

# EMPLOYEE

```
create database tejas;
use tejas;
CREATE TABLE DEPT (
    DEPTNO INT PRIMARY KEY,
    DNAME VARCHAR(50),
    DLOC VARCHAR(50)
);
CREATE TABLE EMPLOYEE (
    EMPNO INT PRIMARY KEY,
    ENAME VARCHAR(50),
    MGR_NO INT,
    HIREDATE DATE,
    SAL DECIMAL(10,2),
    DEPTNO INT,
    FOREIGN KEY (DEPTNO) REFERENCES DEPT(DEPTNO)
);
CREATE TABLE PROJECT (
    PNO INT PRIMARY KEY,
    PNAME VARCHAR(50),
    PLOC VARCHAR(50)
);
CREATE TABLE ASSIGNED_TO (
    EMPNO INT,
    PNO INT,
    JOB_ROLE VARCHAR(50),
    PRIMARY KEY (EMPNO, PNO),
```

```
FOREIGN KEY (EMPNO) REFERENCES EMPLOYEE(EMPNO),  
FOREIGN KEY (PNO) REFERENCES PROJECT(PNO)
```

```
);
```

```
CREATE TABLE INCENTIVES (  
    EMPNO INT,  
    INCENTIVE_DATE DATE,  
    INCENTIVE_AMOUNT DECIMAL(10,2),  
    FOREIGN KEY (EMPNO) REFERENCES EMPLOYEE(EMPNO)
```

```
);
```

```
INSERT INTO DEPT VALUES
```

```
(10, 'HR', 'Bengaluru'),  
(20, 'Finance', 'Hyderabad'),  
(30, 'IT', 'Mysuru'),  
(40, 'Marketing', 'Chennai'),  
(50, 'R&D', 'Delhi');
```

```
INSERT INTO EMPLOYEE VALUES
```

```
(101, 'Tejas', NULL, '2020-02-15', 55000, 10),  
(102, 'Riya', 101, '2019-03-21', 60000, 20),  
(103, 'Amit', 101, '2021-07-10', 50000, 30),  
(104, 'Sneha', 102, '2022-05-17', 48000, 40),  
(105, 'Raj', 103, '2018-01-10', 75000, 50);
```

```
INSERT INTO PROJECT VALUES
```

```
(1001, 'Payroll System', 'Bengaluru'),  
(1002, 'ERP Upgrade', 'Hyderabad'),  
(1003, 'Cloud Migration', 'Mysuru'),  
(1004, 'Marketing Portal', 'Chennai'),  
(1005, 'AI Research', 'Delhi');
```

```
INSERT INTO ASSIGNED_TO VALUES
```

```
(101, 1001, 'Manager'),
```

```
(102, 1002, 'Analyst'),  
(103, 1003, 'Developer'),  
(104, 1004, 'Designer'),  
(105, 1005, 'Scientist');  
  
INSERT INTO INCENTIVES VALUES  
(101, '2023-03-15', 5000),  
(103, '2023-04-20', 7000),  
(105, '2023-02-25', 8000);  
  
SELECT DISTINCT A.EMPNO  
  
FROM ASSIGNED_TO A  
  
JOIN PROJECT P ON A.PNO = P.PNO  
  
WHERE P.PLOC IN ('Bengaluru', 'Hyderabad', 'Mysuru');  
  
SELECT E.EMPNO  
  
FROM EMPLOYEE E  
  
WHERE E.EMPNO NOT IN (  
  
    SELECT I.EMPNO FROM INCENTIVES I  
  
);  
  
SELECT  
  
    E.ENAME,  
  
    E.EMPNO,  
  
    D.DNAME AS DEPARTMENT,  
  
    A.JOB_ROLE,  
  
    D.DLOC AS DEPT_LOCATION,  
  
    P.PLOC AS PROJECT_LOCATION  
  
FROM EMPLOYEE E  
  
JOIN DEPT D ON E.DEPTNO = D.DEPTNO  
  
JOIN ASSIGNED_TO A ON E.EMPNO = A.EMPNO  
  
JOIN PROJECT P ON A.PNO = P.PNO  
  
WHERE D.DLOC = P.PLOC;
```

## QUERIES

```
SELECT  
    E.EMPNO,  
    E.ENAME,  
    D.DNAME AS DEPARTMENT,  
    D.DLOC AS LOCATION  
FROM EMPLOYEE E, DEPT D  
WHERE E.DEPTNO=D.DEPTNO;
```

	EMPNO	ENAME	DEPARTMENT	LOCATION
▶	101	Tejas	HR	Bengaluru
	102	Riya	Finance	Hyderabad
	103	Amit	IT	Mysuru
	104	Sneha	Marketing	Chennai
	105	Raj	R&D	Delhi

```
SELECT  
    E.EMPNO,  
    E.ENAME  
FROM EMPLOYEE E  
LEFT JOIN ASSIGNED_TO A ON E.EMPNO = A.EMPNO  
WHERE A.EMPNO IS NULL;
```

Result Grid	Filter
EMPNO	ENAME

```
SELECT  
    P.PNAME,  
    COUNT(A.EMPNO) AS HEADCOUNT  
FROM PROJECT P  
LEFT JOIN ASSIGNED_TO A ON P.PNO = A.PNO  
GROUP BY P.PNAME;
```

	PNAME	HEADCOUNT
▶	Payroll System	1
	ERP Upgrade	1
	Cloud Migration	1
	Marketing Portal	1
	AI Research	1

SELECT

```
D.DNAME,
AVG(E.SAL) AS AVG_SALARY,
MAX(E.SAL) AS MAX_SALARY
FROM DEPT D
LEFT JOIN EMPLOYEE E ON D.DEPTNO = E.DEPTNO
GROUP BY D.DNAME;
```

	DNAME	AVG_SALARY	MAX_SALARY
▶	HR	55000.000000	55000.00
	Finance	60000.000000	60000.00
	IT	50000.000000	50000.00
	Marketing	48000.000000	48000.00
	R&D	75000.000000	75000.00

SELECT

```
E.EMPNO,
E.ENAME,
(SELECT SUM(I.INCENTIVE_AMOUNT)
FROM INCENTIVES I
WHERE I.EMPNO = E.EMPNO) AS TOTAL_INCENTIVES
FROM EMPLOYEE E;
```

	EMPNO	ENAME	TOTAL_INCENTIVES
▶	101	Tejas	5000.00
	102	Riya	NULL
	103	Amit	7000.00
	104	Sneha	NULL
	105	Raj	8000.00

SELECT

```
E.EMPNO,
```

```

E.ENAME
FROM EMPLOYEE E
JOIN ASSIGNED_TO A ON E.EMPNO = A.EMPNO
JOIN PROJECT P ON A.PNO = P.PNO
WHERE P.PNAME = 'Alpha Project';

```

	EMPNO	ENAME

```

SELECT
D.DEPTNO,
D.DNAME
FROM DEPT D
LEFT JOIN EMPLOYEE E ON D.DEPTNO = E.DEPTNO
WHERE E.EMPNO IS NULL;

```

	DEPTNO	DNAME

```

SELECT
M.EMPNO AS MANAGER_ID,
M.ENAME AS MANAGER_NAME,
COUNT(E.EMPNO) AS DIRECT_REPORTS
FROM EMPLOYEE M
LEFT JOIN EMPLOYEE E ON E.MGR_NO = M.EMPNO
GROUP BY M.EMPNO, M.ENAME;

```

	MANAGER_ID	MANAGER_NAME	DIRECT_REPORTS
▶	101	Tejas	2
	102	Riya	1
	103	Amit	1
	104	Sneha	0
	105	Raj	0

```

SELECT
EMPNO,
COUNT(PNO) AS PROJECT_COUNT

```

```
FROM ASSIGNED_TO  
GROUP BY EMPNO  
HAVING COUNT(PNO) > 1;
```

	EMPNO	PROJECT_COUNT
--	-------	---------------

7/11/2023

Ques

① List the employees with their department name & location

Select  
from  
where

c.empno, c.ename, d.dname, d.loc

Employee e, deptatd

c.deptno = d.deptno

B

Output

Empno	Enname	Department	Location
101	Tejas	HR	Bengaluru
102	Riya	Finance	Mumbai
103	Ankit	IT Dept.	Hyderabad
104	Sneha	Marketing	Chennai
105	Raj	Region	Delhi

② Employees who are not assigned to any project, project wise headcount

Select E.Empno, P.PName  
from Employee e  
left join Assigned to a on e.empno = A.Empno  
where A.Empo is null;

Output

EmpNo Enname

Select P.PName, Count(A.Empno) As Headcount  
from Project P

left join Assigned to a on P.PNO = A.PNO

Group by P.PName;

### Output

P Name	Headcount
Payroll System	1
ERP upgrade	1
Cloud migration	1
Marketing portal	1
AI Research	1

③ Department-wise average & max salary.

Select D.Dname, Avg(E.Sal) as Avg-Salary, Max(E.Sal) as

Max-Salary  
from Dept D  
left join Employee E on D.deptno = E.deptno

group by D.Dname;

DName	Avg-Salary	Max-Salary
HR	55000.00	55000.00
Finance	60000.00	60000.00
IT	50000.00	50000.00
Marketing	48000.00	48000.00
R&D	75000.00	75000.00

④ Total incentives earned by each employee

Select E.empno, E.ename,

( Select sum(I.Incentive\_Amount)

from Incentives I  
where I.EmpNo = E.EmpNo as Total\_Incentives

from Employee E;

EmpNo	Ename	total_Balance	total_expenses	total_revenue	total_profit
101	Tiger	5000.00			
102	Riya	NULL			
103	Amit	7000.00	2000	10000	8000
104	Sneha	NULL			
105	Raj	8000.00			

(5) Employees working on a given project (projectname : Alpha project)

Select E.EmpNo, E.Ename

from Employee E

Join assigned\_to A on E.EmpNo = A.EmpNo

Join project P on A.PNO = P.PNO

where P.PName = 'Alpha project';

Output EmpNo Ename

(6) Department with no employees.

Select

D.DeptNo, D.Dname

from Dept D

left join Employee E on D.DeptNo = E.DeptNo

where E.empno is NULL;

Output DeptNo Dname

(7) Managers and their direct report Works

Select

M.EmpNo as Manager\_ID;

M.Ename as Manager\_Name;

Went(E.EmpNo) as direct\_reports

from Employee M

left join Employee E on E.mg RNO = M.Empno

Group by M.Empno, M.Ename;

Manager_ID	Manager_Name	Direct_deposits
101	Titas	2
102	Riya	1
103	Amit	100000
104	Shreya	0
105	Ray	0

⑥ Employees assigned to more than one project.

Select Empno, count(PNO) as project\_count  
from assigned\_to

Group by Empno

Having count(PNO) > 1;

Output

Empno project\_count

Output