

Assignment No : 03
Database Management Lab

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DML(Data Manipulation Language)

JOIN : (1.INNER 2.OUTER 3.LEFT OUTER 4.RIGHT OUTER 5.FULL OUTER 6.SELF)

1.INNER JOIN

MariaDB [department]> select * from emp INNER JOIN dept on emp.deptno= dept.deptno;

| empno | ename | job | deptno | salary | deptno | deptname | loc |
|-------|----------|----------|--------|--------|--------|------------|----------|
| 101 | Shyam | Manager | 10 | 50000 | 10 | Sales | Mumbai |
| 102 | Dhiraj | Clerk | 20 | 12000 | 20 | Production | Pune |
| 103 | Vinay | Salesman | 30 | 17000 | 30 | Accounts | Nasik |
| 104 | Mayur | Salesman | 40 | 18000 | 40 | Research | Banglore |
| 106 | Abhishek | Manager | 10 | 43000 | 10 | Sales | Mumbai |

5 rows in set (0.05 sec)

2.OUTER JOIN

1.LEFT OUTER JOIN

MariaDB [department]> select * from emp LEFT OUTER JOIN dept on emp.ename= dept.deptname;

| empno | ename | job | deptno | salary | deptno | deptname | loc |
|-------|----------|----------|--------|--------|--------|----------|------|
| 101 | Shyam | Manager | 10 | 50000 | NULL | NULL | NULL |
| 102 | Dhiraj | Clerk | 20 | 12000 | NULL | NULL | NULL |
| 103 | Vinay | Salesman | 30 | 17000 | NULL | NULL | NULL |
| 104 | Mayur | Salesman | 40 | 18000 | NULL | NULL | NULL |
| 105 | Sanjay | Clerk | 100 | 13000 | NULL | NULL | NULL |
| 106 | Abhishek | Manager | 10 | 43000 | NULL | NULL | NULL |

6 rows in set (0.00 sec)

2. RIGHT OUTER JOIN

MariaDB [department]> select * from emp RIGHT OUTER JOIN dept on emp.ename= dept.deptname;

| empno | ename | job | deptno | salary | deptno | deptname | loc |
|-------|-------|------|--------|--------|--------|------------|----------|
| NULL | NULL | NULL | NULL | NULL | 10 | Sales | Mumbai |
| NULL | NULL | NULL | NULL | NULL | 20 | Production | Pune |
| NULL | NULL | NULL | NULL | NULL | 30 | Accounts | Nasik |
| NULL | NULL | NULL | NULL | NULL | 40 | Research | Banglore |

4 rows in set (0.00 sec)

3. FULL OUTER JOIN

4. NATURAL JOIN :

MariaDB [department]> select * from emp NATURAL JOIN dept;

| deptno | empno | ename | job | salary | deptname | loc |
|--------|-------|----------|----------|--------|------------|----------|
| 10 | 101 | Shyam | Manager | 50000 | Sales | Mumbai |
| 20 | 102 | Dhiraj | Clerk | 12000 | Production | Pune |
| 30 | 103 | Vinay | Salesman | 17000 | Accounts | Nasik |
| 40 | 104 | Mayur | Salesman | 18000 | Research | Banglore |
| 10 | 106 | Abhishek | Manager | 43000 | Sales | Mumbai |

5 rows in set (0.00 sec)

5. CROSS JOIN :

MariaDB [department]> select * from emp CROSS JOIN dept;

| empno | ename | job | deptno | salary | deptno | deptname | loc |
|-------|----------|----------|--------|--------|--------|------------|----------|
| 101 | Shyam | Manager | 10 | 50000 | 10 | Sales | Mumbai |
| 101 | Shyam | Manager | 10 | 50000 | 20 | Production | Pune |
| 101 | Shyam | Manager | 10 | 50000 | 30 | Accounts | Nasik |
| 101 | Shyam | Manager | 10 | 50000 | 40 | Research | Banglore |
| 102 | Dhiraj | Clerk | 20 | 12000 | 10 | Sales | Mumbai |
| 102 | Dhiraj | Clerk | 20 | 12000 | 20 | Production | Pune |
| 102 | Dhiraj | Clerk | 20 | 12000 | 30 | Accounts | Nasik |
| 102 | Dhiraj | Clerk | 20 | 12000 | 40 | Research | Banglore |
| 103 | Vinay | Salesman | 30 | 17000 | 10 | Sales | Mumbai |
| 103 | Vinay | Salesman | 30 | 17000 | 20 | Production | Pune |
| 103 | Vinay | Salesman | 30 | 17000 | 30 | Accounts | Nasik |
| 103 | Vinay | Salesman | 30 | 17000 | 40 | Research | Banglore |
| 104 | Mayur | Salesman | 40 | 18000 | 10 | Sales | Mumbai |
| 104 | Mayur | Salesman | 40 | 18000 | 20 | Production | Pune |
| 104 | Mayur | Salesman | 40 | 18000 | 30 | Accounts | Nasik |
| 104 | Mayur | Salesman | 40 | 18000 | 40 | Research | Banglore |
| 105 | Sanjay | Clerk | 100 | 13000 | 10 | Sales | Mumbai |
| 105 | Sanjay | Clerk | 100 | 13000 | 20 | Production | Pune |
| 105 | Sanjay | Clerk | 100 | 13000 | 30 | Accounts | Nasik |
| 105 | Sanjay | Clerk | 100 | 13000 | 40 | Research | Banglore |
| 106 | Abhishek | Manager | 10 | 43000 | 10 | Sales | Mumbai |
| 106 | Abhishek | Manager | 10 | 43000 | 20 | Production | Pune |
| 106 | Abhishek | Manager | 10 | 43000 | 30 | Accounts | Nasik |
| 106 | Abhishek | Manager | 10 | 43000 | 40 | Research | Banglore |

24 rows in set (0.00 sec)

MariaDB [department]> select * from emp,dept where emp.empno >104;

| empno | ename | job | deptno | salary | deptno | deptname | loc |
|-------|----------|---------|--------|--------|--------|------------|----------|
| 105 | Sanjay | Clerk | 100 | 13000 | 10 | Sales | Mumbai |
| 105 | Sanjay | Clerk | 100 | 13000 | 20 | Production | Pune |
| 105 | Sanjay | Clerk | 100 | 13000 | 30 | Accounts | Nasik |
| 105 | Sanjay | Clerk | 100 | 13000 | 40 | Research | Banglore |
| 106 | Abhishek | Manager | 10 | 43000 | 10 | Sales | Mumbai |
| 106 | Abhishek | Manager | 10 | 43000 | 20 | Production | Pune |
| 106 | Abhishek | Manager | 10 | 43000 | 30 | Accounts | Nasik |
| 106 | Abhishek | Manager | 10 | 43000 | 40 | Research | Banglore |

8 rows in set (0.00 sec)

MariaDB [department]> select * from emp,dept where dept.deptno between 10 and 40;

| empno | ename | job | deptno | salary | deptno | deptname | loc |
|-------|----------|----------|--------|--------|--------|------------|----------|
| 101 | Shyam | Manager | 10 | 50000 | 10 | Sales | Mumbai |
| 101 | Shyam | Manager | 10 | 50000 | 20 | Production | Pune |
| 101 | Shyam | Manager | 10 | 50000 | 30 | Accounts | Nasik |
| 101 | Shyam | Manager | 10 | 50000 | 40 | Research | Banglore |
| 102 | Dhiraj | Clerk | 20 | 12000 | 10 | Sales | Mumbai |
| 102 | Dhiraj | Clerk | 20 | 12000 | 20 | Production | Pune |
| 102 | Dhiraj | Clerk | 20 | 12000 | 30 | Accounts | Nasik |
| 102 | Dhiraj | Clerk | 20 | 12000 | 40 | Research | Banglore |
| 103 | Vinay | Salesman | 30 | 17000 | 10 | Sales | Mumbai |
| 103 | Vinay | Salesman | 30 | 17000 | 20 | Production | Pune |
| 103 | Vinay | Salesman | 30 | 17000 | 30 | Accounts | Nasik |
| 103 | Vinay | Salesman | 30 | 17000 | 40 | Research | Banglore |
| 104 | Mayur | Salesman | 40 | 18000 | 10 | Sales | Mumbai |
| 104 | Mayur | Salesman | 40 | 18000 | 20 | Production | Pune |
| 104 | Mayur | Salesman | 40 | 18000 | 30 | Accounts | Nasik |
| 104 | Mayur | Salesman | 40 | 18000 | 40 | Research | Banglore |
| 105 | Sanjay | Clerk | 100 | 13000 | 10 | Sales | Mumbai |
| 105 | Sanjay | Clerk | 100 | 13000 | 20 | Production | Pune |
| 105 | Sanjay | Clerk | 100 | 13000 | 30 | Accounts | Nasik |
| 105 | Sanjay | Clerk | 100 | 13000 | 40 | Research | Banglore |
| 106 | Abhishek | Manager | 10 | 43000 | 10 | Sales | Mumbai |
| 106 | Abhishek | Manager | 10 | 43000 | 20 | Production | Pune |
| 106 | Abhishek | Manager | 10 | 43000 | 30 | Accounts | Nasik |
| 106 | Abhishek | Manager | 10 | 43000 | 40 | Research | Banglore |

24 rows in set (0.00 sec)

Aggregate functions : (Min, Max, Sum, Avg, Count)

1. MIN :

MariaDB [department]> select min(salary)from emp;

```
+-----+
| min(salary) |
+-----+
|      12000 |
```

1 row in set (0.02 sec)

2. Max :

MariaDB [department]> select max(salary)from emp;

```
+-----+
| max(salary) |
+-----+
|      50000 |
```

1 row in set (0.03 sec)

3. Avg :

MariaDB [department]> select avg(salary)from emp;

```
+-----+
| avg(salary) |
+-----+
| 25500.0000 |
```

1 row in set (0.02 sec)

4. Sum :

MariaDB [department]> select sum(salary)from emp;

```
+-----+
| sum(salary) |
+-----+
|      153000 |
```

1 row in set (0.00 sec)

5. Count :

MariaDB [department]> select count(salary)from emp;

```
+-----+
| count(salary) |
+-----+
|           6 |
```

1 row in set (0.03 sec)

NESTED QUERIES:
