

SOFTWARE TESTING ASSIGNMENT

Module-3(Testing on live application)

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.

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 analyzing data in modern database systems.

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 table_name (column1 data_type1, column2 data_type2);
```

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

```
ALTER TABLE table_name ADD column3 data_type3;
```

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

```
DROP TABLE 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;
```

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.

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.

6. How Many constraint 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.

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.
Ensures data consistency through ACID properties (Atomicity, Consistency, Isolation, Durability).	

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.

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.

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.

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.

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".

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.