Assignment
MODULE: 5 (Database)

Basic of database

1. What do you understand By Database

-> A database is an organized collection of structured information or data, typically stored extronically in a computer system.

2. What is Normalization?

-> Database Normalization is a technique used in database design to organize and structure data efficiently.

3. What is Difference between DBMS and RDBMS ?

-> DBMS:-

1. DBMS application store data as file.
2. IN DBMS, data is generally stored in either a hierarchical form or a navigational form.
3. Normalization is NOT present in DBMS.
4. DBMS does not apply any security with regards to data manipulation.
5. DBMS does not support distributed database.
6. DBMS is meant to be for small organization and deal with small data. It support single user..

RDBMS:-

1. RDBMS application store data in a tabular form.
2. in RDBMS, the tables have an identifier called primary key and the data Values are stored in the form of tables.
3. Normalization is present in RDBMS.
4. RDBMS define the integrity constraint for the purpose of ACID
5. 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 tables as well.
6. RDBMS supports distributed database.

4. What is MF cod Rule of RDBMS system?

-> The MF cod Rule of RDBMS system states that for a system to qualify as a An RDBMS, it must be able to manage database entirely through the Relational capabilities.

5. What do you understand by Data Redundancy ?

-> Redundancy is a system design in which component is duplicated so if it fails there will bea backup.

6. What is DDL interpreter ?

-> DDL interpreter : it interprets the DDL query optimizer it executes the DML instruction and picks the lowest cost evaluation plan out of all the alternative present.

7. What is DML Complier in SQL ?

-> A computer programming language that allows you to add , delete, And alter data in database.

8. What is SQL Key constrains writing an Example of SQL Key Constraints.

-> SQL constraints in a database table, we can add rules to a column know As constraints. Three rules control the data that can be stored in a Column.
Example :-n

1. Primary Key

```
CREATE TABLE Colleges ( college_id INT PRIMARY KEY,
college_code VARCHAR(20) NOT NULL, college_name VARCHAR(50)
);
```

2. FOREIGN KEY

```
CREATE TABLE orders ( Order_id INT PRIMARY KEY,
Customer_id INT REFERENCE customers(id)
);
```

3. NOT NULL

```
CREATE TABLE Colleges ( college_id INT NOT NULL,
```

college_code VARCHAR(20) NOT NULL, college_name VARCHAR(50)
);

4. UNIQUE
-> CREATE TABLE Colleges (college_id INT NOT NULL UNIQUE,
college_code VARCHAR(20) UNIQUE, college_name VARCHAR(50)
);

9. What is save point ? How to create a save Point write a Query ?

-> A save point is a command in SQL that is used with the rollback command.
It is command in Transaction control Language that is used to mark the Transaction in table.
Ex:-> START TRANSACTION;
SAVEPOINT my_savepoint;
ROLLBACK TO my_savepoint; COMMIT;

10. What is Trigger ? How to create a Trigger in SQL ?

-> A Trigger is special type of stored procedure that automatically runs When an event occurs in the database server.
CREATE TRIGGER trigger_name { BEFORE | AFTER {INSERT | UPDATE |
DELETE } On table_name END;

SQL Queries:

1. CREATE TABLE NAME : students and exam

Student table

+ Options

	RollNo	Name	Branch
Edit Copy Delete	1	Jay	Computer Science
Edit Copy Delete	2	Suhana	Mechnical Eneginer
Edit Copy Delete	3	Kirti	Electronic and com

EXAMS TABLE

+ Options

RollNo	S_code	Marks	P_code
1	CS	50	BS
1	CS	60	BS
2	EC	66	CS
2	ES	70	SB
3	SE	45	DC
3	SE	50	AC

2. Create table given below incentive and employee.

Employee Table :

+ Options

	Employee_id	First_Name	Last_Name	salary	Joining_date	Department
Edit Copy Delete	1	John	Abrahn	1000000.00	2013-01-01	banking
Edit Copy Delete	2	Michel	clarke	80000.00	2013-01-01	linsurance
Edit Copy Delete	3	Roy	Thomas	70000.00	2013-02-01	Banking
Edit Copy Delete	4	Tom	Jose	60000.00	2013-02-01	insurance
Edit Copy Delete	5	jerry	pinto	50000.00	2013-03-01	service
Edit Copy Delete	6	pjilip	methew	26000.00	2013-03-22	it
Edit Copy Delete	7	denny	louies	30000.00	2014-06-17	digital marketing
Edit Copy Delete	8	daniel	way	50000.00	2015-04-11	infulencer

Incentive table:

+ Options

employee_ref_id	Incentive_date	Incentive_amount
1	2013-02-01	5000.00
2	2013-02-01	3000.00
3	2013-02-01	4000.00
1	2013-01-01	4500.00
2	2013-01-01	3500.00

3). Get First_Name from employee table using Tom name “Employee Name”.
:- SELECT First_Name FORM Employee
WHERE Last_Name = ‘ Employee_Name’;

4) Get FIRST_NAME, Joining Date, and Salary from employee table.
:- SELECT First_Name, joining_date, salary FORM Employee;

5) Get all employee details from the employee table order by First_Name Ascending and Salary descending?
:- SELECT *
FORM employee
Order by First_name ASC, Salary DESC ;

6) Get employee details from employee table whose first name contains ‘J’.
:- SELECT *
FORM employee
Where First_Name Like ‘%j%’;

7) Get department wise maximum salary from employee table order by salary ascending?
SELECT department, MAX(salary) AS max_salary FROM Employee
GROUP BY department ORDER BY max_salary ASC;

8) Select first_name, incentive amount from employee and incentives table for those employees who have incentives and incentive amount greater than 3000.

:- SELECT e.first_name, i.incentive_amount FROM Employee e
JOIN Incentive i ON e.Employee_id = i.employee_ref_id WHERE i.incentive_amount > 3000;

9) Create After Insert trigger on Employee table which insert records in view table.

CREATE TRIGGER after_employee_insert AFTER INSERT ON Employee
FOR EACH ROW BEGIN
INSERT INTO ViewTable (Employee_id, first_name, last_name, salary, joining_date, department)
VALUES (NEW.Employee_id, NEW.first_name, NEW.last_name, NEW.salary, NEW.joining_date, NEW.department);
END;

11) CREATE TABLE GIVEN BELOW: SALESPERSON AND COUSTOMER.

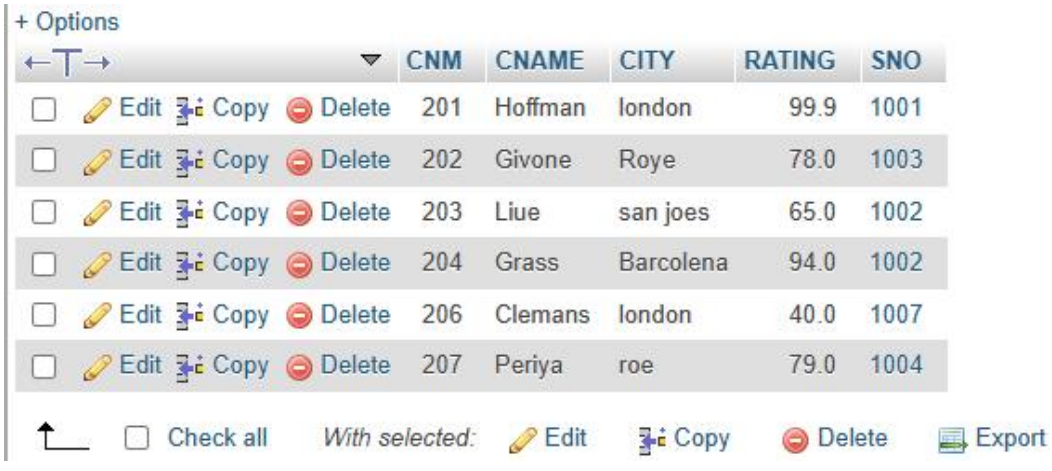
SALESPERSON :-

+ Options

	SNO	SNAME	CITY	COMM
Edit Copy Delete	1001	peel	london	0.12
Edit Copy Delete	1002	sarees	sanjones	0.13
Edit Copy Delete	1003	Alex lord	New york	0.10
Edit Copy Delete	1004	Motika	London	0.11
Edit Copy Delete	1007	Rafcin	Breoclona	0.15
Edit Copy Delete	1008	Ranndy	Brazil	0.15

Check all With selected: Edit Copy Delete

Customer:



+ Options

	CNM	CNAME	CITY	RATING	SNO
Edit Copy Delete	201	Hoffman	london	99.9	1001
Edit Copy Delete	202	Givone	Roye	78.0	1003
Edit Copy Delete	203	Liue	san joes	65.0	1002
Edit Copy Delete	204	Grass	Barcolena	94.0	1002
Edit Copy Delete	206	Clemans	london	40.0	1007
Edit Copy Delete	207	Periya	roe	79.0	1004

Check all *With selected:* Edit Copy Delete Export

12) Retrieve the below data from above table:

13) All orders for more than $1000.
:- SELECT *
FROM orders
Where Amount >1000;

14) Names and cities of all salespeople in London with commission above 0.12.
:- SELECT *
FROM salesperson
WHERE city = ‘London’ AND Comm > 0.12;

15) All Salespeople either in bercolona or in London.
:- SELECT *
FROM salesperson
WHERE city In(‘Barcelona’, ‘London’);

16) All salespeople with commission between 0.10 and 0.12. (Boundary values should be excluded).
:- select *
Form salesperson
WHERE comm.> .10 AND comm.< .12;

17) All customers excluding those with rating <= 100 unless they are located in Rome.

:- select *

FROM coustmer

Where (rating > 100 or city = ‘roe’);