DBMS
Lab Assignment-VII

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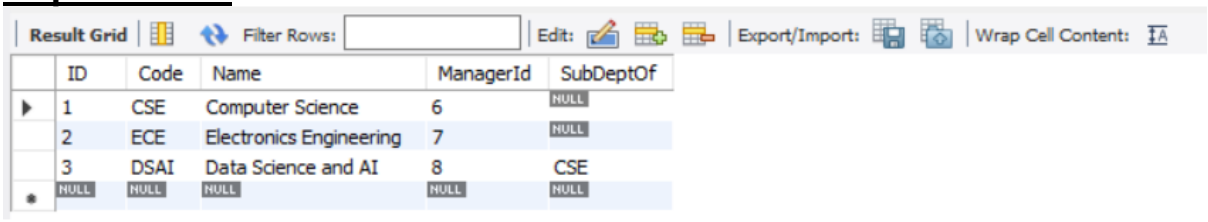
Aim: To learn the process of creating and using the stored functions and procedures in MySQL.

Experiments: In this following Lab Assignment we are going to create stored function in MySQL to process stored data in Table.

Tables:

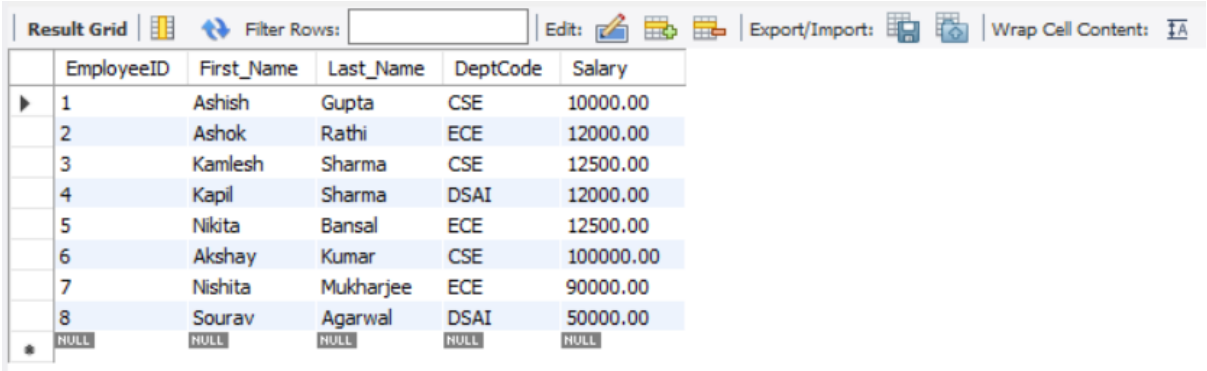
Departments



ID	Code	Name	ManagerId	SubDeptOf
1	CSE	Computer Science	6	NULL
2	ECE	Electronics Engineering	7	NULL
3	DSAI	Data Science and AI	8	CSE
NULL	NULL	NULL	NULL	NULL

In this table we are using ID attribute as Primary key, Name attribute to store name, Code attribute to store Department Code, ManagerID to store Manager's ID and SubDeptOf to store Sub Department field of the DEPARTMENTS Table. In this table there are 3 rows with respective data.

Employee



EmployeeID	First_Name	Last_Name	DeptCode	Salary
1	Ashish	Gupta	CSE	10000.00
2	Ashok	Rathi	ECE	12000.00
3	Kamlesh	Sharma	CSE	12500.00
4	Kapil	Sharma	DSAI	12000.00
5	Nikita	Bansal	ECE	12500.00
6	Akshay	Kumar	CSE	100000.00
7	Nishita	Mukharjee	ECE	90000.00
8	Sourav	Agarwal	DSAI	50000.00
NULL	NULL	NULL	NULL	NULL

In this table we are using Employee_ID attribute as Primary key, First_name and Last_Name attribute to store respective data, DeptCode is Foreign key to DEPARTMENTS Table and Salary attribute to store Employee's Salary.

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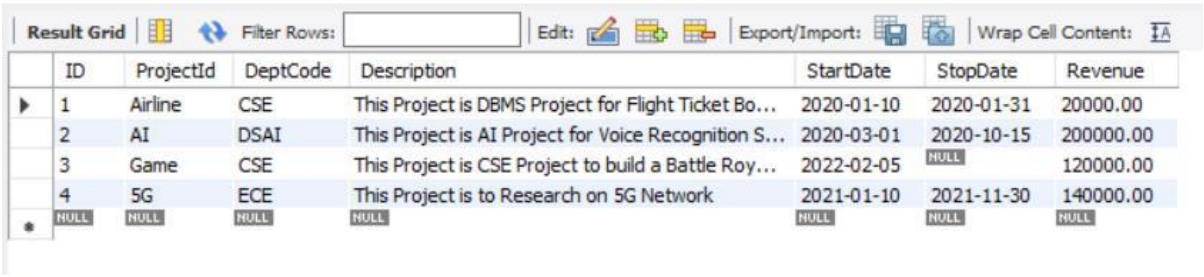
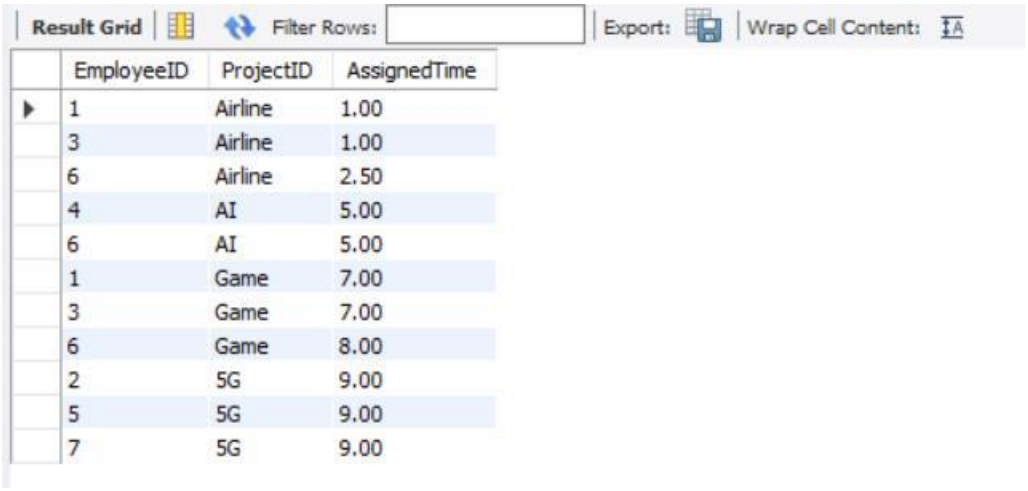
Projects:



ID	ProjectId	DeptCode	Description	StartDate	StopDate	Revenue
1	Airline	CSE	This Project is DBMS Project for Flight Ticket Bo...	2020-01-10	2020-01-31	20000.00
2	AI	DSAI	This Project is AI Project for Voice Recognition S...	2020-03-01	2020-10-15	200000.00
3	Game	CSE	This Project is CSE Project to build a Battle Roy...	2022-02-05	NULL	120000.00
4	5G	ECE	This Project is to Research on 5G Network	2021-01-10	2021-11-30	140000.00
NULL	NULL	NULL	NULL	NULL	NULL	NULL

In this Table we are using ID as Primary key, Project_ID to store Project's ID, DeptCode attribute as Foreign key to DEPARTMENTS Table, Description attribute to store brief details about project, StartDate and StopDate attributes to store Project's Start and Stop Date, Revenue to store the total Revenue Generated from the project.

Workson:



EmployeeID	ProjectID	AssignedTime
1	Airline	1.00
3	Airline	1.00
6	Airline	2.50
4	AI	5.00
6	AI	5.00
1	Game	7.00
3	Game	7.00
6	Game	8.00
2	5G	9.00
5	5G	9.00
7	5G	9.00

This Table is week Entity. Employee_ID and Project_ID depicts the Employee' ID and Project's ID and AssignedTime is the Total Time allocated for the Project.

Results:

1.Functions: Stored function that returns the job profile of the employee based upon his/her salary. The exercise is to return three titles i.e., intern, senior engineer, and team leader considering their salary structure. The salary structure should be classified in three ranges, i.e., lower, middle, and higher, considering the values provided in your employee database's salary attribute. It should return intern for lower, senior engineer for middle, and team leader for higher ranges, respectively.

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```
2
3     DELIMITER $$
4     CREATE FUNCTION Job_Profile (salary NUMERIC(9, 2))
5     RETURNS VARCHAR(20)
6     DETERMINISTIC
7     BEGIN
8         DECLARE job_profile VARCHAR(20);
9         IF salary < 50000.00 THEN
10            SET job_profile = "Intern";
11        ELSEIF salary > 50000.00 AND salary < 100000.00 THEN
12            SET job_profile = "Team Leader ";
13        ELSE
14            SET job_profile = "Senior Engineer";
15        END IF;
16            RETURN (job_profile);
17    END$$
18
19
20    SELECT First_Name, Last_Name, Job_Profile(Salary) FROM EMPLOYEE;
21
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

First_Name	Last_Name	Job_Profile(Salary)
Ashish	Gupta	Intern
Ashok	Rathi	Intern
Kamlesh	Sharma	Intern
Kapil	Sharma	Intern
Nikita	Bansal	Intern
Akshay	Kumar	Senior Engineer
Nishita	Mukharjee	Team Leader
Sourav	Agarwal	Senior Engineer

2.

a) Find the average salary for all employees.

```
23
24    DELIMITER $$
25    CREATE FUNCTION Avg_Salary ()
26    RETURNS NUMERIC(9, 2)
27    DETERMINISTIC
28    BEGIN
29        DECLARE avg_salary NUMERIC(9, 2);
30        SELECT AVG(Salary) INTO avg_salary FROM EMPLOYEE;
31        RETURN (avg_salary);
32    END$$
```

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```
34
35      SELECT Avg_Salary();
36
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Avg_Salary()
37375.00

b) Find the minimum salary for an employee.

```
51
52      DELIMITER $$
53      CREATE FUNCTION Min_Salary ()
54      RETURNS NUMERIC(9, 2)
55      DETERMINISTIC
56      BEGIN
57          DECLARE min_salary NUMERIC(9, 2);
58          SELECT MIN(Salary) INTO min_salary FROM EMPLOYEE;
59          RETURN (min_salary);
60      END$$
61
62      SELECT Min_Salary();
63
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Min_Salary()
10000.00

c) Find the maximum salary for an employee.

```
38
39      DELIMITER $$
40      CREATE FUNCTION Max_Salary ()
41      RETURNS NUMERIC(9, 2)
42      DETERMINISTIC
43      BEGIN
44          DECLARE max_salary NUMERIC(9, 2);
45          SELECT MAX(Salary) INTO max_salary FROM EMPLOYEE;
46          RETURN (max_salary);
47      END$$
49
50      SELECT Max_Salary();
51
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Max_Salary()
100000.00