1) What is RDBMS.

RDBMS (Relational Database Management System) is software that stores, manages, and organizes data in tables with rows and columns, allowing easy access, retrieval, and relationships between the data.

2) What is SQL.

SQL (Structured Query Language) is a language used to store, manage, and retrieve data from databases.

3) Write a SQL commands.

SQL Commands are instructions used to communicate with a database. They are used to perform tasks like creating tables, inserting data, updating records, deleting data, and retrieving data.

Types of SQL Commands with Syntax & Example:

1. DDL (Data Definition Language):

Used to define or modify database structure.

i. Create a table:

Syntax:

```
CREATE TABLE table_name (
    column1 datatype,
    column2 datatype
);
```

Example:

```
CREATE TABLE students (
   id INT,
   name VARCHAR(50)
);
```

ii. DROP:

Syntax:

```
DROP TABLE table_name;
```

Example:

```
DROP TABLE students;
```

iii. ALTER:

Syntax:

```
ALTER TABLE table_name
ADD column_name datatype;
```

Example:

```
ALTER TABLE students
ADD age INT;
```

iv. TRUNCATE:

Syntax:

```
TRUNCATE TABLE table_name;
```

Example:

```
TRUNCATE TABLE students;
```

v. RENAME:

Syntax:

```
RENAME TABLE old_table_name TO new_table_name;
```

Example:

```
RENAME TABLE students TO student_info;
```

2. DML (Data Manipulation Language):

Used to manage and manipulate data in tables.

i. INSERT:

Syntax:

```
INSERT INTO table_name (column1, column2)
VALUES (value1, value2);
```

Example:

```
INSERT INTO student_info (id, name)
VALUES (1, 'Avani');
```

ii. UPDATE:

Syntax:

```
UPDATE table_name
SET column1 = value
WHERE condition;
```

Example:

```
UPDATE student_info
SET name = 'Avani Joshi'
WHERE id = 1;
```

iii. DELETE:

Syntax:

```
DELETE FROM table_name
WHERE condition;
```

Example:

```
DELETE FROM student_info
WHERE id = 1;
```

3. TCL (Transaction Control Language):

Used to control transactions in SQL.

i. COMMIT:

Syntax:

```
COMMIT;
```

Example:

```
DELETE FROM student_info WHERE id = 1;
COMMIT;
```

ii. SAVEPOINT:

Syntax:

SAVEPOINT savepoint_name;

Example:

SAVEPOINT sp1;

iii. ROLLBACK:

Syntax:

ROLLBACK TO savepoint_name;

Example:

ROLLBACK TO sp1;

4. DQL (Data Query Language):

Used to fetch data from the database.

i. SELECT:

Syntax:

```
SELECT column1, column2
FROM table_name
WHERE condition;
```

Example:

```
SELECT name
FROM student_info
WHERE id = 1;
```

5. DCL (Data Control Language):

Used to manage access rights.

i. GRANT:

Syntax:

GRANT SELECT ON table_name TO user;

Example:

GRANT SELECT ON student_info TO user1;

ii. REVOKE:

Syntax:

REVOKE SELECT ON table_name FROM user;

Example:

REVOKE SELECT ON student_info FROM user1;

4) What is join?

A Join in SQL is used to combine rows from two or more tables based on a related column between them.

5) Write a type of joins.

- INNER JOIN- returns matching rows from both tables.
- LEFT JOIN- returns all rows from the left table, plus matching rows from the right.
- RIGHT JOIN- returns all rows from the right table, plus matching rows from the left.
- FULL JOIN- returns all rows when there's a match in one of the tables.

6) How many Constraints and describes itself.

There are 6 constraints:

i. NOT NULL -Makes sure a column cannot have NULL (empty) values.

ii. UNIQUE - Ensures all values in a column are different.

iii. PRIMARY KEY - Uniquely identifies each row in a table.

iv. FOREIGN KEY - Links two tables by referencing the primary key of another table.

v. CHECK -Ensures values in a column meet a specific condition.

vi. DEFAULT -Sets a default value for a column if no value is provided.

7) Difference between RDBMS vs DBMS.

DBMS	RDBMS
Database Management System.	Relational Database Management System.
Stores data as files or collections.	Stores data in tables with rows and columns.
No relationship between data.	Maintains relationships between tables using keys.
Does not support constraints like primary key, foreign key.	Supports constraints like primary key, foreign key.
Example: Microsoft Access, file system.	Example: MySQL, Oracle, SQL Server.

8) What is an SQL alias?

An SQL alias is a temporary name given to a table or column to make queries easier to read or write.

Example:

Select name AS StudentName FROM Students;

- Here the StudentName is an alias for the Name column.

9) Write a query to create the table in structured query language.

```
Create Table Students (
    ID int primary key auto_increment,
    Name varchar (50),
    Age int,
    City varchar (50)
);
```

10) Write a query insert data into table.

```
INSERT INTO Students (ID, Name, Age, City)
VALUES
        (1, 'Rinal Joshi', 24, 'Gandhinagar'),
        (2, 'Deep Joshi', 25, 'Vadodara'),
        (3, 'Avani Joshi', 25, 'Ahmedabad'),
        (4, 'Pranav Joshi', 20, 'Surat');
```

11) Write a query update data into table with validation.

```
UPDATE Students
SET Age = 23
WHERE Name = 'Pranav Joshi' AND Age < 23;
```

12) Write a query delete data from table with validation.

```
DELETE FROM Students
WHERE ID = 2 AND City = 'Vadodara';
```

13) Write a query to insert new column in existing table.

```
ALTER TABLE Students
ADD COLUMN Email VARCHAR(100);
```

14) Write a query to drop table and database.

- Drop a table:

  DROP TABLE table_name;

  Ex. DROP TABLE students;

- Drop a database:

  DROP DATABASE database_name;

  Ex. DROP DATABASE SchoolDB;

15) Write a query to find max and min value from table.

- Find the maximum value in a column:
  - SELECT MAX (column_name)

    FROM table_name;
  - SELECT MAX (marks)

    FROM students;
- Find the minimum value in a column:
  - SELECT MIN (column_name)

    FROM table_name;

- SELECT MIN (age)
  FROM students;

16) Create two tables named Seller and product apply foreign key in product table fetch data from both tables using different joins.

//Seller table

```
CREATE TABLE Seller (
    Seller_ID INT PRIMARY KEY,
    Seller_Name VARCHAR (100),
    Location VARCHAR (100)
);
```

//Product table

```
CREATE TABLE Product (
    Product_ID INT PRIMARY KEY,
    Product_Name VARCHAR (100),
    Price DECIMAL (10, 2),
    Seller_ID INT,
    FORIGN KEY (Seller_ID)
    REFERENCES Seller (Seller_ID)
);
```

//Insert data (seller)

```
INSERT INTO Seller (Seller_ID, Seller_Name, Location)
VALUES
        (1, ‘Ravi Traders’, ‘Ahmedabad’),
        (2, ‘Kiran Electronics’, ‘Mumbai’),
        (3, ‘ Tech World’ ,‘Delhi’);
```

//Insert data (Product)

```
INSERT INTO Product (Product_ID, Product_Name, Price, Seller_ID)
VALUES
        (101, 'Laptop', 50000.00, 1),
        (102, 'Mobile', 15000.00, 2),
        (103, 'Headphones', 2000.00, 3),
        (104, 'Monitor', 7000.00, 1);
```

// Fetch data using different joins

//INNER JOIN

```
SELECT Product.ProductName, Product.Price, Seller.SellerName, Seller.City
FROM Product
INNER JOIN Seller ON Product.SellerID = Seller.SellerID;
```

//LEFT JOIN

```
SELECT Product.ProductName, Product.Price, Seller.SellerName, Seller.City
```

```
FROM Product
LEFT JOIN Seller ON Product.SellerID = Seller.SellerID;
```

//RIGHT JOIN

```
SELECT Product.ProductName, Product.Price, Seller.SellerName, Seller.City
FROM Product
RIGHT JOIN Seller ON Product.SellerID = Seller.SellerID;
```

//FULL JOIN

```
SELECT Product.ProductName, Product.Price, Seller.SellerName, Seller.City
FROM Product
FULL OUTER JOIN Seller
ON Product.SellerID = Seller.SellerID;
```

17) What is API testing?

API Testing means testing the Application Programming Interface to check whether it works correctly or not.

API Testing is the process of checking whether different software applications can communicate with each other correctly. It verifies how one program sends and receives data from another without using a user interface.

18) Types of API testing.

There are mainly 3 types of API testing:

1) Open APIs:

These types of APIs are publicly available to use like OAuth APIs from Google. It has also not given any restriction to use them. So, they are also known as public APIs.

2) Partner APIs:

Specific rights or license to access this type og API because they are not available to the public.

3) Internal APIs:

Internal or private. These APIs are development by companies to use in their internal system. It helps you to enhance the productivity of your teams.

19) What is Responsive testing?

Responsive testing is the process of checking whether a website or application looks and works well on different screen sizes and devices like mobiles, tablets, laptops, and desktops.

It ensures that the layout, images, text, and buttons adjust smoothly and remain user-friendly on all devices.

20) Which type of tools are available for responsive testing?

1) LT Browser
2) LambdaTest
3) Google Resizer
4) Am I Responsive
5) Pixel Tuner

21) What is the full from of .ipa and .apk .

. ipa - iOS App Store Package.

.apk - Android Package Kit.

22) How to create step for to open the developer option mode ON?

- Go to Settings.
- Scroll down and tap on “About phone”.
- Tap on “Software Information”.
- Find the Build number.
- Tap the Build number 7 times continuously.
- Enter your PIN.
- A message will appear: “You are now a developer!”