**Assignment 4: - Database**

**Q) What is RDBMS?**

**Ans: -** An RDBMS Relational Database Management System is a type of database management system that stores data in a structured format using tables (rows and columns), and it maintains relationships between those tables using keys (primary key, foreign key).

**Q) What is SQL?**

**Ans: -** It is stands for Structured Query Language, and it is used to communicate with and manage databases. This is a standard language used to perform tasks such as retrieval, updating, insertion and deletion data from data base.

**Q) Write SQL Commands?**

**Ans: - Types of SQL Commands.**

**1)DDL (Data Definition Language)** – Defines the structure of database objects.

* CREATE → Create database/table
* ALTER → Modify database/table
* DROP → Delete database/table
* TRUNCATE → Delete all rows, keep structure

**2) DML (Data Manipulation Language)** – Works with data inside tables.

* INSERT → Insert new records
* UPDATE → Update existing records
* DELETE → Delete specific records

**3) DQL (Data Query Language)** – Fetches data.

* SELECT → Retrieve data from tables

**Q) What is join?**

**Ans: -** this is a keyword used to query data from more tables based on the relationship between the fields for the tables, keys play a major role when Joins are used.

**Q) Write type of joins?**

**Ans: - 1) INNER JOIN:** returns rows when there is a match in both tables.

**2) LEFT JOIN:** returns all rows from the left table, even if there are no matches in the right table.

**3) RIGHT JOIN:** returns all rows from the right table, even if there are no matches in the left table.

**4) FULL JOIN:** returns rows when there is a match in one of the tables.

**5) SELF JOIN:** is used to join a table to itself as if the table were two tables, temporarily renaming at least one table in the SQL statement.

**Q) How Many constraints and describes itself?**

**Ans: - 1) NOT NULL: -** Value cannot be NULL.

**2) UNIQUE: -** No duplicate values (Ensures that all values in a column are unique).

**3) PRIMARY KEY: -** Unique + Not Null (Identifies row). Identifies each row in a table uniquely, only **one primary key** per table.

**4) FOREIGN KEY: -** References another table’s primary key (Creates a relationship between two tables)

**5) CHECK: -** Must satisfy a condition

**6) DEFAULT: -** Assigns default value.

**Q) Difference between RDBMS vs DBMS?**

**Ans: -**

|  |  |
| --- | --- |
| DBMS | RDMS |
| DBMS data is saved in the file format. | RDMS data saved in the table format. |
| Individual data element access. | Multiple data elements are available at the same time. |
| There is some normalization. | Normalization is not possible. |
| There is no support for distributed databases. | Database support for distributed System. |
| The amount of data stored is small. | A large amount of data is stored. |

**Q) What is an SQL alias??**

**Ans: -** An alias in SQL is a temporary name given to a table or column to make queries easier to read or write. It does not change the actual name in the database.

**Q) Write a query to create the table in Structured Query Language?**

**Ans: -** Create Table Employees (

EmpID int primary Key,

EmpName varchar (50) not null,

Department varchar (50)

);

**Q) Write a query to insert data into table?**

**Ans: -** insert into Employees (EmpID, EmpName, Department)

values (1,'Prasad','IT'),

(2, 'Rahul', 'HR'),

(3, 'Neha', 'Finance'),

(4, 'Amit', 'IT'),

(5, 'Sneha', 'Marketing');

**Q) Write a query to update data into table with validations?**

**Ans: -** update Employees

SET Department = 'Human Resources'

Where EmpID = 2;

**Q) Write a query to delete data from table with validations?**

**Ans: -** Delete from Employees

Where EmpID = 2;

**Q) Write a query to insert new column in existing table?**

**Ans: -** alter table Employees

add Salary decimal (10,2);

**Q) Write a query to drop table and database.?**

**Ans: -** drop table if exists Employees;

drop database if exists CompanyDB;

**Q) Write a query to find max and min value from table?**

**Ans: -** select EmpName, Salary

from Employees

where Salary = (select MAX(Salary) from Employees);

select EmpName, Salary

from Employees

where Salary = (select MIN(Salary) from Employees);

**Q) Create two tables named Seller and Product apply foreign key in product table Fetch data from both tables using different joins?**

**Ans: -** create table Seller (

Seller id int primary key,

Seller name varchar(100),

location varchar(100)

);

create table product (

product id int primary key,

product name varchar(100),

price decimal(10,2),

seller id int,

foreign key (seller id) references seller(seller id)

);

insert into seller (seller id, seller name, location) values

(1, 'ramesh traders', 'pune'),

(2, 'tech world', 'mumbai'),

(3, 'global store', 'delhi');

insert into product (product id, product name, price, seller id) values

(101, 'laptop', 55000, 2),

(102, 'mobile', 20000, 1),

(103, 'tablet', 30000, 3),

(104, 'headphones', 3000, 2),

(105, 'keyboard', 1200, null);

**1) INNER JOIN: -**

select p.product id, p.product name, p.price, s.seller name, s.location

from product p

inner join seller s on p.seller\_id = s.seller\_id;

**2) LEFT JOIN: -**

select p.product id, p.product name, p.price, s.seller name, s.location

from Product p

left join seller s on p.seller id = s.seller id;

**3) RIGHT JOIN: -**

select p.product id, p.product name, p.price, s.seller name, s.location

from Product p

right join seller s on p.seller id = s.seller id;

**4) FULL OUTER JOIN: -**

select p.product id, p.product name, p.price, s.seller name, s.location

from Product p

full outer join seller s on p.seller id = s.seller id;

**Q) What is API Testing?**

**Ans: -** Application Programming Interface (API) is a software interface that allows two applications to interact with each other without any user intervention, The purpose of API Testing is to check the functionality, reliability, performance, and security of the programming interfaces.

**Q) Types of API Testing?**

**Ans: -**

* **Functional Testing** → Check if the API is doing its job correctly.
* **Load Testing** → Check if the API can handle many users at the same time without crashing.
* **Security Testing** → Check if the API is safe from hackers or unauthorized users.
* **Validation Testing** → Check if the API is giving the data in the correct format (JSON, XML).

**Q) What is Responsive Testing?**

**Ans: -**  Responsive Testing is a type of testing done to check whether a website or web application works properly on different devices, screen sizes, and resolutions (like mobile, tablet, laptop, desktop).

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

**Ans: -** There are many tools available to test whether a website or app is responsive.

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

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

**Ans: -**

* **.ipa: -** iOS App Store Package. (Apple devices)
* **.apk: -** Android Package Kit **or** Android Application Package (Android devices)**.**

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

**Ans: -**

1. Open Settings on your Android device
2. Scroll down and tap on About Phone
3. Find Build Number option
4. Tap Build Number 7 times continuously.
5. Go to Advance Settings.
6. Click on Developer option.
7. Turn ON Developer Options