

## 7/11/2025\_lab5\_Code Follow Up

The tables and output for this lab were submitted in the previous PDF(lab 5). This document contains the program code, which was left out in that.

```
1 •    CREATE DATABASE IF NOT EXISTS emp;
2 •    USE emp;
3
4 •    CREATE TABLE DEPT (
5         DEPTNO INT PRIMARY KEY,
6         DNAME VARCHAR(30),
7         DLOC VARCHAR(30)
8     );
9
10 •   CREATE TABLE EMPLOYEE (
11        EMPNO INT PRIMARY KEY,
12        ENAME VARCHAR(30),
13        MGR_NO INT,
14        HIREDATE DATE,
15        SAL DECIMAL(10,2),
16        DEPTNO INT,
17        FOREIGN KEY (DEPTNO) REFERENCES DEPT(DEPTNO)
18    );
19
20 •   CREATE TABLE PROJECT (
21        PNO INT PRIMARY KEY,
22        PNAME VARCHAR(30),
23        PLOC VARCHAR(30)
24    );
25 •   CREATE TABLE ASSIGNED_TO (
26        EMPNO INT,
27        PNO INT,
28        JOB_ROLE VARCHAR(30),
29        PRIMARY KEY (EMPNO, PNO),
30        FOREIGN KEY (EMPNO) REFERENCES EMPLOYEE(EMPNO),
31        FOREIGN KEY (PNO) REFERENCES PROJECT(PNO)
32    );
33
34 •   CREATE TABLE INCENTIVES (
35        EMPNO INT,
36        INCENTIVE_DATE DATE,
37        INCENTIVE_AMOUNT DECIMAL(10,2),
38        PRIMARY KEY (EMPNO, INCENTIVE_DATE),
39        FOREIGN KEY (EMPNO) REFERENCES EMPLOYEE(EMPNO)
40    );
41
42 •   INSERT INTO DEPT VALUES
43     (1, 'IT', 'BENGALURU'),
44     (2, 'IT', 'MYSURU'),
45     (3, 'IPO', 'DELHI'),
46     (4, 'RTO', 'HYDERBAD'),
47     (5, 'NPO', 'MUMBAI');
48
```

```
49 • INSERT INTO EMPLOYEE VALUES
50   (111, 'RAM', NULL, '2020-07-13', 8000.00, 1),
51   (112, 'SHAM', 1001, '2020-07-13', 16000.00, 2),
52   (113, 'SAM', 1001, '2021-07-14', 10000.00, 2),
53   (114, 'VISHNU', 1002, '2023-07-14', 6000.00, 3),
54   (115, 'RAMAN', 1003, '2020-07-13', 16000.00, 4);
55
56 • INSERT INTO PROJECT VALUES
57   (123, 'ALPHA', 'DELHI'),
58   (124, 'BETA', 'BENGALURU'),
59   (125, 'GAMA', 'MUMBAI'),
60   (126, 'SIGMA', 'MYSURU'),
61   (127, 'DELTA', 'HYDERBAD');
62
63 • INSERT INTO ASSIGNED_TO VALUES
64   (111, 124, 'DATA ANALYST'),
65   (112, 125, 'MANAGER'),
66   (113, 126, 'RESEARCH'),
67   (114, 127, 'INTERN'),
68   (115, 123, 'MANAGER');
69
70 • INSERT INTO INCENTIVES VALUES
71   (111, '2025-01-12', 1500.00),
72   (112, '2025-02-13', 1000.00),
73   (113, '2025-04-18', 800.00),
74
75 • INSERT INTO EMPLOYEE VALUES
76   (111, 'RAM', NULL, '2020-07-13', 8000.00, 1),
77   (112, 'SHAM', 1001, '2020-07-13', 16000.00, 2),
78   (113, 'SAM', 1001, '2021-07-14', 10000.00, 2),
79   (114, 'VISHNU', 1002, '2023-07-14', 6000.00, 3),
80   (115, 'RAMAN', 1003, '2020-07-13', 16000.00, 4);
81
82 • INSERT INTO PROJECT VALUES
83   (123, 'ALPHA', 'DELHI'),
84   (124, 'BETA', 'BENGALURU'),
85   (125, 'GAMA', 'MUMBAI'),
86   (126, 'SIGMA', 'MYSURU'),
87   (127, 'DELTA', 'HYDERBAD');
88
89 • INSERT INTO ASSIGNED_TO VALUES
90   (111, 124, 'DATA ANALYST'),
91   (112, 125, 'MANAGER'),
92   (113, 126, 'RESEARCH'),
93   (114, 127, 'INTERN'),
94   (115, 123, 'MANAGER');
95
96 • INSERT INTO INCENTIVES VALUES
97   (111, '2025-01-12', 1500.00),
98   (112, '2025-02-13', 1000.00),
99   (113, '2025-04-18', 800.00),
100  (115, '2025-04-18', 600.00);
```

```

77 •   SELECT E.EMPNO, E.ENAME, D.DNAME, D.DLOC
78   FROM EMPLOYEE E
79   JOIN DEPT D ON E.DEPTNO = D.DEPTNO;
80
81 •   SELECT E.EMPNO, E.ENAME
82   FROM EMPLOYEE E
83   WHERE E.EMPNO NOT IN (SELECT EMPNO FROM ASSIGNED_TO);
84
85 •   SELECT P.PNAME AS PROJECT_NAME, COUNT(A.EMPNO) AS HEADCOUNT
86   FROM PROJECT P
87   LEFT JOIN ASSIGNED_TO A ON P.PNO = A.PNO
88   GROUP BY P.PNAME;
89
90 •   SELECT D.DNAME AS DEPARTMENT_NAME, AVG(E.SAL) AS AVG_SALARY, MAX(E.SAL) AS MAX_SALARY
91   FROM DEPT D
92   JOIN EMPLOYEE E ON D.DEPTNO = E.DEPTNO
93   GROUP BY D.DNAME;
94
95 •   SELECT E.EMPNO, E.ENAME, COALESCE(SUM(I.INCENTIVE_AMOUNT), 0) AS TOTAL_INCENTIVES
96   FROM EMPLOYEE E
97   LEFT JOIN INCENTIVES I ON E.EMPNO = I.EMPNO
98   GROUP BY E.EMPNO, E.ENAME;
99
-- 
100 •  SELECT E.EMPNO, E.ENAME, P.PNAME
101   FROM EMPLOYEE E
102   JOIN ASSIGNED_TO A ON E.EMPNO = A.EMPNO
103   JOIN PROJECT P ON A.PNO = P.PNO
104   WHERE P.PNAME = 'ALPHA';
105
106 •  SELECT D.DEPTNO, D.DNAME, D.DLOC
107   FROM DEPT D
108   LEFT JOIN EMPLOYEE E ON D.DEPTNO = E.DEPTNO
109   WHERE E.EMPNO IS NULL;
110
111 •  SELECT M.EMPNO AS MANAGER_ID, M.ENAME AS MANAGER_NAME, COUNT(E.EMPNO) AS DIRECT_REPORTS
112   FROM EMPLOYEE M
113   LEFT JOIN EMPLOYEE E ON M.EMPNO = E.MGR_NO
114   GROUP BY M.EMPNO, M.ENAME;
115
116 •  SELECT E.EMPNO, E.ENAME, COUNT(A.PNO) AS PROJECT_COUNT
117   FROM EMPLOYEE E
118   JOIN ASSIGNED_TO A ON E.EMPNO = A.EMPNO
119   GROUP BY E.EMPNO, E.ENAME
120   HAVING COUNT(A.PNO) > 1;
121

```