

# PROGRAM 5: EMPLOYEE DATABASE (03/11)

## Query 1: Creating tables

```
1 •  create database employee;
2 •  use employee;
3 •  create table dept(
4      deptno int PRIMARY KEY,
5      dname varchar(20),
6      dloc varchar(20));
7
8 •  desc dept;
```

| Result Grid |        |             |      |     |         |
|-------------|--------|-------------|------|-----|---------|
|             | Field  | Type        | Null | Key | Default |
| ▶           | deptno | int         | NO   | PRI | NULL    |
|             | dname  | varchar(20) | YES  |     | NULL    |
|             | dloc   | varchar(20) | YES  |     | NULL    |

```
10 •  create table employee(
11      empno int PRIMARY KEY,
12      ename varchar(40),
13      mgr_no int,
14      hiredate date,
15      sal decimal(7,2),
16      deptno int,
17      FOREIGN KEY (deptno) REFERENCES dept (deptno)
18  );
19
20 •  desc employee;
```

| Result Grid |          |              |      |     |         |
|-------------|----------|--------------|------|-----|---------|
|             | Field    | Type         | Null | Key | Default |
| ▶           | empno    | int          | NO   | PRI | NULL    |
|             | ename    | varchar(40)  | YES  |     | NULL    |
|             | mgr_no   | int          | YES  |     | NULL    |
|             | hiredate | date         | YES  |     | NULL    |
|             | sal      | decimal(7,2) | YES  |     | NULL    |
|             | deptno   | int          | YES  | MUL | NULL    |

```

22 • Ⓜ create table incentives(
23     empno int,
24     incentive_date date PRIMARY KEY,
25     incentive_amount decimal(7,5),
26     FOREIGN KEY (empno) references employee (empno)
27 );
28
29 •   desc incentives;

```

| Result Grid   Filter Rows: <input type="text"/> Export:  Wrap Cell Content: |                  |              |      |     |         |       |
|---|------------------|--------------|------|-----|---------|-------|
|   | Field            | Type         | Null | Key | Default | Extra |
| ▶   | empno            | int          | YES  | MUL | NULL    |       |
|   | incentive_date   | date         | NO   | PRI | NULL    |       |
|   | incentive_amount | decimal(7,5) | YES  |     | NULL    |       |

```

31 • Ⓜ create table project(
32     pno int PRIMARY KEY,
33     pname varchar(40),
34     ploc varchar(20));
35
36 •   desc project;

```

| Result Grid   Filter Rows: <input type="text"/> Export:  Wrap Cell Content: |       |             |      |     |         |       |
|---|-------|-------------|------|-----|---------|-------|
|   | Field | Type        | Null | Key | Default | Extra |
| ▶   | pno   | int         | NO   | PRI | NULL    |       |
|   | pname | varchar(40) | YES  |     | NULL    |       |
|   | ploc  | varchar(20) | YES  |     | NULL    |       |

```

38 • Ⓜ create table assigned_to(
39     empno int,
40     pno int,
41     job_role varchar(40),
42     FOREIGN KEY (empno) references employee (empno),
43     FOREIGN KEY (pno) references project (pno));
44
45 •   desc assigned_to;

```

| Result Grid   Filter Rows: <input type="text"/> Export:  Wrap Cell Content: |          |             |      |     |         |       |
|---|----------|-------------|------|-----|---------|-------|
|   | Field    | Type        | Null | Key | Default | Extra |
| ▶   | empno    | int         | YES  | MUL | NULL    |       |
|   | pno      | int         | YES  | MUL | NULL    |       |
|   | job_role | varchar(40) | YES  |     | NULL    |       |

## Query 2: Inserting values

```
47 •    INSERT INTO dept VALUES (10,'ACCOUNTING','MUMBAI'),  
48      (20,'RESEARCH','BENGALURU'),  
49      (30,'SALES','DELHI'),  
50      (40,'OPERATIONS','CHENNAI');  
51  
52 •    select * from dept;  
53
```

| Result Grid |        |            |           |
|-------------|--------|------------|-----------|
|             | deptno | dname      | dloc      |
| ▶           | 10     | ACCOUNTING | MUMBAI    |
|             | 20     | RESEARCH   | BENGALURU |
|             | 30     | SALES      | DELHI     |
|             | 40     | OPERATIONS | CHENNAI   |
| *           | NULL   | NULL       | NULL      |

```
54 •    INSERT INTO employee VALUES (7369,'Adarsh',7902,'2012-12-17','80000.00',20,  
55      (7499,'Shruthi',7698,'2013-02-20','16000.00',30),  
56      (7521,'Anvitha',7698,'2015-02-22','12500.00',30),  
57      (7566,'Tanvir',7839,'2008-04-02','29750.00',20),  
58      (7654,'Ramesh',7698,'2014-09-28','12500.00',30),  
59      (7698,'Kumar',7839,'2015-05-01','28500.00',30),  
60      (7782,'CLARK',7839,'2017-06-09','24500.00',10),  
61      (7788,'SCOTT',7566,'2010-12-09','30000.00',20),  
62      (7839,'KING',NULL,'2009-11-17','500000.00',10),  
63      (7844,'TURNER',7698,'2010-09-08','15000.00',30),  
64      (7876,'ADAMS',7788,'2013-01-12','11000.00',20),  
65      (7900,'JAMES',7698,'2017-12-03','9500.00',30),  
66      (7902,'FORD',7566,'2010-12-03','30000.00',20);  
67  
68 •    select * from employee;
```

| Result Grid |       |         |        |            |           |        |
|-------------|-------|---------|--------|------------|-----------|--------|
|             | empno | ename   | mgr_no | hiredate   | sal       | deptno |
| ▶           | 7369  | Adarsh  | 7902   | 2012-12-17 | 80000.00  | 20     |
|             | 7499  | Shruthi | 7698   | 2013-02-20 | 16000.00  | 30     |
|             | 7521  | Anvitha | 7698   | 2015-02-22 | 12500.00  | 30     |
|             | 7566  | Tanvir  | 7839   | 2008-04-02 | 29750.00  | 20     |
|             | 7654  | Ramesh  | 7698   | 2014-09-28 | 12500.00  | 30     |
|             | 7698  | Kumar   | 7839   | 2015-05-01 | 28500.00  | 30     |
|             | 7782  | CLARK   | 7839   | 2017-06-09 | 24500.00  | 10     |
|             | 7788  | SCOTT   | 7566   | 2010-12-09 | 30000.00  | 20     |
|             | 7839  | KING    | NULL   | 2009-11-17 | 500000.00 | 10     |
|             | 7844  | TURNER  | 7698   | 2010-09-08 | 15000.00  | 30     |
|             | 7876  | ADAMS   | 7788   | 2013-01-12 | 11000.00  | 20     |
|             | 7900  | JAMES   | 7698   | 2017-12-03 | 9500.00   | 30     |
|             | 7902  | FORD    | 7566   | 2010-12-03 | 30000.00  | 20     |
| *           | NULL  | NULL    | NULL   | NULL       | NULL      | NULL   |

```

70 •    INSERT INTO incentives VALUES(7499,'2019-02-01',5000.00),
71      (7521,'2019-03-01',2500.00),
72      (7566,'2022-02-01',5070.00),
73      (7654,'2020-02-01',2000.00),
74      (7654,'2022-04-01',879.00),
75      (7521,'2018-02-01',8000.00),
76      (7698,'2018-03-01',500.00),
77      (7698,'2020-03-01',9000.00),
78      (7698,'2022-04-02',4500.00);
79
80 •    select * from incentives;

```

Result Grid | Filter Rows:  | Edit: | Export/Import: | Wrap Cell Content:

|   | empno | incentive_date | incentive_amount |
|---|-------|----------------|------------------|
| ▶ | 7521  | 2018-02-01     | 8000.00          |
|   | 7698  | 2018-03-01     | 500.00           |
|   | 7499  | 2019-02-01     | 5000.00          |
|   | 7521  | 2019-03-01     | 2500.00          |
|   | 7654  | 2020-02-01     | 2000.00          |
|   | 7698  | 2020-03-01     | 9000.00          |
|   | 7566  | 2022-02-01     | 5070.00          |
|   | 7654  | 2022-04-01     | 879.00           |
|   | 7698  | 2022-04-02     | 4500.00          |
| * | NUL   | NUL            | NUL              |

```

82 •    INSERT INTO project VALUES(101,'AI Project','BENGALURU'),
83      (102,'IOT','HYDERABAD'),
84      (103,'BLOCKCHAIN','BENGALURU'),
85      (104,'DATA SCIENCE','MYSURU'),
86      (105,'AUTONOMUS SYSTEMS','PUNE'));
87
88 •    select * from project;

```

Result Grid | Filter Rows:  | Edit: | Export/Import: | Wrap Cell Content:

|   | pno | pname             | ploc      |
|---|-----|-------------------|-----------|
| ▶ | 101 | AI Project        | BENGALURU |
|   | 102 | IOT               | HYDERABAD |
|   | 103 | BLOCKCHAIN        | BENGALURU |
|   | 104 | DATA SCIENCE      | MYSURU    |
|   | 105 | AUTONOMUS SYSTEMS | PUNE      |
| * | NUL | NUL               | NUL       |

```

90 •    INSERT INTO assigned_to VALUES(7499,101,'Software Engineer'),
91      (7521,101,'Software Architect'),
92      (7566,101,'Project Manager'),
93      (7654,102,'Sales'),
94      (7521,102,'Software Engineer'),
95      (7499,102,'Software Engineer'),
96      (7654,103,'Cyber Security'),
97      (7698,104,'Software Engineer'),
98      (7900,105,'Software Engineer'),
99      (7839,104,'General Manager');
100
101 • ↴ select * from assigned_to

```

| Result Grid |       |     |                    |
|-------------|-------|-----|--------------------|
|             | empno | pno | job_role           |
| ▶           | 7499  | 101 | Software Engineer  |
|             | 7521  | 101 | Software Architect |
|             | 7566  | 101 | Project Manager    |
|             | 7654  | 102 | Sales              |
|             | 7521  | 102 | Software Engineer  |
|             | 7499  | 102 | Software Engineer  |
|             | 7654  | 103 | Cyber Security     |
|             | 7698  | 104 | Software Engineer  |
|             | 7900  | 105 | Software Engineer  |
|             | 7839  | 104 | General Manager    |

Query 3: Retrieve the employee numbers of all employees who work on project located in Bengaluru, Hyderabad, or Mysuru.

```

103 •    select e.empno from employee e,assigned_to a,project p
104      where e.empno=a.empno and a.pno=p.pno
105      and ploc in ('BENGALURU','HYDERABAD','MYSURU');

```

| Result Grid |       |  |
|-------------|-------|--|
|             | empno |  |
| ▶           | 7499  |  |
|             | 7521  |  |
|             | 7566  |  |
|             | 7654  |  |
|             | 7521  |  |
|             | 7499  |  |
|             | 7654  |  |
|             | 7698  |  |
|             | 7839  |  |

## Query 4: Get Employee ID's of those employees who didn't receive incentives.

```
107 •  select empno from employee where empno not in (select empno from incentives);
```

The screenshot shows a database query results grid. At the top, there is a toolbar with icons for Result Grid, Filter Rows, Edit, Export/Import, and Wrap Cell Content. Below the toolbar is a header row with the column name 'empno'. The data rows list employee numbers: 7782, 7839, 7369, 7788, 7876, 7902, 7844, 7900, and HULL. The row for 7839 is currently selected.

| empno |
|-------|
| 7782  |
| 7839  |
| 7369  |
| 7788  |
| 7876  |
| 7902  |
| 7844  |
| 7900  |
| *     |
| HULL  |

## Query 5: Write a SQL query to find the employees name, number, dept, job\_role, department location and project location who are working for a project location same as his/her department location.

```
109 •  select e.ename,e.empno,d.dname,a.job_role,d.dloc,p.ploc  
110    from employee e,dept d,project p,assigned_to a  
111   where p.ploc=d.dloc and e.empno=a.empno and p.pno=a.pno and d.deptno=e.deptno;
```

The screenshot shows a database query results grid. At the top, there is a toolbar with icons for Result Grid, Filter Rows, Export, and Wrap Cell Content. Below the toolbar is a header row with columns: ename, empno, dname, job\_role, dloc, and ploc. The data row lists: Tanvir, 7566, RESEARCH, Project Manager, BENGALURU, and BENGALURU.

|   | ename  | empno | dname    | job_role        | dloc      | ploc      |
|---|--------|-------|----------|-----------------|-----------|-----------|
| ▶ | Tanvir | 7566  | RESEARCH | Project Manager | BENGALURU | BENGALURU |