

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');
```

```

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),

```

```

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 (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

```