Module 3
(Testing on Live Application)

1. What is RDBMS

- **RDBMS** stands for *Relational Database Management System*
- A relational database management system (RDBMS) is a program used to create, update, and manage relational databases.
- All modern database management systems like SQL, MS SQL Server, IBM DB2, ORACLE, My-SQL, and Microsoft Access are based on RDBMS.
- It is called Relational Database Management System (RDBMS) because it is based on the relational model introduced by E.F. Codd.

2. What is SQL

- SQL stands for Structured Query Language
- SQL is a standard language for accessing and manipulating databases.
- SQL (Structured Query Language) is used to perform operations on the records stored in the database, such as updating records, inserting records, deleting records, creating and modifying database tables, views, etc.
- SQL is not a database system, but it is a query language. Suppose you want to perform the queries of SQL language on the stored data in the database. You are required to install any database management system in your systems, for example, Oracle, MySQL, MongoDB, PostgreSQL, SQL Server, DB2, etc.
- This database language is mainly designed for maintaining the data in relational database management systems. It is a special tool used by data professionals for handling structured data (data which is stored in the form of tables). It is also designed for stream processing in RDSMS.

3. Write SQL Commands

- SQL commands are the instructions used to communicate with a database to perform tasks, functions, and queries with data.
- SQL commands can be used to search the database and to do other functions like creating tables, adding data to tables, modifying data, and dropping tables.
- The most common SQL commands which are highly used are mentioned below:

CREATE Command
This command helps in creating the new database, new table, table view, and other objects of the database.

UPDATE Command
This command helps in updating or changing the stored data in the database.

DELETE Command
This command helps in removing or erasing the saved records from the database tables. It erases single or multiple tuples from the tables of the database.

SELECT Command
This command helps in accessing the single or multiple rows from one or multiple tables of the database. We can also use this command with the WHERE clause.

DROP Command
This command helps in deleting the entire table, table view, and other objects from the database.

INSERT Command
This command helps in inserting the data or records into the database tables. We can easily insert the records in single as well as multiple rows of the table.

4. What is join?

- The SQL JOIN is a command clause that combines records from two or more tables in a database.
- It is a means of combining data in fields from two tables by using values common to each table.

5. Write type of joins.

- SQL Join Types

  i. **INNER JOIN**: returns rows when there is a match in both tables.
  ii. **LEFT JOIN**: returns all rows from the left table, even if there are no matches in the right table.
  iii. **RIGHT JOIN**: returns all rows from the right table, even if there are no matches in the left table.
  iv. **FULL JOIN**: returns rows when there is a match in one of the tables.

6. How Many constraints and describes it self

- Constraints in SQL means we are applying certain conditions or restrictions on the database.
- SQL constraints are used to specify rules for the data in a table.
- Constraints are used to limit the type of data that can go into a table. This ensures the accuracy and reliability of the data in the table

Constraints available in SQL are:

1. NOT NULL

- NULL means empty, i.e., the value is not available.
- Whenever a table's column is declared as NOT NULL, then the value for that column cannot be empty for any of the table's records.
- There must exist a value in the column to which the NOT NULL constraint is applied

2. UNIQUE

- Duplicate values are not allowed in the columns to which the UNIQUE constraint is applied.
- The column with the unique constraint will always contain a unique value.
- This constraint can be applied to one or more than one column of a table, which means more than one unique constraint can exist on a single table.
- Using the UNIQUE constraint, you can also modify the already created tables.

3. PRIMARY KEY

- PRIMARY KEY Constraint is a combination of NOT NULL and Unique constraints.
- NOT NULL constraint and a UNIQUE constraint together forms a PRIMARY constraint.
- The column to which we have applied the primary constraint will always contain a unique value and will not allow null values.

4. FOREIGN KEY

- A foreign key is used for referential integrity.
- When we have two tables, and one table takes reference from another table, i.e., the same column is present in both the tables and that column acts as a primary key in one table. That particular column will act as a foreign key in another table.

5. CHECK

- Whenever a check constraint is applied to the table's column, and the user wants to insert the value in it, then the value will first be checked for certain conditions before inserting the value into that column.

6. DEFAULT

- Whenever a default constraint is applied to the table's column, and the user has not specified the value to be inserted in it, then the default value which was specified while applying the default constraint will be inserted into that particular column.

7. CREATE INDEX

- CREATE INDEX constraint is used to create an index on the table. Indexes are not visible to the user, but they help the user to speed up the searching speed or retrieval of data from the database.

7. Difference between RDBMS vs DBMS

DBMS	RDBMS
DBMS applications store data as file.	RDBMS applications store data in a tabular form.
In DBMS, data is generally stored in either a hierarchical form or a navigational form.	In RDBMS, the tables have an identifier called primary key and the data values are stored in the form of tables.
Normalization is not present in DBMS.	Normalization is present in RDBMS.
DBMS does not apply any security with regards to data manipulation.	RDBMS defines the integrity constraint for the purpose of ACID (Atomocity, Consistency, Isolation and Durability) property.
DBMS uses file system to store data, so there will be no relation between the tables.	in RDBMS, data values are stored in the form of tables, so a relationship between these data values will be stored in the form of a table as well.
DBMS has to provide some uniform methods to access the stored information.	RDBMS system supports a tabular structure of the data and a relationship between them to access the stored information.
DBMS does not support distributed database.	RDBMS supports distributed database.
DBMS is meant to be for small organization and deal with small data. it supports single user.	RDBMS is designed to handle large amount of data. it supports multiple users.
Examples of DBMS are file systems, xml etc.	Example of RDBMS are mysql, postgre, sql server, oracle etc.

8. 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
- 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.

9. 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.

10. What is Responsive Testing?

- Responsive testing involves how a website or web application looks and behaves on different devices, screen sizes, and resolutions.
- The goal of responsive testing is to ensure that the website or web application can be used effectively on various devices, including desktops, laptops, tablets, and smartphones.

11. Which types of tools are available for Responsive Testing

- Responsive Testing Tools

    i. LT Browser
    ii. Lembda Testing
    iii. Google Resizer
    iv. I am responsive
    v. Pixel tuner

12. What is the full form of .ipa, .apk

.ipa is iOS package App Store.

.apk is Android Application Package.

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

To access developer options on your Android phone

1. Step 1: Go to Settings > About phone.
2. Step 2: Scroll down to Build number.
3. Step 3: Tap Build number seven times. ...
4. Step 4: Once developer options are activated, you will see a message that reads, You are now a developer.