**ASSIGNMENT-3: MODULE-3**

**Que: -1- What is RDBMS?**

* **RDBMS stands for Relational Database Management System.**
* **It is a type of database management system that uses a relational model to store and manage data.**
* **In an RDBMS, data is organized into tables with rows and columns, and the relationships between the tables are defined by keys.**
* **RDBMS provides a structured and organized way to store and retrieve data, with support for data integrity, consistency, and scalability.**
* **Popular examples of RDBMS include MySQL, Oracle Database, Microsoft SQL Server, and PostgreSQL.**

**Que: -2- What is SQL?**

* **SQL stands for Structured Query Language.**
* **It is a domain-specific language used to manage and interact with relational databases.**
* **SQL allows users to define, manipulate, and retrieve data from databases using queries, making it a fundamental tool for managing and analysing data in modern database systems.**

**Que: -3- Write SQL Commands?**

* **SELECT: Retrieve data from a database table. Example:**

**SELECT column1, column2 FROM table name;**

* **INSERT: Insert new data into a database table. Example:**

**INSERT INTO table name (column1, column2) VALUES ('value1', 'value2');**

* **UPDATE: Modify existing data in a database table. Example:**

**UPDATE table name SET column1 = 'new\_value1' WHERE condition;**

* **DELETE: Remove data from a database table. Example:**

**DELETE FROM table name WHERE condition;**

* **CREATE: Create a new database table or other database objects. Example:**

**CREATE TABLE name (column1 data\_type1, column2 data\_type2);**

* **ALTER: Modify an existing database table, such as adding or deleting columns. Example:**

**ALTER TABLE name ADD column3 data\_type3;**

* **DROP: Delete an existing database table or other database objects. Example:**

**DROP TABLE name;**

* **SELECT with JOIN: Retrieve data from multiple tables using JOIN operations. Example:**

**SELECT table1.column1, table2.column2 FROM table1 INNER JOIN table2 ON table1.column\_id = table2.column\_id;**

**Que: -4- What is join?**

* **A JOIN is an operation in SQL that combines data from two or more tables in a relational database based on related columns.**
* **JOINs are used to retrieve data from multiple tables and combine them into a single result set.**
* **JOINs are essential for combining data from related tables and are commonly used in SQL queries to retrieve and combine data from multiple tables for analysis or reporting purposes.**

**Que: -5- Write type of joins?**

* **INNER JOIN: Returns only the rows where the related columns between two tables match.**
* **LEFT JOIN (or LEFT OUTER JOIN): Returns all rows from the left table and matching rows from the right table, with NULL values for unmatched rows in the right table.**
* **RIGHT JOIN (or RIGHT OUTER JOIN): Returns all rows from the right table and matching rows from the left table, with NULL values for unmatched rows in the left table.**
* **FULL JOIN (or FULL OUTER JOIN): Returns all rows from both tables, with NULL values for unmatched rows in either table.**
* **CROSS JOIN: Returns the Cartesian product of two or more tables, with all possible combinations of rows from the tables, without any condition on related columns.**

**Que: -6- How Many constraints and describes it-self?**

* **PRIMARY KEY: Uniquely identifies each row in a table.**
* **FOREIGN KEY: Refers to the primary key of another table to establish a relationship.**
* **UNIQUE: Ensures that values in a column are unique.**
* **NOT NULL: Requires a column to have a value for every row.**
* **CHECK: Defines a condition that must be true for data to be inserted or updated in a column.**
* **DEFAULT: Specifies a default value for a column if no value is provided during insertion.**

**Que: -7- Difference between RDBMS vs DBMS?**

|  |  |
| --- | --- |
| **RDBMS** | **DBMS** |
| **Stores data in a structured manner using tables with rows and columns.** | **Stores data in a less structured manner, such as in hierarchical or network models.** |
| **Supports relationships between tables using keys.** | **May not have built-in features for enforcing data integrity rules.** |
| **Enforces data integrity rules, such as referential integrity and constraints.** | **May use proprietary query languages or none at all for querying and manipulating data.** |
| **Typically uses SQL (Structured Query Language) for querying and manipulating data.** | **May be more suitable for smaller databases with simpler requirements.** |
| **Provides better scalability for handling large databases and complex transactions.** | **May have limited flexibility in data retrieval and manipulation.** |
| **Allows for flexible data retrieval and manipulation using SQL queries.** | **May have limited or no security features.** |
| **Provides advanced security features, such as user authentication, authorization, and encryption.** | **May not provide the same level of data consistency as RDBMS.** |

**Que: -8- What is API Testing?**

* **API (Application Programming Interface) testing is a type of software testing that validates the functionality, reliability, performance, and security of APIs.**
* **It involves sending requests to APIs and validating the responses to ensure they meet expected behavior, data accuracy, and performance requirements.**
* **API testing helps identify issues early in the development process, ensures smooth communication between software components, and achieves robust API integrations in applications.**

**Que: -9- Types of API Testing?**

* **Unit Testing: Validates individual code units in the API for correct behavior.**
* **Functional Testing: Verifies if the API functions as intended and returns expected responses.**
* **Performance Testing: Measures API performance and scalability under load.**
* **Security Testing: Validates API security and identifies potential vulnerabilities.**
* **Compatibility Testing: Ensures API compatibility with different devices, browsers, OS, and platforms.**
* **Error Handling Testing: Validates API error handling capabilities and appropriate error responses.**
* **Load Testing: Tests API performance and stability under high load conditions.**
* **Regression Testing: Validates API behavior after changes or updates to existing functionality.**

**Que: -10- What is Responsive Testing?**

* **Responsive testing is a type of software testing that ensures a web application or website is responsive and adapts correctly to different screen sizes, devices, and orientations.**
* **It involves verifying that the application or website displays and functions properly on desktops, laptops, tablets, and mobile devices, providing a consistent user experience across different devices.**
* **Responsive testing helps identify and fix any issues related to responsiveness, layout, and design inconsistencies, ensuring that the application or website is accessible and usable on various screens and devices.**

**Que: -11- Which types of tools are available for Responsive Testing?**

* **Browser Developer Tools: Built-in tools in modern web browsers for inspecting and emulating different screen sizes and devices.**
* **Responsive Testing Frameworks: Libraries and frameworks for building responsive web applications.**
* **Cross-Browser Testing Tools: Tools for cross-browser and cross-device testing, including responsive testing.**
* **Online Responsive Testing Tools: Web-based tools for testing web applications on different devices and screen sizes.**
* **Automated Testing Tools: Tools for automating responsive testing of web applications across devices and screen sizes.**

**Que: -12- What is the full form of .ipa, .apk ?**

* **The full form of .ipa is "iOS App Store Package"**
* **The full form of .apk is "Android Package Kit"**

**Que:- 13- How to create step for to open the developer option mode ON?**

* **Step 1: Go to the "Settings" app on your Android device.**
* **Step 2: Scroll down and select "About phone" or "About device" option.**
* **Step 3: Look for "Build number" or "Build version" in the list of options.**
* **Step 4: Tap on "Build number" or "Build version" multiple times (usually 7 times or more) in quick succession.**
* **Step 5: You will see a message indicating that you are now a developer.**
* **Step 6: Go back to the main Settings page, and you should see "Developer options" or "Developer mode" listed as an option.**
* **Step 7: Tap on "Developer options" or "Developer mode" to access and configure various developer settings on your Android device.**