**Module 16. Database Programming**

**TRUE/FALSE**

1. A Database Management System (DBMS) is only used for small datasets.

Answer: F

1. SQLite requires a separate server process to operate.

Answer: F

1. Each row in a database table represents a complete set of information about a single item.

Answer: T

1. The TEXT data type in SQLite is used to store text strings encoded using the database's character set.

Answer: T

1. The BLOB data type in SQLite is used to store binary data exactly as it was provided.

Answer: T

1. A primary key can have null values.

Answer: F

1. An identity column automatically generates unique values.

Answer: T

1. Primary key columns must contain unique values.

Answer: T

1. The SELECT statement is used to delete rows from a table.

Answer: F

1. The WHERE clause is used to specify search criteria in SQL statements.

Answer: T

1. Relational operators can be used within the WHERE clause.

Answer: T

1. The LIKE operator is used to search for substrings in a column.

Answer: T

1. Aggregate functions like AVG, SUM, MIN, and MAX can be used in SQL queries.

Answer: T

1. You should always include the WHERE clause in an UPDATE statement to avoid updating all rows.

Answer: T

1. Foreign keys in one table refer to the primary keys in another table.

Answer: T

**MULTIPLE CHOICE**

1. Which of the following best describes a Database Management System (DBMS)?

a. A system for managing text files

b. A system for managing binary files

c. A specialized software for managing extensive datasets

d. A tool for creating web applications

Answer: C

1. Which SQL keyword is used to create a new table?

a. MAKE

b. BUILD

c. CREATE

d. ADD

Answer: C

1. Which data type in SQLite is used to store whole numbers?

a. TEXT

b. INTEGER

c. REAL

d. BLOB

Answer: B

1. What does the PRIMARY KEY constraint ensure?

a. Values are always null

b. Values are always unique and not null

c. Values are always text

d. Values are always numbers

Answer: B

1. To insert data into a table, which SQL statement is used?

a. INSERT INTO

b. ADD TO

c. PUT INTO

d. UPDATE

Answer: A

1. What is the purpose of the NOT NULL constraint in SQL?

a. To allow null values

b. To ensure the column must contain a value

c. To ensure the column is always unique

d. To format the data

Answer: B

1. Which function is used to retrieve all rows from a table in SQLite?

a. executeall()

b. fetchall()

c. getall()

d. retrieveall()

Answer: B

1. Which SQL keyword is used to delete a table?

a. REMOVE TABLE

b. DELETE TABLE

c. DROP TABLE

d. ERASE TABLE

Answer: C

1. What does the SELECT \* FROM Students statement do?

a. Retrieves all columns from the Students table

b. Deletes all columns from the Students table

c. Updates all columns in the Students table

d. Creates all columns in the Students table

Answer: A

1. What is the output of the SUM function in SQL?

a. The sum of the table

b. The sum of the row

c. The sum of a specified column

d. The sum of the database

Answer: C

1. Which clause is used to sort the result set in SQL?

a. ORDER BY

b. SORT BY

c. GROUP BY

d. CLASSIFY BY

Answer: A

1. Which SQL statement is used to modify existing rows in a table?

a. INSERT

b. UPDATE

c. CHANGE

d. MODIFY

Answer: B

1. Which operator is used in the WHERE clause to search for a pattern?

a. LIKE

b. SIMILAR

c. MATCH

d. PATTERN

Answer: A

1. Which function calculates the average value of a column in SQL?

a. AVG

b. SUM

c. MEAN

d. AVERAGE

Answer: A

1. What does the COUNT function return?

a. The number of columns in a table

b. The number of rows in a table

c. The number of values in a column

d. The number of characters in a string

Answer: B

1. Which SQL keyword is used to remove specific rows from a table?

a. ERASE

b. REMOVE

c. DELETE

d. EXCLUDE

Answer: C

1. Which clause is used with the SELECT statement to filter the results?

a. FILTER

b. WHERE

c. WHEN

d. HAVING

Answer: B

1. What is an identity column in a database?

a. A column with null values

b. A column with unique text values

c. A column with automatically generated unique integer values

d. A column with duplicate values

Answer: C

1. What does the FOREIGN KEY constraint do?

a. Ensures unique values in a column

b. Establishes a relationship between tables

c. Deletes rows from a table

d. Modifies data in a column

Answer: B

1. What is the primary use of the sqlite3 module in Python?

a. To create text files

b. To manage binary files

c. To interface with SQLite databases

d. To create web applications

Answer: C

1. Which SQL keyword is used to add a new column to a table?

a. ADD COLUMN

b. NEW COLUMN

c. CREATE COLUMN

d. INSERT COLUMN

Answer: A

1. Which aggregate function is used to find the maximum value in a column?

a. MAX

b. SUM

c. TOP

d. HIGHEST

Answer: A

1. What is a composite key?

a. A single column used as a key

b. Two or more columns combined to form a key

c. A column with null values

d. A column with unique text values

Answer: B

1. What is the function of the fetchone() method in sqlite3?

a. Retrieves a single row from the result set

b. Retrieves all rows from the result set

c. Retrieves the column names from the table

d. Retrieves the database schema

Answer: A

1. Which SQL statement is used to remove all rows from a table without deleting the table itself?

a. DELETE

b. DROP

c. REMOVE

d. CLEAR

Answer: A