TRUE/FALSE

1. SQL has become the standard language for information exchange among computers.
2. SQL stands for **Standard Query Language**.
3. The American National Standards Institute (ANSI) maintains the standards for SQL.
4. SQL commands can only be used interactively.
5. SQL is a transform-oriented language.
6. SQL is not considered a closed language.
7. SQL can only query a single table.
8. The SQL language is case sensitive.
9. The keyword **SELECT** is used to specify the columns to be obtained.
10. The SQL verb **SELECT** performs the same operation as the relational algebra operator **selection**.
11. The keyword **FROM** is used to specify the table to be used.
12. The result of an SQL **SELECT** operation can contain duplicate rows.
13. An asterisk (*) following the **SELECT** verb means that all columns are to be obtained.
14. The SQL phrase **WHERE** performs the same operation as the relational algebra operator **selection**.
15. The **WHERE** clause contains the condition that specifies which columns are to be selected.
16. A **WHERE** clause can contain only one condition.
17. The rows of the result relation can be sorted by the values in one or more columns.
18. Sorting is specified by the use of the **SORT BY** phrase.
19. The clause **SELECT COUNT(*)** results in a table with a single row and a single column.
20. The built-in function **SUM** can be used with any column.
21. The SQL keyword **GROUP BY** instructs the DBMS to group together those rows that have the same value of a column.
22. The **GROUP BY** phrase always returns all of the groups in the table.
23. If two tables use the same name for a column, the DBMS will be confused and not know which table's column is being referred to.
24. A **WHERE** clause can contain a subquery.
25. Two or more tables can be joined by giving the table names in the **FROM** clause and specifying the equality of the respective column names as the condition in the **WHERE** clause.
26. Every subquery can be alternatively expressed by a join.
27. **EXISTS** and **NOT EXISTS** are logical operators whose value is either true or false depending on the presence or absence of rows that fit the qualifying conditions.
28. The **INSERT** clause can only be used to insert a single row into a table.
29. Using the **DELETE** clause to delete a row from one table can cause an integrity problem in another table.
30. The keyword **MODIFY** is used to change a column value.

MULTIPLE CHOICES

31. The **SELECT** verb accomplishes the ____________ operation.
   a. join
   b. product
   c. projection
   d. selection
   e. union
32. Which keyword must be used to remove duplicate rows?
   a. DELETE
   b. DISTINCT
   c. NOT EXISTS
   d. SET
   e. UPDATE
33. Which 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
34. Which keyword is used to specify the table(s) to be used?
   a. EXISTS
   b. FROM
   c. SELECT
   d. SET
   e. WHERE

35. Which keyword is used to separate two conditions when both must be true for the rows to be selected?
   a. AND
   b. EXISTS
   c. HAVING
   d. IN
   e. OR

36. Which keyword is used to sort the result relation by the values in one or more columns?
   a. GROUP BY
   b. ORDER BY
   c. SELECT
   d. SORT BY
   e. WHERE

37. Which built-in function is used to compute the number of rows in a table?
   a. AVG
   b. COUNT
   c. MAX
   d. MIN
   e. SUM

38. Which built-in function is used to total numeric columns?
   a. AVG
   b. COUNT
   c. MAX
   d. MIN
   e. SUM

39. Which built-in function is used to compute the average value of numeric columns?
   a. AVG
   b. COUNT
   c. MAX
   d. MIN
   e. SUM

40. Which built-in function is used to obtain the largest value of numeric columns?
   a. AVG
   b. COUNT
   c. MAX
   d. MIN
   e. SUM

41. Which built-in function is used to obtain the smallest value of numeric columns?
   a. AVG
   b. COUNT
   c. MAX
   d. MIN
   e. SUM

42. Which keyword is used to collect those rows that have the same value of a specified column?
   a. GROUP BY
   b. ORDER BY
   c. SELECT
   d. SORT BY
   e. WHERE

43. Which keyword is used to select those groups meeting specified criteria?
   a. AND
   b. EXISTS
   c. HAVING
Which keyword is used to implement a subquery?

- a. GROUP BY
- b. HAVING
- c. ORDER BY
- d. SELECT
- e. SORT BY

Which keyword is used to specify the names of tables to be joined?

- a. FROM
- b. HAVING
- c. JOIN
- d. SELECT
- e. WHERE

Which keyword is used to specify the condition(s) for a join operation?

- a. FROM
- b. HAVING
- c. JOIN
- d. SELECT
- e. WHERE

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.

Which keyword is a logical operator whose value is either true or false depending on the presence or absence of rows that meet the qualifying conditions.

- a. AND
- b. EXISTS
- c. HAVING
- d. IN
- e. OR

Rows in the same table can be compared to each other by:

- a. joining the table to itself
- b. sorting the table on the column to be compared
- c. grouping the table on the column to be compared
- d. assigning two different names to the table
- e. removing duplicate rows

Which keyword is used to add one or more rows to a table?

- a. DELETE
- b. INSERT
- c. SELECT
- d. SET
- e. UPDATE

Which keyword is used to remove one or more rows from a table?

- a. DELETE
- b. INSERT
- c. SELECT
- d. SET
- e. UPDATE
52. Which keyword is used to determine if a column value is equal to any one of several values?
   a. AND
   b. EXISTS
   c. HAVING
   d. IN
   e. OR
53. Which keyword is used to change one or more rows in a table?
   a. DELETE
   b. INSERT
   c. SELECT
   d. SET
   e. UPDATE
54. Which keyword is used to change a column value?
   a. DELETE
   b. INSERT
   c. SELECT
   d. SET
   e. UPDATE
55. When a row is added to a table but the value for a column is not known, the DBMS places a(n)    ________ value for the column in the new row.
   a. blank
   b. null
   c. previous
   d. unknown
   e. zero
56. SQL stands for ________.
57. The ________ maintains the standards for SQL.
58. The keyword ________ is used to specify the columns to be obtained.
59. The keyword ________ is used to specify the table(s) to be used.
60. To obtain all columns, use a(n) ________ instead of listing all the column names.
61. To remove duplicate rows from the result of a query, specify the qualifier ________.
62. The ________ clause contains the condition that specifies which rows are to be selected.
63. When two conditions must both be true for the rows to be selected, the conditions are separated by the keyword ________.
64. To refer to a set of values in a condition, the values are placed inside ________ and separated by commas.
65. Multiple values in a set have the same effect as using the ________ logical operator.
66. To exclude one or more values in a condition, the keyword ________ must be used.
67. To sort the rows of the result relation, the ________ clause is specified.
68. Columns to be sorted can be declared to be in the opposite of ascending sequence by using the keyword ________.
69. The built-in function ________ computes the number of rows in a table.
70. The built-in function ________ totals numeric columns.
71. The built-in function ________ computes the average value of numeric columns.
72. The built-in function ________ obtains the largest value of numeric columns.
73. The built-in function ________ obtains the smallest value of numeric columns.
74. To exclude duplicate values when computing the number of rows in a table the keyword ________ must be included.
75. The SQL keyword ________ is used to collect those rows that have the same value of a specified column.
76. A nested SELECT statement (one within another SELECT statement) is called a ________ , and must be enclosed in parentheses.
77. The names of tables to be joined are listed in the ________ clause.
78. A join operation is achieved by specifying the equality of the respective column names as the condition in the ________ clause.
79. The keyword ________ is a logical operator whose value is either true or false depending on the presence or absence of rows that fit the qualifying conditions.
80. One or more rows can be added to a table by using the ________ statement.
81. When a row is added to a table but the value for a column is not known, the DBMS places a ________
    value for the column in the new row.
82. Rows can be copied from one table to another by the use of a ________ statement to specify the rows to
    be copied.
83. Rows can be removed from a table by using the ________ statement.
84. Rows in a table can be changed by using the ________ statement.
85. The keyword ________ is used to change a column value.

86. Describe how to use the LIKE operator in comparisons.
87. Describe the five built-in functions available in SQL.
88. Describe the use of the EXISTS and NOT EXISTS keywords.
89. When a relationship exists between tables, discuss how the sequence in which DELETE operations are
    performed affects referential integrity.
90. Describe how specified rows from one table can be copied into another table using the INSERT keyword.

ANSWERS:

1. True  
2. False  
3. True  
4. False  
5. True  
6. False  
7. False  
8. False  
9. True  
10. False  
11. True  
12. True  
13. True  
14. True  
15. False  
16. False  
17. True  
18. False  
19. True  
20. False  
21. True  
22. False  
23. False  
24. True  
25. True  
26. False  
27. True  
28. False  
29. True  
30. False  
31. c  
32. b  
33. e  
34. b  
35. a  
36. b  
37. b  
38. e  
39. a  
40. c  
41. d  
42. a  
43. c  
44. d  
45. a  
46. e  
47. b  
48. b  
49. d  
50. b  
51. a  
52. d  
53. e  
54. d  
55. b  
56. Structured Query Language  
57. American National Standards Institute (ANSI)  
58. SELECT  
59. FROM  
60. asterisk (*)  
61. DISTINCT  
62. WHERE  
63. AND  
64. square brackets [ ]  
65. OR  
66. NOT  
67. ORDER BY  
68. DESC  
69. COUNT  
70. SUM  
71. AVG  
72. MAX  
73. MIN  
74. DISTINCT  
75. GROUP BY  
76. subquery  
77. FROM  
78. WHERE  
79. EXISTS  
80. INSERT  
81. null  
82. SELECT  
83. DELETE  
84. UPDATE  
85. SET