBA–63
methods of joining PERF–127
minimum content ISQL–82
moving DBA–62, PERF–73
name DBSU–111
naming DBA–28
naming convention APP–27
naming conventions ISQL–2
nested loop join PERF–127
nonexposed table name APP–71
normalizing DBA–9
number of pages PERF–36
table *(continued)*
or view
privileges APP–266
overflow rows PERF–36
owner DBA–40, ISQL–87
parent DBA–7
parent table APP–285
placement in dbspace DBA–40, PERF–115
primary key DBA–4, SQLREF–11
privilege DBA–92
putting in own DBSPACE DIAG–234
removing DBA–72
reorganize PERF–68
retrieving catalog information DBA–52
ROUTINE DBA–149
ROUTINE
creating ISQL–71
entering data ISQL–72
row ISQL–1
selecting data ISQL–127
self-referencing APP–286, DBA–7
sharing with another user ISQL–87, ISQL–88
small table problems DIAG–183
space-wasting table designs DBA–30
splitting DIAG–148, DIAG–233
storing comments on DBA–54
synonym
creating ISQL–89
dropping ISQL–90
SYSTEXT1 and SYSTEXT2 DBA–139
target DBSU–28
temporary SQLREF–310
total number of rows PERF–36
trace ISQL–132
transaction tables DIAG–148
unloading DBA–148
using another user's ISQL–89
value ISQL–1
TABLE clause
of COMMENT ON statement SQLREF–179
of DROP statement SQLREF–258, SQLREF–259
of LABEL ON statement SQLREF–304
table description, key SQLREF–11
table designator
FROM clause SQLREF–66
table expression
DB2 Server for VSE & VM equivalent term SQLREF–425
table_id
description SQLREF–40
table_name
description SQLREF–40
in ALTER TABLE statement SQLREF–158, SQLREF–159, SQLREF–162
in COMMENT ON PROCEDURE statement SQLREF–181
in COMMENT ON statement SQLREF–179

table_name *(continued)*
in CREATE INDEX statement SQLREF–199, SQLREF–200
in CREATE SYNONYM statement SQLREF–219
in CREATE TABLE statement SQLREF–222, SQLREF–226
in DELETE statement SQLREF–244
in DROP statement SQLREF–258, SQLREF–259
in FROM clause SQLREF–124
in GRANT statement SQLREF–294, SQLREF–295
in INSERT statement SQLREF–299, SQLREF–300
in LABEL ON statement SQLREF–304
in REVOKE statement SQLREF–332, SQLREF–333
in subselect SQLREF–122
in UPDATE statement SQLREF–341
in UPDATE STATISTICS statement SQLREF–346
length limitation SQLREF–351
table-name
in DELETE statement SQLREF–244
table unload DBSU–66
TABLE unload DBSU–64
TABLEORD column SQLREF–371
TABLEORD column
of SYSKEYCOLS SQLREF–393
tables, CICS/VS APP–18
TABLETYPE column SQLREF–371
TABLETYPE column
of SYSCATALOG SQLREF–377
TABTYPE column SQLREF–371
TABTYPE column
of SYSACCESS SQLREF–376
tape
accounting OPER–41
accounting
example SYVSE–187
archiving SYVM–9, SYVSE–11
damage SYVM–216
DASD data file errors DBSU–224
DBS utility processing SYVM–10, SYVSE–11
FILEDEFs SYVM–74
LABELDEFs SYVM–74
labeled SYVM–75
labeling SYVM–210, SYVSE–154
log archive OPER–45
requirements SYVM–9, SYVSE–11
rewinding OPER–144
single-volume SYVM–75
support SYVM–74
tracing SYVM–10, SYVSE–11
unlabeled SYVM–74
tape blocking
DBS utility PERF–109
tape drive
alternate virtual device address SYVM–75
tape drive, alternative virtual device number OPER–9
tape-file support DBSU–227
target specification
DB2 Server for VSE & VM equivalent term SQLREF–425
target table DBSU–28
target value APP–50
target working storage size PERF–211
target working storage size
choosing PERF–194
SET OPER–182
SHOW OPER–189
understanding PERF–160
TARGETWS initialization parameter OPER–176
Task-Related User exits OPER–34
task-related user exits
disabling DRDA support OPER–36
enabling OPER–35
managing OPER–34
setting parmaters OPER–35
TASKNO (CICS task number) OPER–19
tasks
command input DBSU–95
DB2 Server for VSE & VM preprocessing DBSU–83
FILEDEF
DATALOAD DBSU–35
DATAUNLOAD DBSU–60
RELOAD DBSPACE DBSU–79
RELOAD TABLE DBSU–79
UNLOAD DBSPACE DBSU–66
UNLOAD TABLE DBSU–66
including data in message file DBSU–96
including data in report DBSU–95
interpreting the output of the Database Services Utility DBSU–95
loading data DBSU–27
message file output
error recovery DBSU–100
RELOAD PACKAGE command DBSU–87
RELOAD PACKAGE command
file definition DBSU–92
reloading
data DBSU–69
package DBSU–83
report output DBSU–100
report output
understanding DBSU–95
SQLDBSU EXEC DBSU–15
system output DBSU–95
understanding report output DBSU–95
UNLOAD PACKAGE command DBSU–85
UNLOAD PACKAGE command
file definition DBSU–92
unloading
data DBSU–51
package DBSU–83, DBSU–85
TCI (Table Column Identification) subcommand DBSU–152
TCPPORT initialization parameter SYVM–61, SYVSE–54
TCPPORT initialization parameter
description OPER–171
TCPPORT parameter
for initialization OPER–171
TCREATOR column SQLREF–371
TCREATOR column
of SYSKEYCOLS SQLREF–392
of SYSKEYS SQLREF–394
of SYSTABAUTH SQLREF–405
temporary storage
local copy PERF–80
virtual disk PERF–46, PERF–51
temporary tables in OPEN SQLREF–310
TERMID (CICS terminal ID) OPER–19
TERMID keyword ISQL–138
terminal
display ISQL–1, ISQL–3
operator id DBA–101
printer DBA–199, DBA–201, DBA–202
requirements SYVM–10, SYVSE–11
session ISQL–3
session
starting ISQL ISQL–4, ISQL–5
used to load data into a database DBA–60
terminal, CICS OPER–15
terminal control, CICS OPER–40
terminal input mode DBSU–131
terminal line-edit SYVM–276
terminal line-edit
symbols SYVM–279
terminal operator id APP–151
terminal printer SYVSE–3
terminating
CMS applications APP–15
logical unit of work (LUW) SQLREF–183, SQLREF–336
online applications SYVM–131, SYVSE–113
terminating the application server
online support OPER–26
SQLEND operator command OPER–10
termination
abnormal DIAG–271
batch programs APP–16
CICS transaction DBA–125
CICS/VSE programs APP–17
COMMIT statement SQLREF–184
concepts DIAG–77
description SQLREF–185
ICCF applications APP–16
multiple user mode batch application DBA–124
single user mode applications DBA–125
terminology DBSU–viii
terminology
concepts DIAG–5
performance analysis DIAG–129
terminology for database design DBA–1
test data
loading DBA–159
test workload PERF–3, PERF–6
testing
application code under VSE/ICCF DBA–162
existence APP–90

testing *(continued)*
SQLCA APP–197
testing SQL functions
SET RUNMODE DBA–161
using ISQL DBA–169
using ISQL routines DBA–160
using stored queries DBA–160
using the DBS Utility DBA–161
text_file_name with INCLUDE statement SQLREF–297
text highlighting conventions DBSU–xi
the application server
starting SYVM–53, SYVSE–47
thousands separator ISQL–58, ISQL–148
thrashing PERF–44
throughput PERF–1, PERF–5
TID (row pointers) DBA–217, DBA–228
time SQLREF–49
TIME DBSU–154, DBSU–176
time
arithmetic SQLREF–77
arithmetic operations
duration SQLREF–77
components PERF–4
data type
description SQLREF–48
duration SQLREF–75
elapsed PERF–4
exit SYVM–351, SYVSE–270, SYVSE–271
representation, internal & SQLDA SQLREF–49
response PERF–4
string SQLREF–50
TIME
assignment SQLREF–57
data type
in ALTER TABLE SQLREF–159
in CREATE TABLE SQLREF–224
function SQLREF–113
TIME data type DBA–35
TIME data type
assembler APP–313
C APP–343
COBOL APP–361
FORTRAN APP–375
PL/I APP–387
time duration
description DBA–176
TIME option
of CREATE PACKAGE statement SQLREF–207
TIME parameter of exec DBA–247
TIMEFORMAT parameter of exec DBA–239
timestamp SQLREF–49
TIMESTAMP DBSU–155, DBSU–176
timestamp
arithmetic operations SQLREF–78
data type
description SQLREF–49
duration SQLREF–75
representation, internal & SQLDA SQLREF–49
string SQLREF–51
TIMESTAMP
assignment SQLREF–57
TIMESTAMP *(continued)*
data type
assembler APP–315
C APP–343
COBOL APP–361
FORTRAN APP–375
in ALTER TABLE SQLREF–159
in CREATE TABLE SQLREF–224
PL/I APP–388
duration APP–274
function SQLREF–113
TIMESTAMP column SQLREF–371
TIMESTAMP column
of SYSACCESS SQLREF–376
of SYSCOLAUTH SQLREF–381
of SYSKEYCOLS SQLREF–393
of SYSKEYS SQLREF–394
of SYSPROGAUTH SQLREF–399
of SYSTABAUTH SQLREF–405
of SYSUSAGE SQLREF–407
TIMESTAMP date type DBA–35
timestamp duration
description DBA–176
title for printed report ISQL–52, ISQL–114
TLABEL column SQLREF–371
TLABEL column
LABEL ON statement SQLREF–304
of SYSCATALOG SQLREF–379
TLBL statement OPER–8
TNAME column SQLREF–371
TNAME column
of SYSACCESS SQLREF–375
of SYSCATALOG SQLREF–377
of SYSCOLAUTH SQLREF–381
of SYSCOLSTATS SQLREF–382
of SYSCOLUMNS SQLREF–383
of SYSFIELDS SQLREF–389
of SYSFPARMS SQLREF–390
of SYSINDEXES SQLREF–390
of SYSKEYCOLS SQLREF–392
of SYSKEYS SQLREF–394
of SYSSYNONYMS SQLREF–404
TO clause
of CONNECT statement SQLREF–186, SQLREF–192
of GRANT statement SQLREF–289, SQLREF–294, SQLREF–295
token
delimiter SQLREF–36
description SQLREF–36
ordinary SQLREF–36
tools
measurement PERF–7, PERF–8
measurement
catalog table PERF–8
CICS PERF–8
CICS monitoring facility PERF–8
CICS statistics PERF–8
CICSPARS PERF–8
CIRD transaction PERF–8
COUNTER operator command PERF–9
CP INDICATE USER PERF–8
CP monitor PERF–7
CP QUERY TIME PERF–8
tools *(continued)*
measurement *(continued)*
database manager PERF–19
DB2 Server DSS COUNTER POOL PERF–9
DB2 Server DSS SHOW TARGETWS PERF–9
DB2 Server for VSE & VM PERF–8
DB2 Server for VSE & VM accounting PERF–9
DB2 Server for VSE & VM trace PERF–9
IBM DB2 for VM Control Center PERF–9
initialization parameter PERF–8
operating system PERF–14
RTM VM/ESA PERF–8
SHOW operator command PERF–8
VM PERF–7
VM/PRF PERF–7
VMMAP PERF–7
VSAM LISTCAT PERF–8
VSE PERF–8
VSE interactive interface PERF–8
total, final ISQL–116
total for report
erasing ISQL–52
TOTAL keyword ISQL–50
TOTAL option of FORMAT command
create total ISQL–50
erasing ISQL–52
reference ISQL–116
TOTCPU counter PERF–15
TOUSER keyword ISQL–138
TPN
See transaction program name SYVSE–23
TRACCONV initialization parameter OPER–173, SYVM–72, SYVSE–65
TRACCONV parameter
SQLSTART SYVM–72
TRACDBSS initialization parameter OPER–143, OPER–171, SYVM–72, SYVSE–65
TRACDRRM initialization parameter OPER–171, SYVM–72, SYVSE–65
TRACDRRM parameter
SQLSTART SYVM–72
TRACDSC initialization parameter OPER–143, OPER–172, SYVM–72, SYVSE–65
trace
measurement tool PERF–9
trace buffer
purging OPER–11
trace DBSS, specifying OPER–171
trace facility
description DIAG–300
for deadlocks DIAG–300
TRACE operator command
DISK option OPER–144
DUMP option OPER–144
trace services OPER–149, OPER–150

TRACEBUF initialization
parameter OPER–172, SYVM–72, SYVSE–65
TRACEBUF parameter
SQLSTART SYVM–72, SYVSE–65
TRACECONV parameter of
exec DBA–240, DBA–248, DBA–267
TRACEDRRM parameter of
exec DBA–239, DBA–248, DBA–266
TRACERA parameter of exec DBA–239, DBA–247, DBA–266
tracing ISQL–132
tracing
choosing subcomponents OPER–143
closing a trace file OPER–149
DBSS (Database Storage Subsystem) OPER–146, OPER–171
DBSS functions and subcomponents OPER–146
default FILEDEF SYVM–79
DRDA data stream OPER–147, OPER–154
DRRM (Distributed Relational Resource Adapter) OPER–146
DSC (Data System Control) OPER–146
DSC functions and subcomponents OPER–147
facility OPER–139
formatting utility OPER–149, OPER–150
level 0 trace OPER–146
level 1 trace OPER–146
level 2 trace OPER–146
output file (ARITRAC) OPER–9
RDS (Relational Data System) OPER–146
starting a trace OPER–143
STG (Storage) OPER–146
stopping a trace OPER–148
tape requirements SYVM–10, SYVSE–11
tape support for SYVSE–67
to tape OPER–149
WUM (Work Unit Manager) OPER–146
tracing, CICS and Batch Resource Adapter DBA–272
tracing, security audit DBA–109
TRACRDS initialization
parameter OPER–143, OPER–172, SYVM–72, SYVSE–65
TRACSTG initialization
parameter OPER–172, SYVM–72, SYVSE–65
TRACSTG parameter
SQLSTART SYVM–72
TRACWUM initialization
parameter OPER–173, SYVM–72, SYVSE–65
TRACWUM parameter
SQLSTART SYVM–72
trade-off, performance PERF–2
trading
lock level PERF–95
trailing blanks APP–70, APP–73
trailing blanks
string assignment SQLREF–55
trailing sign, zoned field DBSU–157
training new ISQL users DBA–83
TRANID (CICS transaction ID) OPER–19
transaction
CIRB PERF–86
CIRD PERF–8, PERF–21
CIRT PERF–86
CSTT PERF–18
DB2 Server for VSE & VM equivalent term SQLREF–425
name
ISQL PERF–77
per second PERF–5
time, CICS PERF–18
transaction information
displaying SYVM–119, SYVSE–101
transaction processing DBA–148, DBA–198
transaction program DBA–148
transaction program name SYVSE–23
transaction tables DIAG–148
transactions
CEMT SYVM–132, SYVSE–114
CIRA OPER–29
CIRB OPER–15, OPER–16
CIRC OPER–32
CIRD OPER–18, SYVM–99, SYVSE–81
CIRR OPER–30
CIRT OPER–26, SYVM–128, SYVSE–110
CSMT SYVM–132, SYVSE–114
DAXP OPER–35
DAXT OPER–36
transient index DIAG–52, OPER–81, OPER–84, PERF–71
transient index
SHOW INVALID PERF–72
TRANSLATE
function SQLREF–115
TRANSLATE function
folding rules SYVM–306, SYVSE–228
translation
fast CCW PERF–76
of performance measurements to indicators PERF–15
translation table
character sets SYVM–460, SYVSE–366
coded character set identifier (CCSID) SYVM–330, SYVSE–253
identifying SYVM–58, SYVSE–50
Transparent Services Access Facility (TSAF) SYVM–266
Transparent Services Access Facility (TSAF)
collection
database machines SYVM–265
definition SYVM–266
TRANSPROC column SQLREF–371
TRANSPROC column
of SYSSTRINGS SQLREF–403
TRANSPROC exit
coding your own SYVM–361, SYVSE–279
TRANSTAB1 column SQLREF–371
TRANSTAB1 column
of SYSSTRINGS SQLREF–404
TRANSTAB2 column SQLREF–371
TRANSTAB2 column
of SYSSTRINGS SQLREF–404
TRANSTYPE column SQLREF–371
TRANSTYPE column
of SYSSTRINGS SQLREF–403
TRCPURGE OPER–11
trigraphs
C APP–337
TRUE (Task-Related User exits) OPER–34
TRUE (task-related user exits)
disabling OPER–36
TRUE (task-related user exits)
enabling OPER–35
truncation
DBCS data DBSU–175
during data unloading DBSU–192
numbers SQLREF–53
on output DBA–173, SQLREF–422
string SQLREF–55
truth table SQLREF–89
truth valued logic SQLREF–89
TSAF DBA–191
TSAF collection
distributed database PERF–78
TTITLE option of FORMAT command
creating top title ISQL–52
example ISQL–53
reference ISQL–114
TTNAME column SQLREF–371
TTNAME column
of SYSTABAUTH SQLREF–405
tuning
by levels PERF–2
guidelines PERF–1
queries PERF–126
trade-off PERF–12
tuning parameter
access path, lock contention PERF–92
ARCHPCT PERF–103
CIRB transaction PERF–86
deadlock PERF–97
DISPBIAS PERF–89
index lock contention PERF–92
isolation level PERF–93
lock level PERF–92
logical unit of work, lock contention PERF–92
MAXCONN PERF–87
minimum lock level PERF–92
NCUSERS PERF–83, PERF–84, PERF–91
NDIRBUF PERF–83
NLRBS PERF–95
NLRBU PERF–95
NPACKAGE PERF–84
NPACKPCT PERF–84
NPAGBUF PERF–83
PCTFREE PERF–59, PERF–60
PCTINDEX PERF–58

tuning parameter *(continued)*
PROTOCOL PERF–104
RMTUSERS PERF–87
SLOGCUSH PERF–103
SOSLEVEL PERF–57
turning off the application server
online support OPER–26
SQLEND operator
command OPER–10
turning on online support OPER–15
two logs, specifying OPER–162
two-phase commit SYVM–109, SYVSE–91
type of error DBSU–223
type of keyword DIAG–80
type of keyword
abnormal termination DIAG–81
component identification DIAG–80
document DIAG–97
first failure data capture DIAG–87
incorrect or missing output DIAG–97
message DIAG–84
NO RESPONSE DIAG–96
release level DIAG–80
SLOW RESPONSE DIAG–96
types of locks SQLREF–20
typing errors
CHANGE ISQL–36
correcting ISQL–14
IGNORE ISQL–14, ISQL–37
RETRIEVE ISQL–33

U

unallocated pages
archiving SYVM–195, SYVSE–145
unary
minus SQLREF–73
plus SQLREF–73
unclustered index PERF–65
uncommitted read
guidelines for using ISQL–92
isolation level ISQL–92, ISQL–149, SQLREF–21
SET command ISQL–149
uncommitted read (UR) DIAG–67
uncommitted read (UR)
description DIAG–67
isolation level DBSU–220, PERF–93
ISQL PERF–108
to avoid long lock waits DIAG–206
using DIAG–147, DIAG–178, DIAG–183, DIAG–184
undefined reference
column name SQLREF–66
undercommitting dbspace storage SYVM–156, SYVSE–130
underscore (_)
in LIKE predicate SQLREF–86
UNDO
invalid index PERF–71
UNION
instead of OR DIAG–196
use in place of OR DIAG–190
UNION ALL APP–91
UNION ALL clause
of fullselect SQLREF–128
UNION clause
duplicate rows SQLREF–128
of fullselect SQLREF–128
UNION operator
CCSID APP–93
character subtypes APP–93
description APP–91
ordering results APP–91, APP–92
restriction for CREATE VIEW APP–64
usage restrictions involving
data types APP–92
LONG VARCHAR data APP–92
subqueries APP–92
VARCHAR and VARGRAPHIC APP–92
views APP–92
unions APP–91
unions
See UNION operator APP–91
UNIQUE clause
of ALTER TABLE statement SQLREF–163
of CREATE INDEX statement SQLREF–199
of CREATE TABLE statement SQLREF–224, SQLREF–226
unique constraint
activating DBA–68, ISQL–86
considerations in defining DBA–38
deactivating ISQL–86
description DBA–5, DBA–38, SQLREF–12
implicit DBA–48
instead of unique index DBA–48
invalid index PERF–72
key SQLREF–11
privilege required ISQL–84
referential integrity DBA–6
reorganizing index DBA–68
when creating a table DBA–38
unique constraints DBSU–64
unique index SQLREF–11
unique index
creating DBA–47
general description DBA–48
invalid index PERF–71
row level locking PERF–92
when to use DBA–51
with key matching predicate PERF–113
unique on columns APP–284
uniquely identifying an object APP–27
unit of work
ISO-ANS SQL(89) equivalent term SQLREF–426
Universal Coordinated Time (UTC) SQLREF–63
unlabeled tapes SYVM–74
unlike
description DBA–13
UNLOAD
block size PERF–109
locking PERF–110
unload-data tasks
using FILEDEFs
DATAUNLOAD DBSU–60
UNLOAD DBSPACE DBSU–66
UNLOAD TABLE DBSU–66
UNLOAD data used as input DBSU–27
UNLOAD DBSPACE command
description DBSU–203
example DBSU–62
procedures DBSU–61
syntax diagram DBSU–203
task DBSU–64
UNLOAD PACKAGE
DBS utility PERF–110
UNLOAD PACKAGE command
locking conditions DBSU–228
performance considerations DBSU–229
reference DBSU–212
task DBSU–85
UNLOAD TABLE command
description DBSU–206
example DBSU–62
procedures DBSU–64
syntax diagram DBSU–206
task DBSU–64
unloading
column to more than one output record DBSU–173
data
system-determined format DBSU–52
user-specified format DBSU–56
definition of DIAG–132
package DBSU–85
performance problem
index DIAG–138
possible I/O problems DIAG–169, DIAG–200, DIAG–224
possible lock escalation problems DIAG–203
possible lock wait problems DIAG–145, DIAG–164, DIAG–183, DIAG–202
procedure
dbspace DBSU–61
table DBSU–61
program DBSU–85
view DBSU–60
unnamed column
ORDER BY clause SQLREF–132
unreadable data cause DBSU–231
unresolved external reference APP–143, APP–178
unused package SYVM–155, SYVSE–129
UPDATE DIAG–71
update
isolation level SQLREF–20
on view SQLREF–17
SQLGLOB parameters SYVSE–247
UPDATE
assignment rules SQLREF–53
performance problem
index DIAG–137
restriction for view DBA–45
rules APP–290

UPDATE clause
of GRANT statement SQLREF–294, SQLREF–295
of REVOKE statement SQLREF–332, SQLREF–333
of select-statement SQLREF–133
update lock
description DIAG–69, PERF–91
update rule APP–290
update rule
dependent table DBA–9
description SQLREF–16
parent table DBA–8
UPDATE statement
description SQLREF–340
EXECUTE IMMEDIATE statement SQLREF–272
EXPLAIN statement SQLREF–274
Extended DECLARE CURSOR statement SQLREF–241
FETCH statement SQLREF–285
isolation level setting ISQL–94
OPEN statement SQLREF–311
Positioned UPDATE form SQLREF–340
PREPARE statement SQLREF–315
Searched UPDATE form SQLREF–340
UPDATE STATISTICS APP–258, DBA–63
UPDATE STATISTICS
ALL PERF–132
automatic statistics collection PERF–109
by DATALOAD DIAG–234
clustered index PERF–65
DBS utility PERF–109
exclusive locking in catalogs DIAG–180
performance problem index DIAG–138
possible DBSPACE scan problems DIAG–169
possible I/O problems DIAG–200, DIAG–224
reorganize a dbspace PERF–69
reorganize a single table PERF–68
REORGANIZE INDEX DBSU–230
statistics collection DBSU–81
usage considerations DBSU–229
use of DIAG–189
UPDATE STATISTICS statement ISQL–91
UPDATE STATISTICS statement
description SQLREF–346
EXECUTE IMMEDIATE statement SQLREF–272
PREPARE statement SQLREF–315
update statistics tracing OPER–146, OPER–171
UPDATEAUTH column SQLREF–371
UPDATEAUTH column
of SYSTABAUTH SQLREF–406
UPDATECOLS column SQLREF–371
UPDATECOLS column
of SYSTABAUTH SQLREF–405
updating
data statistics
problems addressed DIAG–189
internal statistics APP–258
partial rows SYVM–240, SYVSE–175
routine ISQL–73
VM directory entries SYVM–273, SYVM–278
updating statistics DBSU–81
updating up your DBNAME directory SYVSE–208
upgrading hardware PERF–2
uppercase SQLREF–35, SQLREF–36
uppercase characters, input ISQL–147
UR attribute
isolation level SQLREF–21
isolation option
CREATE PACKAGE statement SQLREF–204
UR isolation level DBSU–220
USA (IBM USA standard)
format SQLREF–50
USA attribute
DATE option
CREATE PACKAGE statement SQLREF–203
usage environment
application development DBA–159, DBA–168, DBA–200
batch/interactive DBA–100, DBA–147, DBA–165, DBA–197
cics/vse online DBA–99
description DBA–197, DBA–203
online transaction processing DBA–101, DBA–148, DBA–167, DBA–198
query/report writing DBA–149, DBA–171, DBA–201
use of multiple LUWs DIAG–146, DIAG–150, DIAG–177, DIAG–206
user
CONNECT statement SQLREF–186, SQLREF–192
forcing OPER–46
partitions OPER–7
SHOW LOCK USER command OPER–95
SHOW PROC command OPER–110
SHOW PROC example OPER–111
SHOW PSERVER command OPER–113
SHOW PSERVER example OPER–114
SHOW USERS command OPER–120
SHOW USERS example OPER–121
START PROC command OPER–122
START PROC example OPER–123
START PSERVER command OPER–123
START PSERVER example OPER–124
START TCPIP command OPER–125
STOP PROC command OPER–126
STOP PROC example OPER–127
STOP PSERVER command OPER–128
STOP PSERVER example OPER–129
USER
isolation level SQLREF–22
user, remote
forcing OPER–48
user agent PERF–84
user archive
creating OPER–43, SYVM–203, SYVSE–151
database manager start-up OPER–169
UARCHIVE option OPER–11
VSAM backup command SYVSE–152
VSAM RESTORE command SYVSE–157
VSE/VSAM example OPER–44
user assistance DBA–79
USER attribute
isolation option
CREATE PACKAGE statement SQLREF–204
user display, issuing operator commands OPER–40
user error DBA–127, DBA–131, DBA–133
user exits DIAG–275
user facility subset
converting to a database SYVM–48
description SYVM–1
minidisk requirements SYVM–9
user free storage SYVM–171
user ID DBA–171, SQLREF–371
user ID
CICS OPER–16
CICS default rules for DBA–101
CICS/VSE default rules APP–151
CICSUSER default APP–151
COMMIT statement SQLREF–183
for ISQL session ISQL–3
naming convention APP–27
ROLLBACK statement SQLREF–336
special
CICSUSER DBA–101
DBDCCICS DBA–88
virtual machine OPER–57, OPER–84, OPER–121
user identification and verification DBA–167
USER isolation
remote unit of work APP–126
USER isolation level PERF–94
USER keyword
in LIKE predicate SQLREF–86
user machine DBA–79, DBA–81, DBA–188
user machine
additional SYVM–280
defining SYVM–280
example control statements SYVM–280
minidisk requirements SYVM–9
minidisks SYVM–9
PROFILE EXEC SYVM–282
size SYVM–5
virtual storage requirements SYVM–426
user mode
multiple OPER–7

user mode *(continued)*
single OPER–7
user parameters
for starting the application server SYVSE–71
in single user mode APP–147, SYVM–84
user application program SYVSE–72
user privilege DBA–92
user program
options OPER–8
single user mode OPER–8
user-related error codes DIAG–120
user-related error codes
Alter/drop failed (-913) DIAG–124
command limitation exceeded (-101) DIAG–120
creator.table not found (-204) DIAG–121
indicator variable is missing (-305) DIAG–122
input host variable too large (-302) DIAG–122
input variable data type not compatible with column (-301) DIAG–121
mismatch between number of host variables (-313) DIAG–123
output data type not compatible (-303) DIAG–122
output host variable too large (-304) DIAG–122
SQL call failed (-471) DIAG–123
SQL call timeout (-913) DIAG–124
storage overlay in stored procedure server (-450) DIAG–123
user restore
definition SYVM–213, SYVSE–156
USER special register APP–56, ISQL–80, SQLREF–62
user-specified
data unloading DBSU–56
format, loading data DBSU–32
output record format
example DBSU–188
USERDATA OPER–19
USERid
preprocessor parameter APP–159
USERID, CIRD transaction OPER–19
USERID column SQLREF–371
USERID column
of SYSSYNONYMS SQLREF–404
USERid preprocessor parameter APP–121
users, number of concurrent OPER–165
using SYVM–227
using
dual logging SYVM–227, SYVSE–165
using AMODE(24)
incompatibilities SQLREF–467, SYVM–514, SYVSE–413
USING clause
of DESCRIBE statement SQLREF–248, SQLREF–250
of EXECUTE statement SQLREF–265
USING clause *(continued)*
of Extended DESCRIBE statement SQLREF–252
of OPEN statement SQLREF–308
USING DESCRIPTOR clause
of EXECUTE statement SQLREF–265
of Extended EXECUTE statement SQLREF–269
of Extended FETCH statement SQLREF–288
of Extended OPEN statement SQLREF–313
of Extended PREPARE statement SQLREF–319
of Extended PUT statement SQLREF–326
of FETCH statement SQLREF–284
of OPEN statement SQLREF–308, SQLREF–309
of PUT statement SQLREF–323
using indexing in logical data design DBA–47
USING OPTIONS clause
of CREATE PACKAGE statement SQLREF–202
USING OUTPUT DESCRIPTOR clause
of Extended EXECUTE statement SQLREF–269
using the Database Services Utility
application program DBSU–105
C program DBSU–114
COBOL program DBSU–114
PL/I program DBSU–114
using the directory verify function DIAG–267
UTC (Universal Coordinated Time) SQLREF–63

V

V-disk
storage requirements SYVM–8
VAL10 column SQLREF–371
VAL10 column
of SYSCOLSTATS SQLREF–382
VAL50 column SQLREF–371
VAL50 column
of SYSCOLSTATS SQLREF–382
VAL90 column SQLREF–371
VAL90 column
of SYSCOLSTATS SQLREF–382
VALID column SQLREF–371
VALID column
of SYSACCESS SQLREF–376
valid lock size APP–254
value
description ISQL–1
descriptors in field procedures SYVM–374, SYVSE–289
in tables SQLREF–10
interpreting by data type SQLREF–42
VALUE
function SQLREF–117
VALUE column SQLREF–371
VALUE column
of SYSOPTIONS SQLREF–396
value conversion on unloading DBSU–191
value expression
DB2 Server for VSE & VM equivalent term SQLREF–425
VALUES clause
of INSERT statement SQLREF–299, SQLREF–300
VARCHAR
choosing rather than CHAR DBA–33
data type SQLREF–159, SQLREF–223
in column definition DBA–33
VARCHAR data type
assembler APP–313
C APP–342
COBOL APP–360
FORTRAN APP–374
PL/I APP–387
VARCHAR keyword
FORMAT command ISQL–119
LIST command ISQL–134
SET command ISQL–152
VARGRAPHIC
choosing rather than GRAPHIC DBA–34
constants within expressions APP–59
data type SQLREF–159, SQLREF–224
data type
assembler APP–313
C APP–342
COBOL APP–361
FORTRAN APP–374
PL/I APP–387
function
shift-in SQLREF–119
shift-out SQLREF–119
variable
current SQL statement ISQL–38
routines ISQL–73
stored SQL statements ISQL–64
variable character column
current query result ISQL–119
session ISQL–152
varying-length
character string SQLREF–44
graphic string SQLREF–47
varying-length rows DBA–29
VCREATOR column SQLREF–371
VCREATOR column
of SYSVIEWS SQLREF–409
VDISK PERF–47
verify directory
using DIAG–267
verify the database manager PERF–173
verifying
directory SYVM–90, SYVSE–76
the directory OPER–11
very nonunique index
definition of DIAG–132
key prefix DIAG–235
possible I/O problems DIAG–235
very nonunique key prefix
definition DIAG–132
view PERF–108
view
addressing selected columns DBA–106

view *(continued)*
addressing selected rows DBA–106
catalog information about DBA–54
CREATE VIEW APP–63
CREATE VIEW statement SQLREF–232
creating DBA–17, DBA–42, SQLREF–232
description APP–63, SQLREF–17, SQLREF–235
determining name ISQL–79
DROP VIEW APP–67
dropping SQLREF–259
for multiple tables DBA–43
listing name ISQL–79
materialization APP–65
materializing DBA–46
modifying tables through APP–65
naming convention APP–27
new column names DBA–44
on a single table DBA–43
privilege DBA–92
privilege, restricting ISQL–88
privileges APP–266
querying tables through APP–65
read-only SQLREF–234
reasons for using DBA–42
restricting privilege ISQL–88
restriction on access DBA–106
restrictions on
ALTER DBA–45
DBS DATALOAD DBA–45
DBS RELOAD DBA–45
DBS UNLOAD DBA–45
DELETE DBA–45
INDEX DBA–45
INSERT DBA–45
ISQL INPUT DBA–45
UPDATE DBA–45
storing comments on DBA–54
synonym
creating ISQL–89
dropping ISQL–90
unions
restriction APP–92
UNLOAD command DBSU–65
unloading DBSU–60
using another user's ISQL–89
using several tables DBA–43
VIEW clause
of DROP statement SQLREF–258, SQLREF–259
view_id
description SQLREF–40
view_name
description SQLREF–40, SQLREF–219
in COMMENT ON PROCEDURE statement SQLREF–181
in COMMENT ON statement SQLREF–179
in CREATE SYNONYM statement SQLREF–219
in CREATE VIEW statement SQLREF–232
in DELETE statement SQLREF–244
view_name *(continued)*
in DROP statement SQLREF–258, SQLREF–259
in FROM clause SQLREF–124
in GRANT statement SQLREF–294, SQLREF–295
in INSERT statement SQLREF–299, SQLREF–300
in LABEL ON statement SQLREF–304
in REVOKE statement SQLREF–332, SQLREF–333
in subselect SQLREF–122
in UPDATE statement SQLREF–341
length limitation SQLREF–351
VIEWCHECK column SQLREF–371
VIEWCHECK column
of SYSVIEWS SQLREF–409
viewing columns too wide for the display ISQL–159
VIEWMAT column SQLREF–371
VIEWMAT column
of SYSVIEWS SQLREF–409
VIEWNAME column SQLREF–371
VIEWNAME column
of SYSVIEWS SQLREF–409
VIEWTEXT column SQLREF–371
VIEWTEXT column
of SYSVIEWS SQLREF–409
virtual
addressability extension PERF–76
columns APP–64
data APP–64
dbextent
virtual disk PERF–52
virtual device address
alternate tape drive SYVM–75
virtual device number, alternative tape drive OPER–9
virtual disk
ADD PERF–47
adding internal dbspace PERF–50
backing up PERF–50
backup file PERF–48
cataloged procedure PERF–49
conditional startup JCL PERF–50
define PERF–47, PERF–52
existing pools PERF–49
increasing virtual storage PERF–46, PERF–51
internal dbspace PERF–46, PERF–51
MDISK PERF–52
number of dbextents PERF–49
procedure to create PERF–46, PERF–52
PROFILE EXEC PERF–54
restore backup PERF–50
storage pool PERF–49, PERF–52, PERF–53
storage pools PERF–157
SYSDEF PERF–47
temporary storage PERF–46, PERF–51
VDISK PERF–47
virtual and real dbextents PERF–49
virtual dbextent PERF–48, PERF–52, PERF–54
virtual disk *(continued)*
virtual VSAM cluster PERF–48
VSAM user catalog PERF–48
VSIZE PERF–47
virtual disk support
internal dbspaces SYVM–21, SYVSE–21, SYVSE–124
virtual machine
database OPER–7
DB2 Server for VM OPER–7
fair share scheduling PERF–75
overview SYVM–1
size
DB2 Server for VM database manager SYVM–5
time PERF–15
user OPER–7, SYVM–280
Virtual Machine (VM)
accounting SYVM–247
directory entries
for a user machine SYVM–280
for database machines SYVM–278
updating SYVM–273, SYVM–278
single console image facility (SCIF) SYVM–53
virtual storage OPER–1, PERF–26, PERF–41
virtual storage
as a resource PERF–9
batch SYVSE–335
batch or VSE/ICCF SYVSE–335
blocking PERF–106
CICS partition SYVSE–333
for application partitions SYVSE–8
initial requirements
database machines SYVM–425
load measurement PERF–14
partition SYVSE–333
partition size SYVSE–8
recommended SYVM–5
requirement PERF–166
requirements SYVSE–8, SYVSE–331, SYVSE–335
requirements
DB2 Server for VM components SYVM–423, SYVM–426
user machines SYVM–426
service machine SYVM–5
user machine SYVM–5
virtual addressing PERF–41
VSE/ICCF SYVSE–335
VM APP–142
VM
commands ISQL–95
executing applications APP–145
functions ISQL–95
implicit connect APP–115
loading a program APP–143, APP–176
preprocessing programs APP–116
VM/CMS file
including secondary input APP–142
VM/ESA OPER–vii
VM/ESA
31 bit addressing PERF–45
distributed database PERF–78

VM/ESA *(continued)*
requirement PERF–165
SET QUICKDSP PERF–76
SET SHARE PERF–76
virtual disk PERF–51
VM/ESA (Virtual Machine/Enterprise Systems Architecture)
considerations SYVM–272
DB2 Server for VM features SYVM–1
directory entries for accounting SYVM–247
environment OPER–vii
migration from a VM/SP operating system SYVM–45
migration from a VM/XA operating system SYVM–41
running the database manager SYVM–89
VM Monitor Analysis Program (VMMAP) PERF–7
VM/Performance Reporting Facility (VM/PRF) PERF–7
VM/SP (Virtual Machine/System Product)
migration to VM/ESA operating system SYVM–31
VM system console, issuing operator commands OPER–39
VM system paging DASD
internal dbspace PERF–158
requirement PERF–167
VM/XA SP (Virtual Machine/Extended Architecture System Product)
migration from VM/SP operating system SYVM–31
migration from VM/XA operating system SYVM–31
migration from VSE SYVM–39
running the database manager SYVM–89
VMBACKUP SYVM–194, SYVM–203
VMBACKUP
optional software SYVM–5
VMMAP PERF–7
VOLID parameter, as applies to log archiving SYVSE–212
volume considerations
directory SYVM–15, SYVSE–15
log SYVM–17, SYVSE–17
VSAM
access method services statements SYVSE–34
backup PERF–75
backup and restore PERF–73
BACKUP command OPER–44
catalogs SYVSE–10, SYVSE–208
cluster
virtual disk PERF–48
DASD I/O system PERF–81
data set password SYVSE–117
data sets for a database SYVSE–209
defining a data set SYVSE–34
definition of database data sets SYVSE–208
definition of directory data set SYVSE–210
VSAM *(continued)*
example backup command for user archive SYVSE–152
example RESTORE command for user archive SYVSE–157
file used to load database DBA–61
I/O buffer address PERF–76
LISTCAT PERF–8, PERF–20
password
CONTROLPW OPER–173
MASTERPW OPER–173
release level SYVSE–6
REPRO DBA–61
restriction DBA–76, SYVSE–117
space management
accounting files SYVSE–183, SYVSE–185
user catalog
virtual disk PERF–48
VSE
CICS/VSE CONNECT considerations APP–151
compiling a program APP–176
preprocessing programs APP–153
register save conventions APP–179
VSE (Virtual Storage Extended)
guest sharing OPER–vii, OPER–15
VSE/Advanced Functions OPER–vii
VSE batch partition DBA–147
VSE/ESA
31 bit addressing PERF–45
31 bit addressing
virtual addressability extension PERF–77
library, DASD storage requirements SYVSE–9
virtual disk PERF–46
VSE guest
GRANT statement SQLREF–292
VSE guest sharing SYVM–299
VSE guest sharing
accessing and operator responsibilities SYVM–97, SYVSE–79
configuration DBA–195, SYVM–299
DBNAME directory SYVM–97, SYVSE–79
granting access DBA–91
migration SYVM–40
national language messages SYVM–333, SYVSE–256
online support SYVM–93, SYVSE–78
release level of VSE SYVM–4
removing access DBA–85
revoking access DBA–92
sample configurations SYVM–300
single processor SYVM–300
TSAF SYVM–300
VM/ESA features supported SYVM–1
VTAM product SYVM–301
VSE guest user accounting record SYVM–255, SYVSE–196
VSE/ICCF
application DBA–147
application program DBA–165
application programs SYVSE–69
VSE/ICCF *(continued)*
control statements for running an application program SYVSE–69
DBS Utility usage DBA–59
release level SYVSE–6
testing application code DBA–162
VSE interactive interface PERF–8
VSE operating system
migration to SYVM–39
VSE/POWER DBA–199, DBA–201, DBA–202
VSE/Power facility SYVSE–3
VSE/POWER product
release level SYVSE–6
VSE STDOPT JCC/JCS SYVM–121, SYVSE–103
VSE/VSAM BACKUP command, example of SYVSE–152
VSE/VSAM BACKUP command example OPER–44
VSE/VSAM
Backup/Restore SYVSE–144
VSE/VSAM RESTORE command SYVSE–157
VSE/VSAM space management for SAM feature SYVSE–182
VSIZE PERF–47
VTIME counter PERF–15

W

wait, communication OPER–92
wait mode ISQL–13, ISQL–35
wait or loop DIAG–96
waitlock
performance indicator PERF–22
WAITLOCK
example PERF–22
WAITLOCK counter OPER–52
waitlock hit ratio PERF–23
WANTLOCK, SHOW LOCK WANTLOCK command OPER–97
warm start OPER–169
warm start of the application server SYVM–56, SYVSE–49
warning
conditions APP–196
flags APP–196
wasting
DASD PERF–56
WHENEVER APP–12, APP–194, APP–197, DBA–129
WHENEVER statement SQLREF–348, SQLREF–349
WHERE clause
ALL keyword APP–80
ANY keyword APP–80
correlated subquery APP–82
description APP–32
EXISTS predicate APP–90
grouping considerations APP–74
IN predicate APP–81
join conditions APP–68
maximum number of predicts SQLREF–352
NOT EXISTS predicate APP–90
NOT IN predicate APP–81
of DELETE statement SQLREF–244

WHERE clause *(continued)*
of SELECT INTO
statement SQLREF–338
of subselect SQLREF–121,
SQLREF–125
of UPDATE statement SQLREF–341,
SQLREF–342
SELECT statement ISQL–130
subqueries APP–77
WHERE CURRENT OF clause
of DELETE statement SQLREF–244,
SQLREF–245
of DELETE statement
Extended DECLARE CURSOR
statement SQLREF–241
of UPDATE statement SQLREF–341,
SQLREF–342
of UPDATE statement
Extended DECLARE CURSOR
statement SQLREF–241
width displayed
changing
any column ISQL–47, ISQL–115
VARCHAR columns ISQL–152
WIDTH option
FORMAT command ISQL–47,
ISQL–48
SET command ISQL–60
WITH CHECK OPTION APP–64
WITH CHECK OPTION clause
INSERT statement SQLREF–301
of CREATE VIEW
statement SQLREF–233
UPDATE statement SQLREF–343
WITH clause APP–34
WITH clause
of DELETE statement SQLREF–245
of subselect SQLREF–134
of UPDATE statement SQLREF–342
WITH GRANT OPTION clause
of GRANT statement SQLREF–289,
SQLREF–294, SQLREF–295
WITH RETURN
in DECLARE CURSOR
statement SQLREF–240
without DISABLE option, FORCE
command OPER–48
words, reserved
DBSU DBSU–111
SQL DBSU–111
WORK keyword
COMMIT statement SQLREF–183
ROLLBACK statement SQLREF–336
Work Unit Manager (WUM) OPER–143
Work Unit Manager (WUM)
component description DIAG–10
overview DIAG–10
work unit support DIAG–162
work units
accounting exit
CMS SYVM–259
work unit ID SYVM–254,
SYVSE–195
CMS APP–280, OPER–121,
SYVM–364
CMS
accounting exit SYVM–340
work units *(continued)*
CMS *(continued)*
supported operating
systems SYVM–1
multiple OPER–121
using APP–280
VM/ESA features
supported SYVM–1
working storage DIAG–42
working storage residence priority
changing PERF–184
choosing PERF–195
understanding PERF–160
working storage size PERF–211
working storage size
improving performance PERF–192
management PERF–194
workload PERF–13
workload
considerations PERF–3
distributing PERF–72
production PERF–3
test PERF–3
throughput PERF–5
WORKUNIT parameter of
exec DBA–239, DBA–247
write counters OPER–52
write-to-operator (WTO)
messages DBSU–223
WRITES counter PERF–15
writing asynchronously PERF–192
writing clauses in order APP–75
WUM (Work Unit Manager) OPER–143

X

XC mode
CP directory statement PERF–172
database machine PERF–165
hardware PERF–168
SQL/DS directory PERF–193
verify PERF–180
XCONFIG directory
statement PERF–172
XEDIT, as used with DB2 Server for
VM DBA–156
XPCC conversations PERF–89

Y

YEAR
function SQLREF–120
labeled duration SQLREF–71,
SQLREF–74
YEARS
labeled duration SQLREF–71

Z

zero SQLCODE
description APP–11, APP–194
ZEROS option of FORMAT
command ISQL–46, ISQL–48
ZONED data type DBSU–156,
DBSU–177
zoned input data
precision DBSU–156
zoned input data *(continued)*
scale DBSU–156
zoned output DBSU–177

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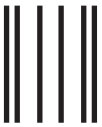

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