1. **What do you understand By Database**

A database is a structured collection of data organized into tables, columns, and rows. It allows efficient storage, retrieval, management, and manipulation of information. Databases are fundamental to various applications, from customer relationship management (CRM) to financial systems to e-commerce platforms.

1. **What is Normalization?**

Normalization is a process of organizing database tables to minimize data redundancy (duplication) and improve data integrity. By following normalization rules (First Normal Form, Second Normal Form, Third Normal Form, and Boyce-Codd Normal Form), you create a well-structured database that's easier to maintain and query.

1. **What is Difference between DBMS and RDBMS?**

DBMS (Database Management System): A DBMS is a software application that allows users to create, manage, and interact with databases. It provides tools for defining the database schema (structure), storing and retrieving data, ensuring data security, and controlling access. Examples include MySQL, Oracle, Microsoft SQL Server, and PostgreSQL.

RDBMS (Relational Database Management System): An RDBMS is a specific type of DBMS that follows the relational model. The relational model uses tables with rows and columns, and relationships between tables are established through foreign keys. RDBMSs are the most widely used type of DBMS due to their efficiency, flexibility, and data integrity features.

1. **What is MF Cod Rule of RDBMS Systems?**

**5. What do you understand By Data Redundancy?**

Data redundancy is the presence of duplicate data within a database. This can lead to wasted storage space, inconsistencies when updating data, and difficulties in enforcing data integrity. Normalization helps to minimize redundancy and ensure that data is stored in a single, authoritative location.

**6. What is DDL Interpreter?**

The Data Definition Language (DDL) is used to create, modify, and delete database objects like tables, views, indexes, and users. The DDL interpreter is a component of the DBMS that parses and executes DDL statements. It defines the structure of the database and how the data will be organized.

**7. What is DML Compiler in SQL?**

The Data Manipulation Language (DML) is used to insert, update, delete, and retrieve data from a database. The DML compiler is a component of the DBMS that translates DML statements (like INSERT, UPDATE, DELETE, and SELECT) into low-level instructions that the database engine can understand to manipulate the data.

**8. What is SQL Key Constraints writing an Example of SQL Key Constraints**

SQL key constraints are rules enforced within a database table to ensure data integrity and maintain consistency. They define validation rules for columns and relationships between tables. Here are some common key constraints:

PRIMARY KEY: A column or a set of columns that uniquely identifies each row in a table. A table can only have one primary key. It cannot contain NULL values.

UNIQUE: A constraint that ensures all values in a column (or set of columns) are distinct. A table can have multiple unique constraints, but no duplicate values are allowed within each unique constraint.

FOREIGN KEY: A column (or set of columns) in one table that references the primary key of another table. This establishes a relationship between tables and helps to maintain data integrity. A foreign key value must either match a primary key value in the referenced table or be NULL.

Example:

CREATE TABLE Customers (

CustomerID INT PRIMARY KEY AUTO\_INCREMENT,

CustomerName VARCHAR(255) NOT NULL,

Email VARCHAR(255) UNIQUE,

OrderID INT FOREIGN KEY (OrderID) REFERENCES Orders(OrderID)

);

In this example:

CustomerID is the primary key, ensuring unique identification for each customer.

Email is unique, preventing duplicate email addresses.

OrderID is a foreign key referencing the OrderID in the Orders table, establishing a link between customers and their orders.

**9. What is save Point? How to create a save Point write a Query?**

A savepoint is a temporary marker within a transaction that allows you to rollback changes made to the database since that point. This is useful for complex transactions where you might want to undo a portion of the operation if it fails.

**10.What is trigger and how to create a Trigger in SQL?**

A trigger is a special type of stored procedure that automatically executes a set of SQL statements in response to specific events on a table, such as INSERT, UPDATE, or DELETE. Triggers are used