**Software Testing**

**(Module – 3) Testing On Live Application**

**Assignment – 4**

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* **What is RDBMS?**

Rdbms is stands for the Relational Database Management System.

An RDBMS is a type of [database management system](https://searchsqlserver.techtarget.com/definition/database-management-system) (DBMS) that stores data in a row-based table structure which connects related data elements.

 RDBMS is a program used to maintain a relational database. RDBMS is the basis for all modern database systems such as MySQL, Microsoft SQL Server, Oracle, and Microsoft Access. RDBMS uses SQL queries to access the data in the database.

* **What is SQL?**

SQL stands for Structured Query language.

SQL is a database language designed for the retrieval and management of data in a relational database.

SQL is a language of database, it includes database creation, deletion, fetching rows and modifying rows in database records. SQL can do lots of other operations, including optimizing and maintenance of databases.

All the RDBMS systems like MySQL, MS Access, Oracle, and SQL Server use SQL as their standard database language. SQL programming language uses various commands for different operations.

* **Write SQL Commands.**

Here are five types of widely used SQL queries.

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

1. Data Definition Language (DDL)

- CRERATE

- ALTER

- DROP

2. Data Manipulation Language (DML)

- INSERT

- UPDATE

- DELETE

3. Data Control Language (DCL)

- GRANT

- REVOKE

4. Transaction Control Language (TCL)

- COMMIT

- REVOKE

- SAVE POINT

5. Data Query Language (DQL)

- SELECT

* **What is Join?**

**SQL Join** statement is used to combine data or rows from two or more tables.

 It means of combining data in fields from two tables by using values common to each table.

The tables are mutually related using primary and foreign keys.

* **Write type of Joins.**

There are different types of joins are described as below.

1. INNER JOIN: - The most frequently used and important of the joins is the INNER JOIN.



The inner JOIN is used to return rows from both tables that satisfy the given condition or have matching values in tables. The INNER JOIN creates a new result table by combining column values of two tables based upon the join-predicate.

Syntax: - SELECT table1.column1, table2.column2 FROM table1 INNER JOIN table2 ON table1.common\_filed = table2.common\_field;

2. LEFT JOIN: - The SQL LEFT JOIN returns all rows from the left table, even if there are no matches in the right table. This means that a left join returns all the values from the left table, plus matched values from the right table or NULL.



Syntax: - SELECT table1.column1, table2.column2 FROM table1 LEFT JOIN table2 ON table1.common\_filed = table2.common\_field;

3. RIGHT JOIN: - The SQL RIGHT JOIN returns all rows from the right table, even if there are no matches in the left table. This means that a right join returns all the values from the right table, plus matched values from the left table or NULL.



Syntax: - SELECT table1.column1, table2.column2 FROM table1 RIGHT JOIN table2 ON table1.common\_filed = table2.common\_field;

4. FULL JOIN: - The SQL FULL JOIN combines the results of both left and right outer joins. The joined table will contain all records from both tables, and fill in NULLs for missing matches on either side.



Syntax: - SELECT table1.column1, table2.column2 FROM table1 FULL JOIN table2 ON table1.common\_filed = table2.common\_field;

* **How Many constraints and describes it self.**

In DBMS, constraints refer to limitations placed on data or data processes. This indicates that only a particular type of data may be entered into the database or that only a particular sort of operation can be performed on the data inside.

Types of constraints are describes below

1. Domain Constraints: - In a database table, domain constraints are guidelines that specify the acceptable values for a certain property or field. These restrictions guarantee data consistency and aid in preventing the entry of inaccurate or inconsistent data into the database.

2. Key Constraints: - Key constraints are regulations that a DBMS uses to ensure data accuracy and consistency in a database. They define how the values in a table's one or more columns are related to the values in other tables, making sure that the data remains correct.

## 3. Entity Integrity Constraints: - A database management system uses entity integrity constraints (EICs) to enforce rules that guarantee a table's primary key is unique and not null. The consistency and integrity of the data in a database are maintained by EICs, which are created to stop the formation of duplicate or incomplete entries.

## 4. Referential Integrity Constraints: - A database management system will apply referential integrity constraints (RICs) in order to preserve the consistency and integrity of connections between tables. by preventing links between entries that don't exist from being created or by removing records that have related records in other tables, RICs guarantee that the data in a database is always consistent.

## 5. Tuple Uniqueness Contraints: - A database management system uses constraints called tuple uniqueness constraints (TUCs) to make sure that every entry or tuple in a table is distinct. TUCs impose uniqueness on the whole row or tuple, in contrast to Entity Integrity Constraints (EICs), which only enforce uniqueness on certain columns or groups of columns.

## Difference between RDBMS vs DBMS

|  |  |
| --- | --- |
| **RDBMS** | **DBMS** |
| [RDBMS](https://www.geeksforgeeks.org/rdbms-architecture/) stores data in tabular form. | [DBMS](https://www.geeksforgeeks.org/introduction-of-dbms-database-management-system-set-1/) stores data as file. |
| It uses a tabular structure where the headers are the column names, and the rows contain corresponding values. | It stores data in either a navigational or hierarchical form. |
| It deals with large amount of data. | It deals with small quantity of data. |
| Data is stored in the form of tables which are related to each other. | No relationship between data. |
| Data fetching is fast because of relational approach. | Data fetching is slower for the large amount of data. |
| There exist multiple levels of data security in a RDBMS. | The data in a DBMS is subject to low security levels with regards to data manipulation. |
| It offers optimized query execution strategies for complex SQL queries involving joins, sub queries, and aggregations. | It may have limitations in query optimization |
| RDBMS often includes tools and utilities for data migration, backup, and recovery. | DBMS may have fewer built-in tools for data migration and backup. |

## What is API Testing?

## Application Programming Interface (API) is a software interface that allows two applications to interact with each other without any user intervention.

## Another definition, API (Application Programming Interface) is a computing interface which enables communication and data exchange between two separate software systems. The purpose of API Testing is to check the functionality, reliability, performance, and security of the programming interfaces.

## In API Testing, instead of using standard user inputs (keyboard) and outputs, you use software to send calls to the API, get output, and note down the system’s response. API tests are very different from GUI Tests and won’t concentrate on the look and feel of an application.

## Types of API Testing

## There are mainly 3 types of API Testing.

* 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.
* Partner APIs: Specific rights or licenses to access this type of API because they are not available to the public.
* Internal APIs: Internal or private. These APIs are developed by companies to use in their internal systems. It helps you to enhance the productivity of your teams.

## What is Responsive Testing?

## The term responsive testing is a range of activities that involve it to check whether the website or any application is behaving in the right way after it is launched on different gadgets and screen sizes.

## A responsive web design involves creating a flexible web page that is accessible from any device, starting from a mobile phone to a tablet.

## The tests used to check whether the user interface changes dynamically in response to different screen resolutions, device orientations, and capabilities act as one of the major aims of testing.

## A responsive web design improves users’ browsing experience.

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

There are many different types of responsiveness testing tools available to test a website or web application for responsive testing.

1. Lembda Testing: This is a cross-browser testing tool which allows users to test more than 22,000 browsers, mobile, and OS combinations. You get a separate tab for Responsive testing under Visual UI Test, where you can see the responsiveness of your site on varied devices and screen sizes.

2. Am I Responsive: It allows different sizes to be compared directly. You can drag the “Am I Responsive?” bookmark let to your bookmarks toolbar to test the responsiveness of any site directly in the browser. You can perform scrolling of websites inside the devices.

3. Browser Stack: BrowserStack is a cross-platform web browser testing tool that allows users to test their websites and mobile applications on different browsers and operating systems. It is available as a cloud-based service or as an on-premise solution.

4. ViewPort Resizer: With the use of this tool, you can create customized resolutions to review website in all default sizes. This one is the completely user-friendly tool through which you can easily choose for varying range of screen resolutions.

* What is the full form of .ipa, .apk
* Full Form of APK

APK file stands for (Android Application Package). APK is a file extension of an Android device. APK files can normally be used in Android and a number of other Android-based Operating Systems for the distribution and installation of mobile apps and mobile games.

* Full form of IPA

iOS App Store Package. An IPA (iOS App Store Package) file is an iOS application archive file that stores an iOS app. Each IPA file includes a binary and can only be installed on an iOS device.

* **How to create step for to open the developer option mode ON?**
* Go to Settings: Open the Settings app on your Android device. You can usually find it in the app drawer or by swiping down from the top of the screen and tapping the gear icon.
* Scroll Down: Scroll down the settings menu until you find an option called "About phone" or "About device." This option may be located under different headings depending on your device, but it typically contains information about your device, such as model number and software version.
* Tap on "About Phone": Once you find "About phone" or a similar option, tap on it to open.
* Find "Build Number" or "Software Information": In the "About phone" section, look for an option called "Build number" or "Software Information." This option might be located at the bottom of the list.
* Tap "Build Number" Repeatedly: Tap on "Build number" repeatedly (usually about 7 times). You'll see a message saying something like "You are now X steps away from being a developer" with a countdown.
* Enter Your PIN or Password: If prompted, enter your device's PIN, password, or pattern to confirm your action.
* Developer Options Enabled: After tapping on "Build number" enough times, you'll see a message saying "You are now a developer!" or similar. This means that Developer Options has been enabled on your device.

## Access Developer Options: Now, go back to the main settings menu. You'll see a new option called "Developer options" or "System" with Developer Options underneath it. Tap on it to access the Developer Options menu.