**Module :- 3 Testing on live application**

⚫ What is RDBMS

Relation database management system

—All modern database management system like SQL, MS SQL, Server, IBM, DB2, ORacLE, My-SQL and Microsoft Access are based on RDBMS.

—A Relational database management system (RDBMS) is a database management system (DBMS) that is based on the relational model as introduced by E. F. Codd.

—Data is represented in terms of tuples (rows) in RDBMS.

⚫**What is table**

—Everything in a relational database is stored in the form of table.

—The RDBMS database uses table to store data.

—A table is a collation of related data entries and contains rows and columns to store data.

—Each table represents some real-world objects such as person, place, or event about which information is collected.

—The organized collection of data in to a relational table is known as the logical view of database.

**Data management system**

The data

The db engine

The data is typically stores in one or more files

Request

DB

Engine

Data

⚫ **What is SQL**

SQL is stand for “structured query language”

Every relational database software intact with a language know os SQL it’s guideline are provided by organization ANSI adopted by all database vendors .

SQL is standard language for relation database system.

**They are using different dialects, such as**

MS SQL server ising T-SQL, ANSI SQL

Oracle using PL/SQL

MS Access version of SQL is called JETSQL( native format)

⚫**Write SQL Commands**

**SQL**

DDL

DML

DCL

DQL

DDL (Data Definition Language)

| Command | Description |
| --- | --- |
| CREATE | Creates a new table, view, indexer other database objects. |
| **ALTER** | Modifies an existing database object, such as a table. |
| **DROP** | Deletes an existing database object, such as a table. |
| **TRUNCATE** | Removes all records from a table, but does not delete the table itself. |

DML (Data Manipulation Language)

| Command | Description |
| --- | --- |
| INSERT | Add a new rows to a table. |
| UPDATE | Modifies existing rows in a table. |
| DELETE | Removes rows from a table. |

DCL (Data control language)

| Command | Description |
| --- | --- |
| GRANT | Gives a user permission to perform specific action on the database. |
| REMOVE | Removes permissions granted to a user. |

DQL (Data query language)

| Command | Description |
| --- | --- |
| SELECT | Retrieves data from the database. |

⚫**What is join?**

A join clause is used to combine rows from two or more tables based on a related coulomb between them. Joins are crucial for querying relational databases because they enable the retrieval of related data spread across multiple table.

**Combining data :-**

Joins merge rows from two or more tables based on a common field.

**Related columns :-**

The tables being joined typically share at least one column with related data.

**Result set :-**

The output of a join is a new table that includes columns from all the joined table, populated with rows that satisfy the join condition.

⚫**Write type of joins**

**INNER JOIN :-** Returns only the rows that have matching values in both table.

An inner join is one of the most commonly used types of join in SQL. It returns only the rows where there is a match in both tables based bon a specified condition. If there is no match, the rows are not included in the result set.

**LEFT JOIN :-** Returns all rows from the left table and the matched rows from the right table. If no match found,NULL values are returned for columns from the right table.

Left joins are useful for retrieving all data from the primary table along with any related data from a secondary table, such as getting all customers with their orders, including those who have not made any orders.

**RIGHT JOIN :-** Returns all rows when there is a match in either left or right table. If no match is found, NULL values are returned from columns from the left table.

Right joins are useful for retrieving all data from the secondary table along with any related data from the primary table, such as getting all departments with their employees, including departments that have no employees.

**FULL JOIN :-** Returns all rows when there is a match in either left or right table. Rows without a match in either table will have NULL values.

Full join is useful for creating a comprehensive view of data from two tables, showing all relationships and identifying where data is missing in either table.

⚫**Difference between RDBMS vs DBMS**

| RDBMS | DBMS |
| --- | --- |
| An RDBMS is a specific type of DBMS that stores data in a structured format, using rows and columns (tables). It enforces the relational model of data based on the principles proposed by E.F. Codd. | A DBMS is a software system that enables users to define, create, maintain, and control access to databases. It provides an interface for users and applications to interact with the data stored in the database. |
| RDBMS strictly adheres to the relational model, which means data is organized into tables with predefined relationships between them using keys (primary keys, foreign keys). | DBMS can support various data models, including hierarchical, network, and relational models. However, it does not necessarily enforce the relational model strictly. |
| RDBMS systems use SQL (Structured Query Language) as the standard language for managing and querying the database. SQL provides a standardized way to create, retrieve, update, and delete data in relational databases. | DBMS allows for more flexibility in terms of data modeling and structuring. It can handle different types of data relationships and structures as defined by the specific DBMS. |
| Examples of RDBMS include Oracle Database, MySQL, SQL Server, PostgreSQL and IBM Db2. | Examples of DBMS include MongoDB (a NoSQL database), Microsoft Access, SQLite, and PostgreSQL |

⚫ **What is API Testing**

API testing is a type of software testing that focuses on verifying that application programming interface meet expectations for functionality, reliability, performance, and security, since APIs server as the backbone for software systems, enabling different software components to communicate with each other, ensuring their proper functioning is crucial.

**Steps in API Testing**

—Read and understand the API documentation to know the available endpoints, request methods, parameters, request/ response formats, and authentication mechanisms.

—Configure the test environment to simulate the production environment as closely as possible.

—Identify and document test cases, including positive scenarios and negative scenarios.

—Automate test cases using API testing tools or scripting languages.

—Check the response status codes, headers, and body content.

—Document any defects or inconsistencies found during testing.

⚫**Types of API Testing**

**Open APIs :**

Open APIs, also known as public APIs, are application programming interfaces that are publicly available to developers and other users with minimal restrictions. Open APIs enable the integration of third-party applications and services, fostering innovation and expanding the functionality of existing systems.

Examples : goole maps API, twitter API, Facebook graph API, Spotify API, open weather map API.

**Partner APIs :**

Partner APIs are a type of application programming interface that is intended to be shared with strategic business partners. Unlike open APIs which are publicity available, partner APIs are usually shared with a select group of partners who have a business relationship with API provider.

Example : payment gateway, logistics and shipping, social media platforms, travel and hospitality, cloud services.

**Internal APIs :**

Internal APIs, also known as private APIs or enterprise APIs, are application programming interfaces that are developed and used within a specific organization or enterprise. Internal APIs play a crucial role in enabling efficient integration, collaboration, and automation within an organization's IT infrastructure.

Example : enterprise resource planning integration, customer relationship management integration, HR system integration.

⚫ **What is Responsive Testing?**

Responsive testing refers to the process of evaluating and ensuring that a website or web application behaves correctly and displays properly across a variety of devices, screen sizes, orientations, and browsers.

The goal of responsive testing is to confirm that the user experience remains consistent and satisfactory regardless of the device being used to access the website or application.

—Responsive testing verifies that the website or application renders correctly on various devices such as desktops, laptops, tablets, and smartphones. This includes checking different screen sizes and resolutions.

—Testing involves rotating devices to ensure that the content adapts dynamically and maintains usability.

—Responsive testing includes checking how the website or application appears and functions across different web browsers and their various versions.

⚫**Which types of tools are available for Responsive Testing**

LT Browser : It seems like you're referring to a "lightweight browser"which typically refers to a web browser that is designed to be minimalistic, fast, and consume fewer system resources compared to traditional web browsers like Chrome, Firefox, or Safari.

Lambda testing : LambdaTest is a cloud-based platform that provides a scalable infrastructure for cross-browser compatibility testing of web applications. It allows developers and testers to run automated and manual tests on a wide range of browsers, operating systems, and devices in the cloud.

Google resizer : Google Resizer was a web tool provided by Google that allowed developers and designers to test how responsive their websites or web applications were across different devices and screen sizes.

I am responsive : It sounds like you're referring to the concept of being "responsive" in a personal or professional context. Being responsive generally means being attentive, prompt, and proactive in your interactions and communications with others.

Pixel tuner : Pixel Tuner is an application developed by Google specifically for their Pixel smartphones. It is designed to provide users with advanced controls over certain aspects of the camera settings that are not typically available in the standard camera interface.

⚫**What is the full form of .ipa, .apk**

**Full name**  .ipa :- iOS App Store Package

**Platform**  iOS (apple devices)

**Full name** .apk :- android application package

**Platform** aAndroid (googles mobile operating system)

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

To enable Developer Options on an Android device, follow these general steps.

— Open Settings Go to the home screen of your Android device and find the Settings app. It's usually represented by a gear icon.

—Scroll down to find "About phone" or "About device" and tap on it. This option is typically located towards the bottom of the Settings menu.

—In the "About phone" section, scroll down again to find "Build number." This is usually at the bottom of the list under the "Software information" or similar heading.

—Tap on "Build number" seven times in quick succession. You will see a message like "You are now X steps away from being a developer" after each tap.

—If prompted, enter your device's PIN or password to confirm your action.

—After tapping the Build number seven times, you should see a message that says "Developer mode has been enabled" or similar.

—Now, go back to the main Settings menu. Scroll down or search for "Developer options" (it may also appear as "System" > "Advanced" > "Developer options" depending on your device).

—Toggle the switch at the top of the Developer options screen to enable it. You might also be prompted to confirm enabling Developer Options.

—Once enabled, you can explore various settings and options available under Developer Options. Be cautious with these settings as they can affect how your device operates.

—To further secure your device, you can disable Developer Options once you've configured any settings you need. This prevents accidental changes.