1. **Que: What is RDBMS**

**Ans:** it’s store data in form of tables (Row column) with most commercial relational database management system using structured query longer (SQL) to access the database.

1. **Que: What is SQL**

**Ans:** SQL stands for Structured Query Language. SQL lets you access and manipulate databases.

1. **Que: Write SQL Commands**

**Ans:** Based on functionalities performed by them, there are five types of SQL Commands-

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

1. **Que: What is join?**

**Ans:** 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.

1. **Que: Write type of joins.**

**Ans:** There are four different types of join operations:

* INNER JOIN: Returns dataset that have matching values in both tables.
* LEFT (OUTER) JOIN: Returns all records from the left table and matched records from the right.
* RIGHT (OUTER) JOIN: Returns all records from the right table and the matched records from the left.
* FULL (JOIN): return rows when there is match in one of the tables.

1. **Que: How Many constraints and describes itself.**

**Ans:** SQL constraints are used to specify rules for the data in a table.

Constraints are used to limits the type of data that can go into a table. If there is any violation between the constait and the data action, the action is aborted. Constraints can be column level or table level. Column level constraints apply to a column, and table level constraints apply to the whole table.

The following constraints are commonly used in SQL:

* **NOT NULL:** Ensure that a column cannot have a NULL value
* **UNIQUE:** Ensure that all values in a column are different
* **PRIMARY KEY:** A combination of a NOT NULL and UNIQUE. Uniquely identifies each row in a table.
* **FOREIGN KEY:** Prevents action that would destroy links between tables
* **CHECK:** Ensures that the values in a column satisfies a specific condition
* **DEFAULT:** Sets a default value for a column if no value is specified
* **CREATE INDEX:** Used to create and retrieves data from the database very quickly

1. **Que: Difference between RDBMS vs DBMS**

**Ans:**

|  |  |  |
| --- | --- | --- |
| **SN** | **RDBMS** | **DBMS** |
| **1** | [DBMS](https://www.geeksforgeeks.org/introduction-of-dbms-database-management-system-set-1/) stores data as file. | [RDBMS](https://www.geeksforgeeks.org/rdbms-architecture/) stores data in tabular form. |
| **2** | Data elements need to access individually. | Multiple data elements can be accessed at the same time. |
| **3** | No relationship between data. | Data is stored in the form of tables which are related to each other. |
| **4** | Normalization is not present. | Normalization is present. |
| **5** | DBMS does not support distributed database. | RDBMS supports distributed database. |
| **6** | 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. |
| **7** | It deals with small quantity of data. | It deals with large amount of data. |
| **8** | Data redundancy is common in this model. | Keys and indexes do not allow Data redundancy. |
| **9** | It is used for small organization and deal with small data. | It is used to handle large amount of data. |
| **10** | Not all Codd rules are satisfied. | All 12 Codd rules are satisfied. |
| **11** | Security is less | More security measures provided. |
| **12** | It supports single user. | It supports multiple users. |
| **13** | Data fetching is slower for the large amount of data. | Data fetching is fast because of relational approach. |
| **14** | The data in a DBMS is subject to low security levels with regards to data manipulation. | There exists multiple levels of data security in a RDBMS. |
| **15** | Low software and hardware necessities. | Higher software and hardware necessities. |
| **16** | Examples:[XML](https://www.geeksforgeeks.org/xml-basics/), Window Registry, Forxpro, dbaseIIIplus etc. | Examples: [MySQL](https://www.geeksforgeeks.org/architecture-of-mysql/), [PostgreSQL](https://www.geeksforgeeks.org/what-is-postgresql-introduction/), SQL Server, Oracle, Microsoft Access etc. |

1. **Que: What is API Testing.**

**Ans:** API testing is a type of software testing that involves testing application programming interfaces directly and as part of integration testing to determine if they meet expectations for functionality, reliability, performance, and security.

1. **Que: Types of API Testing.**

**Ans:** There are 9 types of API testing:

**1. Validation Testing**

This type of testing ensures that the API is returning the expected results and in the correct format. Validation testing involves checking that the input parameters, output format, response code, and [data type are correct](https://www.imperva.com/learn/data-security/structured-and-unstructured-data/).

**2. UI Testing**

UI testing validates that the API works correctly within the application’s user interface. This type of testing ensures that the UI is accurately reflecting the API’s results and that the API is handling the UI’s inputs correctly.

**3. Functional Testing**

Functional testing verifies that the API functions correctly and meets the required specifications. This type of testing can include testing the API’s business logic, input validation, output validation, and error handling.

**4. Load Testing**

Load testing involves testing the API’s performance and stability under stressful conditions. This type of testing simulates high traffic and heavy usage scenarios to ensure that the API can handle a large number of concurrent users and requests.

**5. Runtime and Error Detection**

This type of testing ensures that the API can handle runtime errors and exceptions. This includes testing for network timeouts, memory leaks, incorrect input parameters, and other errors that can occur during runtime.

**6. Penetration Testing**

Penetration testing is a type of security testing that involves simulating [attacks](https://www.imperva.com/learn/application-security/cyber-attack/) from hackers to detect vulnerabilities and weaknesses in the API. This type of testing can include network scanning, vulnerability scanning, and manual [penetration testing](https://www.imperva.com/learn/application-security/penetration-testing/).

**7. API Hacking**

API hacking is security testing techniques that exploits vulnerabilities in an API. Attackers (and testers) can target API endpoints to gain access to data, disrupt services, or hijack the entire system. Ethical [hackers](https://www.imperva.com/learn/application-security/ethical-hacking/) can train by attacking intentionally [vulnerable](https://www.imperva.com/learn/application-security/vulnerability-management/) APIs, which can be downloaded from the Internet. Then, they can turn to the organization’s own APIs to test their resilience and find weaknesses.

**8. Security Testing**

Security testing aims to identify security-related vulnerabilities and flaws in the API and ensure that the API meets the required security standards. This type of testing includes testing for vulnerabilities such as [SQL injection](https://www.imperva.com/learn/application-security/sql-injection-sqli/), cross-site scripting (XSS), cross-site request forgery (CSRF), and others.

**9. Fuzz Testing**

Fuzz testing involves feeding unexpected and invalid inputs into the API to test its ability to handle unexpected input and recover from errors. This type of testing can uncover security vulnerabilities or unexpected behaviour in the API.

1. **Que: What is Responsive Testing?**

**Ans:** Responsive testing involves how a website or web application looks and behaves on different devices, screen sizes, and resolutions.

1. **Que: Which types of tools are available for Responsive Testing?**

**Ans:** There are 5 types of tools are available for responsive testing.

* LT Browser
* Lambda Testing
* Google Resizer
* I am responsive
* Pixel tuner

1. **Que: What is the full form of .ipa, .apk?**

**Ans: .ipa:** iOS application

**.apk:** Android Application Package