

## **Database Processing**, 11e (Kroenke) Chapter 2: Introduction to Structured Query Language (SQL)

1) SQL stands for *Standard Query Language*. Answer: FALSE Diff: 1 Page Ref: 32

2) SQL is only a data manipulation language (DML).Answer: FALSEDiff: 3 Page Ref: 36

3) SQL was developed by IBM in the late 1970s.Answer: TRUEDiff: 1 Page Ref: 35

4) In addition to being a data sublanguage, SQL is also a programming language, like Java or C#.
Answer: FALSE
Diff: 2 Page Ref: 36

5) SQL commands can be embedded in application programs.Answer: TRUEDiff: 3 Page Ref: 36

6) SQL, although very popular, has never become a national standard.Answer: FALSEDiff: 2 Page Ref: 35

7) The SQL keyword FROM is used to specify the table to be used.Answer: TRUEDiff: 1 Page Ref: 36

8) SQL can only query a single table. Answer: FALSE Diff: 2 Page Ref: 70

9) SQL statements end with a colon. Answer: FALSE Diff: 1 Page Ref: 37

10) The columns to be obtained by an SQL command are listed after the FROM keyword.Answer: FALSEDiff: 2 Page Ref: 36

11) The result of an SQL SELECT operation can contain duplicate rows.Answer: TRUEDiff: 2 Page Ref: 37

12) To have SQL automatically eliminate duplicate rows from a result, use the keyword DISTINCT with the FROM keyword.Answer: FALSEDiff: 3 Page Ref: 37

13) An asterisk (\*) following the SELECT verb means that all columns are to be displayed. Answer: TRUE

Diff: 2 Page Ref: 38

14) The WHERE clause contains the condition that specifies which columns are to be selected.Answer: FALSEDiff: 2 Page Ref: 36, 38

15) The rows of the result table can be sorted by the values in one or more columns.Answer: TRUEDiff: 1 Page Ref: 53

16) Sorting is specified by the use of the SORT BY phrase.Answer: FALSEDiff: 2 Page Ref: 53

17) A WHERE clause can contain only one condition.Answer: FALSEDiff: 1 Page Ref: 55

18) The condition in WHERE clauses can refer to a set of values by using the IN operator.Answer: TRUEDiff: 2 Page Ref: 55

19) ANSI standard SQL uses the symbol "%" to represent a series of one or more unspecified characters.Answer: TRUEDiff: 3 Page Ref: 57

20) The built-in function SUM can be used with any column. Answer: FALSE Diff: 3 Page Ref: 59-62

21) The clause SELECT COUNT (\*) results in a table with a single row and a single column.Answer: TRUEDiff: 2 Page Ref: 61-66

22) Arithmetic in SQL statements is limited to the operations provided by the built-in functions.Answer: FALSEDiff: 1 Page Ref: 62-64

23) The SQL keyword *GROUP BY* instructs the DBMS to group together those rows that have the same value in a column.Answer: TRUEDiff: 1 Page Ref: 64

24) A WHERE clause can contain another SELECT statement enclosed in parenthesis. Answer: TRUE Diff: 1 Page Ref: 70-71

25) A SELECT statement used in a WHERE clause is called a subquery. Answer: TRUE Diff: 1 Page Ref: 70-71

26) Only two tables can be queried by using a subquery.Answer: FALSEDiff: 2 Page Ref: 71

27) An alternative to combining tables by a subquery is to use a join.Answer: TRUEDiff: 1 Page Ref: 73

28) When people use the term "join" they normally mean an "equijoin."Answer: TRUEDiff: 2 Page Ref: 75

29) Two or more tables are joined by giving the table names in the FROM clause and specifying the equality of the respective column names as a condition in the WHERE clause.Answer: TRUEDiff: 3 Page Ref: 75

30) Every subquery can be alternatively expressed by a join.Answer: FALSEDiff: 2 Page Ref: 76

31) SQL is a(n) \_\_\_\_\_\_.
A) data sublanguage
B) product of IBM research
C) national standard
D) combination of a data definition language and a data manipulation language
E) All of the above
Answer: E
Diff: 2 Page Ref: 35-36

32) When making an SQL query, we are using SQL as a(n) \_\_\_\_\_. A) DDL B) DML C) embedded language D) SET E) WHERE Answer: B Diff: 2 Page Ref: 36 33) In an SQL query, which SQL keyword actually creates the query? A) EXISTS B) FROM C) SELECT D) SET E) WHERE Answer: C Diff: 1 Page Ref: 36 34) In an SQL query, which SQL keyword is used to specify the table(s) to be used? A) EXISTS B) FROM C) SELECT D) SET E) WHERE Answer: B Diff: 1 Page Ref: 36 35) In an SQL query, which SQL keyword must be used to remove duplicate rows from the result table? A) DELETE **B) DISTINCT** C) NOT EXISTS D) UNIQUE

E) KEY Answer: B Diff: 3 Page Ref: 37

36) In an SQL query, which of the following symbols is used by ANSI SQL to represent all the columns in a single table?

A) \_ (underscore)
B) ? (question mark)
C) \* (asterisk)
D) % (percent)
E) # (pound)
Answer: C
Diff: 2 Page Ref: 38

37) In an SQL query, which SQL keyword is used to state the condition that specifies which rows are to be selected?
A) EXISTS
B) FROM
C) SELECT
D) SET
E) WHERE
Answer: E
Diff: 1 Page Ref: 36, 38

38) In an SQL query, which SQL keyword is used to join two conditions that both must be true for the rows to be selected?
A) AND
B) EXISTS
C) HAVING
D) IN
E) OR
Answer: A
Diff: 1 Page Ref: 55

39) In an SQL query, which SQL keyword is used to determine if a column value is equal to any one of a set of values?

A) AND B) EXISTS C) HAVING D) IN E) OR Answer: D Diff: 1 Page Ref: 55-56

40) In an SQL query, which of the following symbols is used by ANSI SQL to represent a single unspecified character?A) \_ (underscore)

B) ? (question mark)
C) \* (asterisk)
D) % (percent)
E) # (pound)
Answer: A
Diff: 3 Page Ref: 57-59

41) In an SQL query, which of the following symbols is used by Microsoft Access to represent a single unspecified character?
A) \_ (underscore)
B) ? (question mark)
C) \* (asterisk)
D) % (percent)

E) # (pound) Answer: B Diff: 3 Page Ref: 57-59

42) In an SQL query, which SQL keyword is used to sort the result table by the values in one or more columns?
A) GROUP BY
B) ORDER BY
C) SELECT
D) SORT BY
E) WHERE
Answer: B
Diff: 2 Page Ref: 53

43) Given a table with the structure: EMPLOYEE (<u>EmpNo</u>, Name, Salary, HireDate), which of the following would find all employees whose name begins with the letter "S" using standard SQL?

A) SELECT \* FROM EMPLOYEE WHERE Name IN ['S']; B) SELECT EmpNo FROM EMPLOYEE WHERE Name LIKE 'S'; C) SELECT \* FROM Name WHERE EMPLOYEE LIKE 'S\*'; D) SELECT \* FROM EMPLOYEE WHERE Name LIKE 'S%': E) None of the above. Answer: D Diff: 3 Page Ref: 55-59

44) Given a table with the structure: EMPLOYEE (<u>EmpNo</u>, Name, Salary, HireDate), which of the following would find all employees whose name begins with the letter "S" using Microsoft Access?

A) SELECT \* FROM EMPLOYEE WHERE Name IN ['S']; B) SELECT EmpNo FROM EMPLOYEE WHERE Name LIKE 'S'; C) SELECT \* FROM Name WHERE EMPLOYEE LIKE 'S\*'; D) SELECT \* FROM EMPLOYEE WHERE Name LIKE 'S%'; E) None of the above. Answer: C Diff: 3 Page Ref: 55-59

45) In an SQL query, which built-in function is used to total numeric columns?
A) AVG
B) COUNT
C) MAX
D) MEAN
E) SUM
Answer: E
Diff: 1 Page Ref: 59-62

46) In an SQL query, which built-in function is used to compute the average value of numeric columns?A) AVGB) MEANC) MAXD) MIN

E) SUM Answer: A Diff: 2 Page Ref: 59-62

47) In an SQL query, which built-in function is used to obtain the largest value of numeric columns?A) AVGB) COUNT

C) MAX D) MIN E) SUM Answer: C Diff: 2 Page Ref: 59-62 48) In an SQL query, which built-in function is used to obtain the smallest value of numeric columns?
A) AVG
B) COUNT
C) MAX
D) MIN
E) SUM
Answer: D
Diff: 2 Page Ref: 59-62

49) In an SQL query, the built-in functions SUM and AVG work with columns containing data of which of the following data types?
A) Integer
B) Numeric
C) Char
D) A and B
E) A, B and C
Answer: D
Diff: 3 Page Ref: 59-62

50) In an SQL query, which built-in function is used to compute the number of rows in a table?
A) AVG
B) COUNT
C) MAX
D) MIN
E) MEAN
Answer: B
Diff: 1 Page Ref: 59-62

51) In an SQL query, the built-in function COUNT works with columns containing data of which of the following data types?

A) Integer
B) Numeric
C) Char
D) A and B
E) A, B and C
Answer: E
Diff: 3 Page Ref: 59-62

52) In an SQL query, which SQL keyword is used with built-in functions to group together rows that have the same value in a specified column?
A) GROUP BY
B) ORDER BY
C) SELECT
D) SORT BY
E) DISTINCT SET
Answer: A
Diff: 1 Page Ref: 64

53) In an SQL query, which SQL keyword is used with GROUP BY to select groups meeting specified criteria?
A) AND
B) EXISTS
C) HAVING
D) IN
E) WHERE
Answer: C
Diff: 2 Page Ref: 66-67

54) Given a table with the structure: EMPLOYEE (EmpNo, Name, Salary, HireDate), which of the following is not a valid ANSI SQL command? A) SELECT \* FROM EMPLOYEE WHERE Name LIKE 'Ja%'; B) SELECT COUNT(\*) FROM EMPLOYEE WHERE Salary < 30000; C) SELECT COUNT(EmpNo) FROM EMPLOYEE; D) SELECT HireDate, COUNT(\*) FROM EMPLOYEE WHERE Salary < 30000; E) SELECT HireDate, COUNT(\*) FROM EMPLOYEE GROUP BY HireDate; Answer: D Diff: 3 Page Ref: 52-67

55) Based on the tables below, which of the following ANSI SQL commands would return the average customer balance grouped by SalesRepNo?

# **GENERAL SALES DATABASE:**

## SALESREP

Sales <b>RepNo</b>	RepName	HireDate
654	Jones	01/02/2005
734	Smith	02/03/2007
345	Chen	01/25/2004
434	Johnson	11/23/2004

# **CUSTOMER**

<u>CustNo</u>	CustName	Balance	SalesRepNo
9870	Winston	500	345
8590	Gonzales	350	434
7840	Harris	800	654
4870	Miles	100	345

A) SELECT AVG (Balance) FROM CUSTOMER WHERE SalesRepNo; B) SELECT AVG (Balance) FROM CUSTOMER GROUP BY SalesRepNo; C) SELECT AVG (Balance) FROM CUSTOMER, SALESREP WHERE SALESREP.SalesRepNo = CUSTOMER.SalesRepNo; D) SELECT AVG (Balance) FROM CUSTOMER ORDER BY SalesRepNo; E) SELECT AVG (Balance) FROM CUSTOMER, SALESREP WHERE CUSTOMER.SalesRepNo = CUSTOMER.SalesRepNo HAVING SalesRepNo; Answer: B Diff: 3 Page Ref: 52-67

56) Based on the tables below, which of the following commands in ANSI SQL would return only the name of the sales representative and the name of the customer for each customer that has a balance greater than 400?

# **GENERAL SALES DATABASE:**

### SALESREP

SalesRepNo	RepName	HireDate
654	Jones	01/02/2005
734	Smith	02/03/2007
345	Chen	01/25/2004
434	Johnson	11/23/2004

## **CUSTOMER**

<u>CustNo</u>	CustName	Balance	SalesRepNo
9870	Winston	500	345
8590	Gonzales	350	434
7840	Harris	800	654
4870	Miles	100	345

A) SELECT \* FROM SALESREP, CUSTOMER WHERE Balance > 400; B) SELECT DISTINCT RepName, CustName FROM SALESREP, CUSTOMER WHERE Balance > 400; C) SELECT \* FROM SALESREP, CUSTOMER WHERE SALESREP.SalesRepNo = CUSTOMER.SalesRepNo AND Balance > 400; D) SELECT RepName, CustName FROM SALESREP, CUSTOMER WHERE SALESREP.SalesRepNo = CUSTOMER.SalesRepNo AND Balance > 400; E) SELECT RepName, CustName FROM SALESREP, CUSTOMER WHERE Balance > 400 GROUP BY SalesRepNo; Answer: D Diff: 3 Page Ref: 52-67

57) In an SQL query, which SQL keyword is used to implement a subquery?
A) GROUP BY
B) HAVING
C) ORDER BY
D) SELECT
E) SORT BY
Answer: D
Diff: 3 Page Ref: 70-73

58) When one SQL query is embedded in the WHERE clause of another SQL query, this is referred to as a \_\_\_\_\_\_.
A) subset
B) join
C) WHERE Query
D) subquery
E) set query
Answer: D
Diff: 2 Page Ref: 70-73

59) In an SQL query, which SQL keyword is used to specify the names of tables to be joined?
A) FROM
B) HAVING
C) JOIN
D) SELECT
E) WHERE
Answer: A
Diff: 1 Page Ref: 73-76

60) Regarding the interchangeability of subqueries and joins,

A) a join can always be used as an alternative to a subquery, and a subquery can always be used as an alternative to a join.

B) a join can sometimes be used as an alternative to a subquery, and a subquery can sometimes be used as an alternative to a join.

C) a join can always be used as an alternative to a subquery, and a subquery can sometimes be used as an alternative to a join.

D) a join can sometimes be used as an alternative to a subquery, and a subquery can always be used as an alternative to a join.

E) a join can never be used as an alternative to a subquery, and a subquery can never be used as an alternative to a join.

Answer: B

Diff: 3 Page Ref: 76-77

61) SQL stands for \_\_\_\_\_. Answer: Structured Query Language Diff: 1 Page Ref: 32 62) SQL includes a \_\_\_\_\_ language and a \_\_\_\_\_ language. Answer: data definition; data manipulation Diff: 2 Page Ref: 36 63) SQL was developed by \_\_\_\_\_ in the late 1970s. Answer: IBM Diff: 2 Page Ref: 35 64) The \_\_\_\_\_ maintains the standards for SQL. Answer: American National Standards Institute (ANSI) Diff: 3 Page Ref: 35 65) SQL is not a complete programming language. Rather it is a(n) \_\_\_\_\_. Answer: data sublanguage Diff: 2 Page Ref: 36 66) The SQL keyword \_\_\_\_\_\_ is used to specify the columns to be listed in the query results. Answer: SELECT Diff: 2 Page Ref: 36 67) The SQL keyword is used to specify the table(s) that contain(s) the data to be retrieved. Answer: FROM Diff: 1 Page Ref: 36 68) To remove duplicate rows from the result of a query, specify the SQL qualifier \_\_\_\_\_. Answer: **DISTINCT** Diff: 3 Page Ref: 37 69) To obtain all columns, use a(n) \_\_\_\_\_ instead of listing all the column names. Answer: asterisk (\*) Diff: 1 Page Ref: 38 70) The SQL \_\_\_\_\_\_ clause contains the condition that specifies which rows are to be selected. Answer: WHERE Diff: 1 Page Ref: 36, 38 71) To sort the rows of the result table, the \_\_\_\_\_ clause is specified. Answer: ORDER BY Diff: 2 Page Ref: 53 72) Columns can be sorted in descending sequence by using the SQL keyword Answer: DESC

Diff: 2 Page Ref: 54

73) When two conditions must both be true for the rows to be selected, the conditions are separated by the SQL keyword \_\_\_\_\_. Answer: AND Diff: 1 Page Ref: 55 74) To refer to a set of values needed for a condition, use the SQL operator \_\_\_\_\_. Answer: IN Diff: 3 Page Ref: 55-56 75) To exclude one or more values using a condition, the SQL keyword \_\_\_\_\_ must be used. Answer: NOT IN Page Ref: 55-56 Diff: 3 76) To refer to a set of values in a condition, the values are placed inside \_\_\_\_\_\_ and separated by commas. Answer: parenthesis () Diff: 3 Page Ref: 55-56 77) The SQL keyword \_\_\_\_\_\_\_ is used in SQL expressions to select on partial values. Answer: LIKE Diff: 2 Page Ref: 57 78) The SQL-92 wildcard \_\_\_\_\_\_ indicates a sequence of one or more unspecified characters in an SQL query. Answer: % (percent sign) Page Ref: 57-59 Diff: 3 79) The Microsoft Access-92 wildcard \_\_\_\_\_\_ indicates a sequence of one or more unspecified characters in an SOL query. Answer: \*(asterisk) Diff: 3 Page Ref: 57-59 80) The SQL built-in function totals values in numeric columns. Answer: SUM Diff: 1 Page Ref: 59-62 81) The SQL built-in function \_\_\_\_\_\_ computes the average of values in numeric columns. Answer: AVG Diff: 1 Page Ref: 59-62 82) The SQL built-in function obtains the largest value in a numeric column. Answer: MAX Diff: 1 Page Ref: 59-62 83) The SQL built-in function \_\_\_\_\_\_ obtains the smallest value in a numeric column. Answer: MIN Diff: 1 Page Ref: 59-62

84) The SQL built-in function \_\_\_\_\_\_ computes the number of rows in a table. Answer: COUNT Diff: 1 Page Ref: 59-62

85) The SQL keyword \_\_\_\_\_\_ is used to collect those rows that have the same value in a specified column.Answer: GROUP BYDiff: 2 Page Ref: 64

86) A nested SELECT statement (one that appears within the WHERE clause of another SQL statement) is called a \_\_\_\_\_\_ and must be enclosed in parentheses.
Answer: subquery
Diff: 2 Page Ref: 70-73

87) The names of tables to be joined are listed in the \_\_\_\_\_ clause. Answer: FROM Diff: 1 Page Ref: 73-76

88) A join operation is achieved by specifying the equality of the respective column names as a condition in the \_\_\_\_\_\_ clause.Answer: WHERE

Diff: 2 Page Ref: 73-76

89) When most people use the word "join," they are referring to an \_\_\_\_\_\_.Answer: equijoinDiff: 2 Page Ref: 73-76

90) While many subqueries can be alternatively written as joins, \_\_\_\_\_\_ do work that cannot be duplicated as a join.
Answer: correlated subqueries
Diff: 3 Page Ref: 76-77

91) What is SQL?

Answer: Structured Query Language (SQL) is used to create and use databases, tables and relationships. SQL is divided into two categories: SQL statements for database definition and SQL statements for database processing (querying and updating). The database definition commands are referred to as a data definition language (DDL), and the database query and update commands are referred to as a data manipulation language (DML). SQL was developed by IBM, and is endorsed as a national standard by the American National Standards Institute (ANSI). Although a newer standard, SQL3, exists, the most widely implemented version of SQL is the ANSI SQL-92 standard. SQL is not a full-featured programming language, but rather it is considered to be a data sublanguage.

Diff: 1 Page Ref: 32, 35-36

92) Explain why it is important to learn SQL.

Answer: Most modern DBMS products support SQL as a standardized data language. These products usually provide graphical tools to perform the tasks associated with SQL, but there are some tasks that cannot be performed using these graphical tools. SQL is text-oriented, and SQL code must be written in order to embed SQL commands within program applications. Diff: 1 Page Ref: 32, 36

93) Briefly describe subqueries and joins. Explain when each is not an acceptable alternative for the other.

Answer: Subqueries and joins are both methods for retrieving data from multiple tables. Subqueries involve nesting one SELECT statement within another. The nested SELECT is used as part of a condition in the WHERE clause of the first SELECT statement. The nested SELECT statement can return a set of records from one table, which are then used in a logical operator within the parent SELECT query. A join combines records from each table into concatenated records containing the fields of both tables. The records are concatenated based on matching values in similar columns in the two tables. Subqueries cannot be used in situations where the results to be displayed include attributes from more than one table. Joins cannot be used as an alternative to a correlated subquery.

Diff: 3 Page Ref: 70-77

94) The following database will be used in this question:

# **GENERAL SALES DATABASE:**

SALESREP			
<b>SalesRepNo</b>	RepName	HireDate	
654	Jones	01/02/2005	
734	Smith	02/03/2007	
345	Chen	01/25/2004	
434	Johnson	11/23/2004	

# CUSTOMER

CustNo	CustName	Balance	SalesRepNo
9870	Winston	500	345
8590	Gonzales	350	434
7840	Harris	800	654
4870	Miles	100	345

Explain the use of the of SQL keyword SELECT. Include an example based on the CUSTOMER table in the General Sales database.

Answer: The SQL keyword SELECT forms the basis for all SQL querying. Although SELECT technically specifies columns to be used in a query, it is always the first SQL keyword or command in an SQL phrase that includes at least the SQL keyword FROM and often the SQL keyword WHERE. The SQL keyword WHERE is used to specify which tables are used in the query, while the SQL keyword WHERE is used to specify conditions or constraints imposed on the query. For example,

SELECT \* FROM CUSTOMER WHERE CustNo = 34567;

is a query that returns all information in the table CUSTOMER about the customer whose customer number is 34567. Diff: 1 Page Ref: 36-40 95) The following database will be used in this question:

# **GENERAL SALES DATABASE:**

#### SALESREP SalesRepNo RepName HireDate 01/02/2005 654 Jones 734 Smith 02/03/2007 345 Chen 01/25/2004 11/23/2004 434 Johnson

## **CUSTOMER**

<u>CustNo</u>	CustName	Balance	SalesRepNo
9870	Winston	500	345
8590	Gonzales	350	434
7840	Harris	800	654
4870	Miles	100	345

Explain the use of the SQL keyword LIKE. Include an example based on the CUSTOMER table from the General Sales database.

Answer: The LIKE keyword is used in the WHERE clause of an SQL query to select rows based on partial values. Through the use of wildcard characters that can represent one or more unspecified characters, the LIKE operator can search for a given string of characters within a column value. The ANSI wildcard "%" represents one or more unspecified characters, and the wildcard "\_" (underscore) represents any single unspecified character. For example,

SELECT \* FROM CUSTOMER WHERE CustName LIKE 'H%';

is a query that returns all information in the table CUSTOMER about customers whose CustName starts with the letter H.

Diff: 2 Page Ref: 57-59

96) The following database will be used in this question:

# **GENERAL SALES DATABASE:**

# SALESREP

SalesRepNo	RepName	HireDate	
654	Jones	01/02/2005	
734	Smith	02/03/2007	
345	Chen	01/25/2004	
434	Johnson	11/23/2004	

## **CUSTOMER**

<u>CustNo</u>	CustName	Balance	SalesRepNo
9870	Winston	500	345
8590	Gonzales	350	434
7840	Harris	800	654
4870	Miles	100	345

Explain the use of the GROUP BY keyword. Include an example based on the CUSTOMER table from the General Sales database.

Answer: The GROUP BY keyword is used in conjunction with the built-in functions of SQL. The GROUP BY keyword is given a column that records are to be grouped on. Records in the result table are then collected into groups based on the value of the grouping column. The built-in function is then performed on the records of each group separately. For example,

SELECT AVE(Balance) FROM CUSTOMER GROUP BY SalesRepNo;

is a query that returns the average balance of all customers associated with a specific sales representative.

Diff: 2 Page Ref: 64-67

97) Given the table **CUSTOMER**(**CustID**, **Name**, **PhoneNumber**, **AccountBalance**), write the standard SQL query to retrieve the Name and Phone Number of customers with a balance greater than 50.

Answer: SELECT Name, PhoneNumber FROM CUSTOMER WHERE AccountBalance > 50; Diff: 2 Page Ref: 36-40 98) Given the table **CUSTOMER**(<u>**CustID</u></u>, <b>Name**, **PhoneNumber**, **AccountBalance**), write the standard SQL query to retrieve the Name and Phone Number of customers whose name begins with 'S'.</u>

Answer: SELECT Name, PhoneNumber FROM CUSTOMER WHERE Name LIKE 'S%'; Diff: 2 Page Ref: 36-59

99) What are SQL Built-in Functions?

Answer: SQL Built-in Functions are functions that manipulate the results of an SQL SELECT statement. The built-in functions for standard SQL are COUNT, SUM, AVG, MAX, and MIN. The COUNT function counts the number of rows in the result. The SUM function totals the values in a number-oriented field. The AVG function calculates the mean of the values in a number-oriented field. The MAX function determines the highest value, and the MIN function determines the lowest value, in a number-oriented field.

Diff: 2 Page Ref: 59-62

100) Distinguish between the HAVING clause and the WHERE clause.

Answer: The HAVING clause and the WHERE clause differ in that the WHERE clause is used to identify rows that satisfy a stated condition. The HAVING clause is used to identify groups, which have been created by the GROUP BY clause, that satisfy a stated condition. In cases when the WHERE clause and the HAVING clause are both allowed to appear in the same SELECT statement, the WHERE clause is generally implemented to execute before the HAVING clause.

Diff: 3 Page Ref: 36-66