MCQs with Code Snippets

1. DDL Commands

1.1. Add table to Database

1. **Which command is used to create a new table?**

```
CREATE TABLE employees (
    id INT PRIMARY KEY,
    name VARCHAR(50),
    position VARCHAR(50)
);
```

a) ADD TABLE

b) CREATE NEW TABLE

c) CREATE TABLE

d) NEW TABLE

1.2. Describe Table

2. **Which command is used to display the structure of a table?**

a) SHOW TABLE

b) DESCRIBE TABLE

c) STRUCTURE TABLE

d) EXPLAIN TABLE

1.3. Alter Table

3. **How do you add a new column to an existing table?**

```
ALTER TABLE employees ADD COLUMN age INT;
```

a) ALTER TABLE ADD COLUMN

b) ADD COLUMN TO TABLE

c) MODIFY TABLE ADD

d) TABLE ALTER ADD COLUMN

1.4. Modify and Drop Clause

4. **How do you modify the data type of a column in an existing table?**

   ALTER TABLE employees MODIFY COLUMN name TEXT;

   a) MODIFY TABLE COLUMN

   b) ALTER TABLE MODIFY COLUMN

   c) CHANGE TABLE COLUMN

   d) TABLE MODIFY COLUMN

5. **Which command is used to delete a table?**

   a) DELETE TABLE

   b) REMOVE TABLE

   c) DROP TABLE

   d) ERASE TABLE

2. Data Manipulation

2.1. Insert Data

6. **Which command inserts a new row into a table?**

   INSERT INTO employees (id, name, position) VALUES (1, 'John Doe', 'Manager');

a) ADD INTO

b) INSERT INTO

c) PUT INTO

d) INCLUDE INTO

2.2. Update Data

7. **How do you update existing data in a table?**

   UPDATE employees SET position = 'Senior Manager' WHERE id = 1;

   a) MODIFY DATA

   b) CHANGE DATA

   c) UPDATE DATA

   d) UPDATE TABLE

2.3. Delete Data

8. **Which command is used to delete specific rows from a table?**

   DELETE FROM employees WHERE id = 1;

   a) REMOVE ROW

   b) DELETE FROM

   c) ERASE ROW

   d) DROP ROW

3. Query Clauses

3.1. Database Schema

9. **What does a database schema define?**

    a) The data within the database

    b) The structure of the database

    c) The users of the database

    d) The queries of the database

3.2. Import Data

10. **Which command is typically used to import data from a file into a table?**

```
LOAD DATA INFILE 'data.csv' INTO TABLE employees
FIELDS TERMINATED BY ',' ENCLOSED BY '"'
LINES TERMINATED BY '\n';
```

    a) IMPORT FILE

    b) LOAD DATA

    c) UPLOAD FILE

    d) INSERT FILE

3.3. Column Alias

11. **How do you create a column alias in a query?**

```
SELECT name AS employee_name FROM employees;
```

    a) SELECT name ALIAS employee_name

    b) SELECT name RENAME employee_name

    c) SELECT name AS employee_name

    d) SELECT name TO employee_name

3.4. Table Alias

12. **How do you create a table alias in a query?**

SELECT e.name FROM employees e;

a) SELECT name FROM employees AS e

b) SELECT name FROM employees e

c) SELECT name FROM employees ALIAS e

d) SELECT name FROM employees RENAME e

4. Query Multiple Tables

4.1. Introduction to Joins

13. **What is the purpose of a join in ?**

a) To create a new table

b) To combine rows from two or more tables based on a related column

c) To update data in a table

d) To delete data from a table

4.2. Types of Joins

14. **Which join returns only the rows with matching values in both tables?**

SELECT * FROM employees INNER JOIN departments ON employees.department_id = departments.id;

a) Inner Join

b) Left Join

c) Right Join

d) Full Outer Join

4.3. Left Outer Join

15. **Which join returns all rows from the left table, and the matched rows from the right table?**

SELECT * FROM employees LEFT JOIN departments ON employees.department_id = departments.id;

a) Inner Join

b) Left Join

c) Right Join

d) Full Outer Join

4.4. Right Outer Join

16. **Which join returns all rows from the right table, and the matched rows from the left table?**

SELECT * FROM employees RIGHT JOIN departments ON employees.department_id = departments.id;

a) Inner Join

b) Left Join

c) Right Join

d) Full Outer Join

4.5. Full Outer Join

17. **Which join returns all rows when there is a match in either left or right table**

SELECT * FROM employees FULL OUTER JOIN departments ON employees.department_id = departments.id;

a) Inner Join

b) Left Join

c) Right Join

d) Full Outer Join

4.6. ANSI Join Syntax

18. **Which of the following is the correct ANSI join syntax?**

SELECT * FROM employees JOIN departments ON employees.department_id = departments.id;

a) SELECT * FROM employees, departments WHERE employees.department_id = departments.id;

b) SELECT * FROM employees JOIN departments ON employees.department_id = departments.id;

c) SELECT * FROM employees INNER JOIN departments USING department_id;

d) SELECT * FROM employees LEFT JOIN departments USING department_id;

4.7. Self-Join

19. **What is a self-join?**

a) A join of a table with another table

b) A join of a table with itself

c) A join that returns only distinct rows

d) A join that combines columns from two different databases

4.8. Equi and Non-equi Join

20. **What is an equi join?**

a) A join using any comparison operator except =

b) A join that uses the equality operator (=) for matching rows

c) A join that returns unmatched rows from both tables

d) A join that combines more than two tables

4.9. Set Operations

21. **Which set operation combines the result sets of two queries and removes duplicates?**

```
SELECT name FROM employees
UNION
SELECT name FROM departments;
```

a) UNION

b) UNION ALL

c) INTERSECT

d) EXCEPT

5. Functions in

5.1. String Functions

22. **Which function concatenates two or more strings in ?**

```
SELECT CONCAT(first_name, ' ', last_name) AS full_name FROM employees;
```

a) CONCAT

b) SUBSTRING

c) UPPER

d) LENGTH

5.2. Numeric Functions

23. **What does the ABS function return?**

SELECT ABS(-123) AS absolute_value;

a) The ceiling value of a number

b) The floor value of a number

c) The absolute value of a number

d) The rounded value of a number

5.3. Date Functions

24. **Which function returns the current date in ?**

SELECT CURDATE() AS current_date;

a) NOW()

b) CURDATE()

c) DATE_ADD()

d) DATEDIFF()

5.4. Aggregate Functions

25. **What does the SUM function do?**

SELECT SUM(salary) AS total_salary FROM employees;

a) Returns the maximum value in a column

b) Returns the sum of a column

c) Returns the average value of a column

d) Returns the minimum value in a column

5.5. Generate Groups

26. **Which clause is used to group rows that have the same values in ?**

SELECT department_id, COUNT(*) FROM employees GROUP BY department_id;

a) ORDER BY

b) GROUP BY

c) HAVING

d) WHERE

6. Subqueries

6.1. Subqueries

27. **Which query includes a subquery?**

SELECT * FROM employees WHERE department_id = (SELECT id FROM departments WHERE name = 'Sales');

a) Nested query

b) Compound query

c) Subquery

d) Multiquery

6.2. Correlated Subqueries

28. **What is a correlated subquery?**

a) A subquery that can be executed independently of the outer query

b) A subquery that refers to columns in the outer query

c) A subquery that always returns a single value

d) A subquery that uses aggregate functions

6.3. Non-correlated Subqueries

29. **What type of subquery can be executed independently of the outer query?**

a) Correlated subquery

b) Non-correlated subquery

c) Aggregate subquery

d) Scalar subquery

7. Advanced Queries

7.1. Views

30. **What is a view in ?**

CREATE VIEW employee_view AS SELECT id, name FROM employees;

a) A stored procedure

b) A virtual table based on the result-set of an statement

c) An index

d) A physical table

Answer: b) A virtual table based on the result-set of an SQL statement