1.What is SQL?

Structured query language (SQL) is a programming language for storing and processing information in a relational database. A relational database stores information in tabular form, with rows and columns representing different data attributes and the various relationships between the data values. You can use SQL statements to store, update, remove, search, and retrieve information from the database. You can also use SQL to maintain and optimize database performance.

2.what are the different types of sql commands explain briefly?

SQL commands can be categorized into several types based on their functionality. Here are the main types of SQL commands:

Data Definition Language (DDL):

CREATE: Creates a new table, view, or other database object.

Example: CREATE TABLE employees (id INT, name VARCHAR(100), age INT);

ALTER: Modifies an existing database object, such as adding or dropping columns in a table.

Example: ALTER TABLE employees ADD COLUMN email VARCHAR(100);

DROP: Deletes an existing database object like a table or view.

Example: DROP TABLE employees;

TRUNCATE: Removes all records from a table, but the table structure remains.

Example: TRUNCATE TABLE employees;

Data Manipulation Language (DML):

SELECT: Retrieves data from one or more tables.

Example: SELECT * FROM employees WHERE age > 30;

INSERT: Adds new records to a table.

Example: INSERT INTO employees (name, age) VALUES ('Alice', 25);

UPDATE: Modifies existing records in a table.

Example: UPDATE employees SET age = 26 WHERE name = 'Alice';

DELETE: Removes records from a table.

Example: DELETE FROM employees WHERE name = 'Alice';

Data Control Language (DCL):

GRANT: Gives a user permission to perform certain tasks.

Example: GRANT SELECT ON employees TO user1;

REVOKE: Removes previously granted permissions.

Example: REVOKE SELECT ON employees FROM user1;

Transaction Control Language (TCL):

COMMIT: Saves all changes made during the current transaction.

Example: COMMIT;

ROLLBACK: Undoes all changes made during the current transaction.

Example: ROLLBACK;

SAVEPOINT: Sets a savepoint within a transaction to which you can later roll back.

Example: SAVEPOINT savepoint1;

RELEASE SAVEPOINT: Removes a savepoint.

Example: RELEASE SAVEPOINT savepoint1;

Data Query Language (DQL):

SELECT: Though often categorized under DML, it is sometimes placed in its own category because it specifically deals with querying data.

Example: SELECT name, age FROM employees;