

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
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```

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
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7/11/2023

Query

- ① List the employees with their department name & location

Select e.empno, e.ename, d.dname, d.loc
from Employee e, deptname d
where e.deptno = d.deptno

Output

Empno	Ename	Department	Location
101	Tjias	HR	Bengaluru
102	Riya	Finance	Hyderabad
103	Aniket	IT	Mysuru
104	Sneha	Marketing	Chennai
105	Raj	R&D	Delhi

- ② Employees who are not assigned to any project, project name headcount

Select E.empno, E.ename
from Employee e
left join Assigned to a on e.empno = a.empno
where a.empno is null;

Output

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;

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.Pname, Avg(E.sal) as Avg-salary, Max(E.sal) as
 Max-salary
 from Dept D
 left join Employees E on D.Deptno = E.Deptno
 group by D.Pname;

DName	Avg-salary	Max-Salary
HR	55000.000	55000.00
Finance	60000.000	60000.00
IT	50000.000	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
 where I.Empno = E.Empno as Total-Incentives
 from Employee E;

Empno	Ename	total -> incentives
101	Tajas	5000.00
102	Piya	Null
103	Amit	7000.00
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.Pname

from Dept D

Left join Employees E on D.Deptno = E.Deptno

where E.empno is Null;

Output Deptno Pname

⑦ Managers and their direct report counts

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 RNO = M.Empno

Group by M.Empno, M.Ename;

Manager-ID	Manager-Name	Direct-reports
101	Tjara	2
102	Riya	1
103	Amit	1
104	Shena	0
105	Raj	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

Pratik