**Module-4 Database**

 What is RDBMS

A Relational Database Management System (RDBMS) is a software application that manages and controls a relational database. It allows users to store, manage, query, and retrieve data organized in tables with rows and columns.

 What is SQL

SQL stands for Structured Query Language. It's a standardized programming language used to manage and manipulate relational databases. SQL allows users to query, modify, and manage data within these databases,

 Write SQL Commands

**SQL Commands are mainly categorized into five categories:**

* **DDL**– Data Definition Language
* **DQL**– Data Query Language
* **DML**– Data Manipulation Language
* **DCL**– Data Control Language
* **TCL**– Transaction Control Language

 What is join?

a JOIN clause combines rows from two or more tables based on a related column between them. This allows you to retrieve data that spans multiple tables and establish relationships between them.

 Write type of joins.

There are four main types of JOINs in SQL: INNER JOIN, OUTER JOIN, CROSS JOIN, and SELF JOIN

 How Many constraint and describes it self

There are five main types of constraints in relational databases: PRIMARY KEY, FOREIGN KEY, UNIQUE, CHECK, and NOT NULL. These constraints help ensure data integrity and consistency.

1. Primary Key: This constraint identifies each row uniquely within a table. It enforces that the primary key column(s) cannot contain NULL values and must have unique values across all rows.

2. Foreign Key: This constraint establishes a relationship between two tables by referencing the primary key of another table. It ensures that values in the foreign key column(s) in one table exist as values in the primary key column(s) of the related table.

3. Unique: This constraint prevents duplicate values in one or more columns within a table. It ensures that each value in the specified column(s) is unique across all rows.

4. Check: This constraint defines a condition that must be met for values in a column. It ensures that all data entered into the column adheres to the specified condition or predicate.

5. Not Null: This constraint prevents NULL values from being entered into a column. It ensures that all rows in the table have a value for the specified column.

 Difference between RDBMS vs DBMS

|  |  |  |
| --- | --- | --- |
| **Feature** | **DBMS** | **RDBMS** |
| Data Structure | Can store data in various formats (hierarchical, network, etc.) | Stores data in tables with relationships |
| Relationships | May not enforce relationships | Enforces relationships between tables using keys |
| Query Language | May use different query languages | Uses SQL (Structured Query Language) |
| Data Integrity | May not prioritize data consistency | Enforces data consistency through constraints |
| Examples | Windows registry, XML | MySQL, PostgreSQL, Oracle |

 What is an SQL alias?

In SQL, an alias is a temporary, user-defined name assigned to a table or column within a query to make it easier to read, understand, and maintain

 Write a query to create the table in Structured Query Language.

The syntax for the CREATE TABLE statement is as follows: CREATE TABLE table\_name ( column1 datatype constraints, column2 datatype constraints, ... columnN datatype constraints );

 Write a query to insert data into table.

1. INSERT INTO table\_name (column1, column2, column3) VALUES ( value1, value2, value);

 Write a query to update data into table with validations.

UPDATE *table\_name*  
SET *column1*=*value1*,*column2*=*value2*, ...  
WHERE *condition*;

 Write a query to delete data from table with validations.

**DELETE FROM <table\_name> WHERE <condition>;**

 Write a query to insert new column in existing table.

ALTER TABLE *table\_name*  
ADD *column\_name datatype*;

 Write a query to drop table and database.

The syntax for the “DROP TABLE” statement is: DROP TABLE table\_name;

DROP DATABASE db\_name;

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

SELECT

MAX(column\_name) AS max\_value,

MIN(column\_name) AS min\_value

FROM

table\_name;

 Create two tables named Seller and Product apply foreign key in product table

Fetch data from both table using different joins.

SELECT

p.product\_name,

p.description,

p.price,

s.seller\_name,

s.location

FROM

Product p

INNER JOIN

Seller s ON p.seller\_id = s.seller\_id;

 What is API Testing

API testing is a type of software testing that focuses on verifying the functionality, reliability, security, and performance of Application Programming Interfaces (APIs). APIs act as connectors between different software systems, allowing them to communicate and exchange data. By testing APIs directly, developers and testers can ensure that applications integrate correctly and that data is exchanged smoothly.

 Types of API Testing

API testing encompasses various techniques to ensure an API functions correctly, performs efficiently, and remains secure. Key types include functional testing, performance testing, security testing, integration testing, and load testing.

 What is Responsive Testing?

Responsive testing verifies how a website or web application adapts to different devices, screen sizes, and resolutions, ensuring a consistent and functional user experience across various platforms. It involves evaluating the website's layout, functionality, and usability to confirm that it displays correctly and behaves as expected on desktops, laptops, tablets, and smartphones.

 Which types What is the full form of .ipa, .apk

APK stands for Android Package Kit and IPA stands for iOS App Store Package. APK is the file format used for distributing and installing applications on Android devices.

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

To activate Developer Options on an Android device, navigate to Settings, then About phone or About device. Locate the Build number and tap it seven times rapidly. After the seventh tap, a message will appear, confirming that you are now a developer. The Developer options will then appear in your Settings menu, either under System or General.