EASY QUESTIONS (Q1–Q10)

Q1. Which of the following best describes a database?
A) A collection of unstructured files
B) A temporary storage of data
C) A structured collection of data organized for retrieval
D) A programming language for applications

Q2. Which SQL command is used to create a new database?
A) ADD DATABASE
B) CREATE DATABASE
C) NEW DATABASE
D) INSERT DATABASE

Q3. What does the `DROP DATABASE` command do?
A) Deletes all data in a table but keeps the table
B) Deletes the database and all its objects permanently
C) Creates a backup of the database
D) Renames the database

Q4. Which of the following is the correct syntax to create a MySQL user?
A) CREATE USER 'username'@'host' IDENTIFIED BY 'password';
B) NEW USER 'username' IDENTIFIED 'password';
C) ADD USER 'username'@'host';
D) CREATE ACCOUNT 'username'@'host';

Q5. Which SQL statement is used to retrieve all columns from a table named `Students`?
A) SELECT ALL FROM Students;
B) SELECT * FROM Students;
C) GET * FROM Students;
D) RETRIEVE ALL FROM Students;

Q6. Which clause is used to filter records in a SELECT query?
A) ORDER BY
B) GROUP BY
C) WHERE
D) HAVING

Q7. Which of the following is the correct syntax for sorting data by the `age` column in descending order?
A) ORDER BY age ASC;
B) ORDER BY age DESC;
C) SORT BY age DESC;
D) SORT age DESC;

Q8. Which JOIN type returns only the rows that have matching values in both tables?
A) LEFT JOIN
B) RIGHT JOIN
C) INNER JOIN
D) FULL OUTER JOIN

Q9. What is the purpose of a table in a database?
A) To store application code
B) To store structured data in rows and columns
C) To organize database schemas
D) To perform network operations

Q10. Which aggregate function returns the total number of rows?
A) SUM()
B) AVG()
C) COUNT()
D) MAX()

MEDIUM QUESTIONS (Q11–Q25)

Q11. Which of the following is a best practice for naming databases?
A) Use uppercase letters only
B) Include spaces and special characters
C) Use lowercase letters with underscores for readability
D) Use numbers only

Q12. What is the primary purpose of a database schema?
A) To store user login credentials
B) To define the logical structure of the database
C) To execute queries efficiently
D) To perform backups

Q13. Which SQL statement will insert multiple rows into a table `Students`?
A) INSERT INTO Students VALUES (1,'Alice'), (2,'Bob');
B) INSERT ALL INTO Students (1,'Alice'), (2,'Bob');
C) INSERT INTO Students (1,'Alice'); INSERT INTO Students (2,'Bob');
D) ADD ROWS INTO Students VALUES (1,'Alice'), (2,'Bob');

Q14. You want to remove the column `email` from the `Students` table. Which SQL command should you use?
A) DELETE COLUMN email FROM Students;
B) ALTER TABLE Students DROP COLUMN email;
C) DROP email FROM Students;
D) REMOVE COLUMN email FROM Students;

Q15. Which clause should be used to filter grouped data?
A) WHERE
B) HAVING
C) ORDER BY
D) DISTINCT

Q16. Which SQL command retrieves the average `age` of students in a table?
A) SELECT AVG(age) FROM Students;
B) SELECT SUM(age)/COUNT(age) FROM Students;
C) SELECT MEAN(age) FROM Students;
D) SELECT TOTAL(age)/COUNT(age) FROM Students;

Q17. Which of the following SQL statements is correct to select distinct courses from a table `Students`?
A) SELECT UNIQUE course FROM Students;
B) SELECT DISTINCT course FROM Students;
C) SELECT DIFFERENT course FROM Students;
D) SELECT ONLY course FROM Students;

Q18. You need to create a new table `Courses` with columns `course_id` and `course_name`. Which syntax is correct?
A) CREATE TABLE Courses (course_id INT, course_name VARCHAR(50));
B) NEW TABLE Courses (course_id INT, course_name VARCHAR(50));
C) ADD TABLE Courses (course_id INT, course_name VARCHAR(50));
D) INSERT TABLE Courses (course_id INT, course_name VARCHAR(50));

Q19. Which statement is true about `LEFT JOIN`?
A) Returns only rows that match in both tables
B) Returns all rows from the right table and matching rows from the left
C) Returns all rows from the left table and matching rows from the right
D) Returns Cartesian product of two tables

Q20. What will the following SQL return?

```
SELECT COUNT(*) FROM Students WHERE age > 20;
```

A) Number of students aged exactly 20
B) Total number of students aged over 20
C) Names of students over 20
D) Average age of students

Q21. Which clause is used to combine multiple sorting columns in a query?
A) ORDER BY column1 AND column2;
B) SORT column1, column2;
C) ORDER BY column1, column2;
D) SORT BY column1 AND column2;

Q22. What is the difference between `DELETE` and `DROP` in SQL?
A) `DELETE` removes table, `DROP` removes rows
B) `DELETE` removes rows, `DROP` removes table
C) Both remove table
D) Both remove rows

Q23. Which subquery type depends on the outer query for its value?
A) Single-row subquery
B) Multi-row subquery
C) Correlated subquery
D) Nested subquery

Q24. Which SQL function returns the maximum value from a column?
A) MAX()
B) TOP()
C) HIGH()
D) SUM()

Q25. Which command is used to apply privileges to a MySQL user?
A) GIVE PRIVILEGES
B) GRANT
C) ALLOW
D) PERMIT

HARD QUESTIONS (Q26–Q40)

Q26. Which of the following SQL statements correctly selects the names of students enrolled in course `CS` using a subquery?
A) `SELECT name FROM Students WHERE course_id = (SELECT course_id FROM Courses WHERE course_name='CS');`
B) `SELECT name FROM Students INNER JOIN Courses ON course_name='CS';`
C) `SELECT name FROM Students USING course='CS';`
D) `SELECT name FROM Students WHERE course='CS' IN Courses;`

Q27. What is the correct sequence for executing a SELECT query with WHERE, GROUP BY, and HAVING?
A) GROUP BY → HAVING → WHERE → SELECT
B) WHERE → GROUP BY → HAVING → SELECT
C) SELECT → WHERE → GROUP BY → HAVING
D) WHERE → HAVING → GROUP BY → SELECT

Q28. You want to retrieve students older than 20 and sort them by age ascending. Which query is correct?
A) `SELECT * FROM Students WHERE age>20 SORT BY age ASC;`

B) `SELECT * FROM Students WHERE age>20 ORDER BY age ASC;`
C) `SELECT * FROM Students FILTER age>20 ORDER BY age ASC;`
D) `SELECT * FROM Students AGE>20 ORDER BY age ASC;`

Q29. Which statement correctly calculates the total fees collected from all students?
A) `SELECT SUM(fee) FROM Students;`
B) `SELECT TOTAL(fee) FROM Students;`
C) `SELECT ADD(fee) FROM Students;`
D) `SELECT COUNT(fee) FROM Students;`

Q30. Which SQL statement adds a column `email` of type VARCHAR(50) to the `Students` table?
A) `ALTER TABLE Students ADD COLUMN email VARCHAR(50);`
B) `INSERT COLUMN email INTO Students;`
C) `UPDATE TABLE Students ADD email VARCHAR(50);`
D) `MODIFY TABLE Students ADD email VARCHAR(50);`

Q31. You want to count students per course and only show courses with more than 10 students. Which is correct?
A) `SELECT course, COUNT(*) FROM Students WHERE COUNT(*)>10 GROUP BY course;`
B) `SELECT course, COUNT(*) FROM Students GROUP BY course HAVING COUNT(*)>10;`
C) `SELECT course, COUNT(*) FROM Students HAVING COUNT(*)>10;`
D) `SELECT course, COUNT(*) FROM Students GROUP BY course WHERE COUNT(*)>10;`

Q32. What is the result of the following query?

```
SELECT Students.name, Courses.course_name
FROM Students
LEFT JOIN Courses ON Students.course_id = Courses.course_id;
```

A) Only students with matching course_id
B) All students including those without a course
C) Only courses without students
D) Cartesian product of Students and Courses

Q33. Which statement about `DISTINCT` and `GROUP BY` is correct?
A) Both always return the same result
B) `DISTINCT` removes duplicates, `GROUP BY` aggregates data
C) `DISTINCT` aggregates, `GROUP BY` removes duplicates
D) Both are interchangeable with HAVING

Q34. Which of the following is true about a correlated subquery?
A) Can execute independently of outer query
B) Executes once for the entire dataset
C) Executes for each row of outer query
D) Cannot be used with WHERE clause

Q35. You need to retrieve the second highest salary from a table `Employees`. Which approach is correct?
A) `SELECT MAX(salary) FROM Employees;`
B) `SELECT MAX(salary) FROM Employees WHERE salary < (SELECT MAX(salary) FROM Employees);`
C) `SELECT TOP 2 salary FROM Employees;`
D) `SELECT DISTINCT salary ORDER BY salary DESC LIMIT 1,1;`

Q36. Which JOIN should be used to return all records from both tables even if there is no match?
A) INNER JOIN
B) LEFT JOIN
C) RIGHT JOIN
D) FULL OUTER JOIN

Q37. Which of the following SQL statements deletes all rows from `Students` but keeps the table?
A) DROP TABLE Students;
B) DELETE FROM Students;
C) TRUNCATE DATABASE Students;
D) REMOVE ALL FROM Students;

Q38. You want to rename a column `age` to `student_age` in `Students`. Which statement is correct?
A) `ALTER TABLE Students RENAME COLUMN age TO student_age;`
B) `RENAME COLUMN Students.age TO student_age;`
C) `MODIFY COLUMN age AS student_age;`
D) `UPDATE COLUMN age TO student_age;`

Q39. Which of the following SQL statements is used to revoke all privileges from a user `pankaj`?
A) REVOKE ALL PRIVILEGES ON . FROM 'pankaj'@'localhost';
B) REMOVE ALL PRIVILEGES FOR 'pankaj';
C) DENY ALL PRIVILEGES ON . TO 'pankaj';
D) DELETE USER PRIVILEGES 'pankaj';

Q40. Which of the following commands ensures that new privileges granted take effect immediately?
A) APPLY PRIVILEGES;
B) REFRESH PRIVILEGES;
C) FLUSH PRIVILEGES;
D) UPDATE PRIVILEGES;