**MODULE – 3 (Testing on Live Application)**

**Q.1 What is RDBMS?**

**Ans.** RDBMS stands for Relational Database Management System. RDBMS is the basis for SQL, and for all modern database systems like MS SQL Server, IBM DB2, Oracle, MySQL, and Microsoft Access.

* 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.
* Most of today's databases are relational:
  + Data base contains 1 or more tables.
  + Table contains 1 or more records.
  + Records contains 1 or more fields.
  + Fields contain the data.
* So why is it called "relational"?
  + tables are related (joined) based on common fields
* **Example:**
  + Here's a simple database schema for tracking sales
    - 3 tables, related by primary keys (CID, OID, PID).
    - primary keys (in boldface) are unique record identifiers.
    - customer may place order for one product at a time.

**Q.2 What is SQL?**

**Ans.** SQL tutorials gives unique learning on Structured Query Language and it helps to make practice on SQL commands which provides immediate results.

* SQL is a language of database, it includes database creation, deletion, fetching rows and modifying rows etc.
* SQL is an ANSI (American National Standards Institute) standard but there are many different versions of the SQL language.
* SQL is the standard programming language of relational DB.
* SQL is a standard computer language for accessing and manipulating databases.
* SQL is a great example of a declarative programing language:
  + You declare what you want, DB engine figures out how
* **What is SQL?**
  + SQL is Structured Query Language, which is a computer language for storing, manipulating and retrieving data stored in relational database.
  + SQL is the standard language for Relation Database System. All relation database management system like MySQL, MS Access, Oracle, Sybase, Informix and SQL server use SQL as standard database language.
  + Also, they are using different dialects, such as:
    - MS SQL Server using T-SQL, ANSI SQL
    - Oracle using PL/SQL
    - MS access version of SQL is called JET SQL (native format) etc.
* **Why SQL?**
  + Allows users to access data in relational database management systems.
  + Allows user to describe the data.
  + Allows user to define the data in database and manipulate the data.
  + Allows to embed within other languages using SQL modules, libraries and pre-compilers.
  + Allows user to create and drop databases and tables.
  + Allows user to create view, stored procedures, functions in a database.
  + Allows user to set permissions on tables, procedures and views.
* **What is SQL?**
  + SQL stands for Standard Query Language
  + SQL allows you to access a database
  + SQL is an ANSI standard computer language
  + SQL can execute queries against a database
  + SQL can retrieve data from a database
  + SQL can insert new records in a database
  + SQL can delete records from a database
  + SQL can update records in a database
  + SQL is easy to run
  + SQL is written in the form of queries
  + Actions queries insert, update and delete data
  + Select queries retrieve data from DB
* **SQL Process:**
  + When you are executing an SQL command for any RDBMS, the system determines the best way to carry out your request and SQL engine figures out how to interpret the task.
  + There are various components included in the process.
    - These components are Query Dispatcher, Optimization Engines, Classic Query Engine and SQL Query Engine, etc.
    - Classic query engine handles all non-SQL queries but SQL query engine won't handle logical files.

**Q.3 Write SQL commands?**

**Ans.** There are four types of SQL commands:

1. DDL- Data Definition Language
2. DML- Data Manipulation Language
3. DCL- Data Control Language
4. DQL- Data Query Language

* **DDL (Data Definition Language):**
  + CREATE- Crates a new table, a view of table, or other objects in database.
  + ALTER- Modifies an existing database object, such as table.
  + DROP- Deletes and entire table, a view of a table or other object in the database.
* **DML (Data Manipulation Language):**
  + INSERT- Creates a record
  + UPDATE- Modifies records
  + DELETE- Deletes records
* **DCL (Data Control Language):**
  + GRANTE- Gives a privilege to user
  + REVOKE- takes back privileges granted from user
* **DQL (Data Query Language):**
  + SELECT- Retrieves certain records from one or more tables.

**Q.4 What is join?**

**Ans.** In the context of databases, a "join" is an operation that combines rows from two or more tables based on a related column between them. It's a fundamental concept in relational databases and is used to retrieve data that spans across multiple tables. Joins allow you to link data together from different tables by specifying how the data in one table relates to the data in another.

**Q.5 Write type of joins?**

**Ans.** there are four types of joins are mentioned below:

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

**Q.6 How many constraints and describes itself.**

**Ans.** In the realm of Relational Database Management System (RDBMS), constraints play a pivotal role in maintaining the integrity and consistency of data. Constraints are rules enforced on the data stored within a database to ensure its accuracy, reliability and validity. They define the permissible values and relationships that data can have within the database.

* Here are some common types of constraints found in RDBMS:
* **Primary Key Constraint:** A primary key constraint uniquely identifies each record in the table. It ensures that the primary key columns have unique values and cannot contain null values. This constraint facilities data retrieval and ensures data integrity.
* **Foreign Key Constraint:** A foreign key constraint establish a relation between two tables by enforcing referential integrity. It ensures that values in a column (or columns) of one table match the values in the primary key column(s) of another table. This constraint helps maintain data consistency across related tables.
* **Unique Constraint:** A unique constraint ensures that all values in a specified column (or a combination of columns) are unique. Unlike primary key constraint, unique constraints allow null values, but they only permit one null value.
* **Check Constraint:** A check constraint specifies a condition that must be satisfied for data to be valid. It limits the range of values that can be inserted into a column. For example, a check constraint can be used to enforce that a column only accepts positive integers.
* **Not Null constraints:** A not null constraints ensures that a column cannot contain null values. It requires that every row in the table has a value for that column.
* These constraints collectively contribute to the maintenance of data quality and integrity within an RDBMS, thereby ensuring that the database remains reliable and consistent over time.

**Q.7 Difference between RDBMS and DBMS.**

**Ans.**

|  |  |
| --- | --- |
| **DBMS** | **RDBMS** |
| DBMS stores data as a file. | RDBMS stores data in tabular form. |
| Data eliminates need to access individually. | Multiple data eliminate can be accessed at the same time. |
| No relationship between data. | Data is stored in the form of tables which are related to each other. |
| Normalization is not present. | Normalization is present. |
| DBMS does not support distributed database. | RDBMS supports distributed database. |
| It stores data in either a navigational or hierarchical form. | It uses a tabular structure where the headers are the column names, and the rows contain corresponding values. |
| It deals with small quantity of data. | It deals with large amount of data. |
| Data redundancy is common in this model. | Keys and indexes do not allow data redundancy. |
| It is used for small organization and deal with small data. | It is used to handle large amount of data. |
| Not all codd rules are satisfied. | All 12 Codd rules are satisfied. |
| Security is less. | More security measures provided. |
| It supports single user. | It supports multiple users. |
| Data fetching is slower for the large amount of data. | Data fetching is fast because of relational approach. |
| The data in a DBMS is subject to low security levels with regards to data manipulation. | There exist multiple levels of data security in a RDBMS. |
| Low software and hardware necessities. | Higher software and hardware necessities. |
| Examples: XML, Window Registry, FoxPro, dbaselllplus. | Examples: My SQL, PostgreSQL, SQL, Server, Oracle, Microsoft Access etc. |

**Q.8 What is API Testing.**

**Ans.** Application programing interface (API) is a software interface that allows to application to interact with each other without any user intervention.

* Another definition, API (Application Programing 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 programing 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 not down the systems response.
* API tests are very different from GUI tests and wont concentrate on the look and feel of an application.

**Q.9 Types of API Testing.**

**Ans.** There are mainly 3 types of API Testing

* **Open APIs:**
  + These types of APIs are publicly available to use like OAuth APIs from goggle.
  + 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.

**Q.10 What is Responsive Testing?**

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

* Furthermore, a responsive web design improves users browsing experience.
* Considering these from a quality assurance perspective, a responsive web design requires through evaluation using a variety of devices before it is ready to go live.
* Software testers may find it challenging to perform responsive design testing as a variety of factors are to be looked into during the testing phase.
* Some points to be understand for Responsive Testing:
  + The challenges involved in testing a responsive website.
  + How website testing differs from a mobile device to a computer.
  + Rules and guidelines to be followed during responsive design testing.
  + Lastly, various tools available to be perform responsive testing.

**Q.11** **Which types of tools are available for Responsive Testing.**

**Ans. Responsive Testing Tools:**

* LT Browser
* Lambda Testing
* Goggle Resizer
* I am Responsive
* Pixel Tuner

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

**Ans.** IPA- IOS App Storage Package

APK- Android Application Package

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

**Ans.** Step 1: Go to setting

Step 2: Find about phone

Step 3: Open about phone option

Step 4: Open developer option mode

Step 5: USB debugging

Step 6: Allow USB debugging and ok to done it