

Practical- 3

***/* SQL Queries - all types of Join, Sub-Query and View:
Write at least 10 SQL queries for suitable database application using
SQL DML statements. */***

```
mysql> create database DBMSL_EXP3;
Query OK, 1 row affected (0.29 sec)
```

```
mysql> use DBMSL_EXP3;
Database changed
mysql> create table Student
-> ( StuRoll int primary key,
-> StuName varchar(45),
-> StuMarks int not null,
-> StuDeptID int not null);
Query OK, 0 rows affected (0.59 sec)
```

```
mysql> desc Student;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| StuRoll | int    | NO   | PRI | NULL    |       |
| StuName | varchar(45) | YES  |     | NULL    |       |
| StuMarks | int    | NO   |     | NULL    |       |
| StuDeptID | int   | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+
4 rows in set (0.08 sec)
```

```
mysql> create table Department
-> ( DeptID int primary key,
-> DeptName varchar(20) not null);
Query OK, 0 rows affected (0.33 sec)
```

```
mysql> desc Department;
+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+
| DeptID | int    | NO   | PRI | NULL    |       |
| DeptName | varchar(20) | NO   |     | NULL    |       |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

```
mysql> insert into Department values (101, "First Year") , (401, "Computer") , (501, "IT") ,
(601,"ENTC");
Query OK, 4 rows affected (0.09 sec)
Records: 4  Duplicates: 0  Warnings: 0
```

```
mysql> select * from Department;
+-----+-----+
| DeptID | DeptName |
+-----+-----+
```

```
| 101 | First Year |
| 401 | Computer |
| 501 | IT      |
| 601 | ENTC    |
+-----+
```

4 rows in set (0.01 sec)

```
mysql> insert into Student values (1, 'Adil', 69, 401) , (2, 'Suhani', 75, 101), (3, 'Atharva', 86, 501),  
(4,'Samruddhi', 90, 501), (5,'Sahil', 100,501);
```

Query OK, 5 rows affected (0.09 sec)

Records: 5 Duplicates: 0 Warnings: 0

```
mysql> select * from Student;
```

```
+-----+-----+-----+
| StuRoll | StuName | StuMarks | StuDeptID |
+-----+-----+-----+
| 1 | Adil   | 69 | 401 |
| 2 | Suhani | 75 | 101 |
| 3 | Atharva | 86 | 501 |
| 4 | Samruddhi | 90 | 501 |
| 5 | Sahil  | 100 | 501 |
+-----+-----+-----+
```

5 rows in set (0.00 sec)

```
mysql> Select * from Student join Department on Student.StuDeptID=Department.DeptID;
```

```
+-----+-----+-----+-----+-----+
| StuRoll | StuName | StuMarks | StuDeptID | DeptID | DeptName |
+-----+-----+-----+-----+-----+
| 1 | Adil   | 69 | 401 | 401 | Computer |
| 2 | Suhani | 75 | 101 | 101 | First Year |
| 3 | Atharva | 86 | 501 | 501 | IT      |
| 4 | Samruddhi | 90 | 501 | 501 | IT      |
| 5 | Sahil  | 100 | 501 | 501 | IT      |
+-----+-----+-----+-----+-----+
```

5 rows in set (0.00 sec)

```
mysql> select * from Student inner join Department on Student.StuDeptID = Department.DeptID;
```

```
+-----+-----+-----+-----+-----+
| StuRoll | StuName | StuMarks | StuDeptID | DeptID | DeptName |
+-----+-----+-----+-----+-----+
| 1 | Adil   | 69 | 401 | 401 | Computer |
| 2 | Suhani | 75 | 101 | 101 | First Year |
| 3 | Atharva | 86 | 501 | 501 | IT      |
| 4 | Samruddhi | 90 | 501 | 501 | IT      |
| 5 | Sahil  | 100 | 501 | 501 | IT      |
+-----+-----+-----+-----+-----+
```

5 rows in set (0.00 sec)

```
mysql> Select * from Student left join Department on Student.StuDeptID= Department.DeptId;
```

StuRoll	StuName	StuMarks	StuDeptID	DeptID	DeptName
1	Adil	69	401	401	Computer
2	Suhani	75	101	101	First Year
3	Atharva	86	501	501	IT
4	Samruddhi	90	501	501	IT
5	Sahil	100	501	501	IT

5 rows in set (0.00 sec)

```
mysql> Select * from Student left outer join Department on  
Student.StuDeptID=Department.DeptID;
```

StuRoll	StuName	StuMarks	StuDeptID	DeptID	DeptName
1	Adil	69	401	401	Computer
2	Suhani	75	101	101	First Year
3	Atharva	86	501	501	IT
4	Samruddhi	90	501	501	IT
5	Sahil	100	501	501	IT

5 rows in set (0.00 sec)

```
mysql> select * from Student right join Department on Student.StuDeptID= Department.DeptID;
```

StuRoll	StuName	StuMarks	StuDeptID	DeptID	DeptName
2	Suhani	75	101	101	First Year
1	Adil	69	401	401	Computer
5	Sahil	100	501	501	IT
4	Samruddhi	90	501	501	IT
3	Atharva	86	501	501	IT
NULL	NULL	NULL	NULL	601	ENTC

6 rows in set (0.00 sec)

```
mysql> Select * from Student right outer join Department on  
Student.StuDeptID=Department.DeptID;
```

StuRoll	StuName	StuMarks	StuDeptID	DeptID	DeptName
2	Suhani	75	101	101	First Year
1	Adil	69	401	401	Computer
5	Sahil	100	501	501	IT
4	Samruddhi	90	501	501	IT
3	Atharva	86	501	501	IT
NULL	NULL	NULL	NULL	601	ENTC

6 rows in set (0.00 sec)

```
mysql> Select * from Student join Department;
```

StuRoll	StuName	StuMarks	StuDeptID	DeptID	DeptName
1	Adil	69	401	601	ENTC
1	Adil	69	401	501	IT
1	Adil	69	401	401	Computer
1	Adil	69	401	101	First Year
2	Suhani	75	101	601	ENTC
2	Suhani	75	101	501	IT
2	Suhani	75	101	401	Computer
2	Suhani	75	101	101	First Year
3	Atharva	86	501	601	ENTC
3	Atharva	86	501	501	IT
3	Atharva	86	501	401	Computer
3	Atharva	86	501	101	First Year
4	Samruddhi	90	501	601	ENTC
4	Samruddhi	90	501	501	IT
4	Samruddhi	90	501	401	Computer
4	Samruddhi	90	501	101	First Year
5	Sahil	100	501	601	ENTC
5	Sahil	100	501	501	IT
5	Sahil	100	501	401	Computer
5	Sahil	100	501	101	First Year

20 rows in set (0.00 sec)

```
mysql> select * from Student cross join Department;
```

StuRoll	StuName	StuMarks	StuDeptID	DeptID	DeptName
1	Adil	69	401	601	ENTC
1	Adil	69	401	501	IT
1	Adil	69	401	401	Computer
1	Adil	69	401	101	First Year
2	Suhani	75	101	601	ENTC
2	Suhani	75	101	501	IT
2	Suhani	75	101	401	Computer
2	Suhani	75	101	101	First Year
3	Atharva	86	501	601	ENTC
3	Atharva	86	501	501	IT
3	Atharva	86	501	401	Computer
3	Atharva	86	501	101	First Year
4	Samruddhi	90	501	601	ENTC
4	Samruddhi	90	501	501	IT
4	Samruddhi	90	501	401	Computer
4	Samruddhi	90	501	101	First Year
5	Sahil	100	501	601	ENTC
5	Sahil	100	501	501	IT
5	Sahil	100	501	401	Computer
5	Sahil	100	501	101	First Year

20 rows in set (0.00 sec)

mysql> select * from Student A, Student B where A.StuDeptID <> B.StuDeptID;

StuRoll	StuName	StuMarks	StuDeptID	StuRoll	StuName	StuMarks	StuDeptID
5	Sahil	100	501	1	Adil	69	401
4	Samruddhi	90	501	1	Adil	69	401
3	Atharva	86	501	1	Adil	69	401
2	Suhani	75	101	1	Adil	69	401
5	Sahil	100	501	2	Suhani	75	101
4	Samruddhi	90	501	2	Suhani	75	101
3	Atharva	86	501	2	Suhani	75	101
1	Adil	69	401	2	Suhani	75	101
2	Suhani	75	101	3	Atharva	86	501
1	Adil	69	401	3	Atharva	86	501
2	Suhani	75	101	4	Samruddhi	90	501
1	Adil	69	401	4	Samruddhi	90	501
2	Suhani	75	101	5	Sahil	100	501
1	Adil	69	401	5	Sahil	100	501

14 rows in set (0.00 sec)

mysql> select * from Student A, Student B where A.StuDeptID= B.StuDeptID;

StuRoll	StuName	StuMarks	StuDeptID	StuRoll	StuName	StuMarks	StuDeptID
1	Adil	69	401	1	Adil	69	401
2	Suhani	75	101	2	Suhani	75	101
5	Sahil	100	501	3	Atharva	86	501
4	Samruddhi	90	501	3	Atharva	86	501
3	Atharva	86	501	3	Atharva	86	501
5	Sahil	100	501	4	Samruddhi	90	501
4	Samruddhi	90	501	4	Samruddhi	90	501
3	Atharva	86	501	4	Samruddhi	90	501
5	Sahil	100	501	5	Sahil	100	501
4	Samruddhi	90	501	5	Sahil	100	501
3	Atharva	86	501	5	Sahil	100	501

11 rows in set (0.00 sec)

mysql> select * from Student A, Student B where A.StuName <> B.StuName and A.StuDeptID=B.StuDeptID;

StuRoll	StuName	StuMarks	StuDeptID	StuRoll	StuName	StuMarks	StuDeptID
5	Sahil	100	501	3	Atharva	86	501
4	Samruddhi	90	501	3	Atharva	86	501
5	Sahil	100	501	4	Samruddhi	90	501
3	Atharva	86	501	4	Samruddhi	90	501
4	Samruddhi	90	501	5	Sahil	100	501
3	Atharva	86	501	5	Sahil	100	501

```
+-----+-----+-----+-----+-----+-----+
```

6 rows in set (0.00 sec)

```
mysql> select * from Student A, Student B where A.StuRoll<>B.StuRoll and A.StuDeptID=B.StuDeptID order by A.StuRoll;
```

```
+-----+-----+-----+-----+-----+-----+
| StuRoll | StuName | StuMarks | StuDeptID | StuRoll | StuName | StuMarks | StuDeptID |
+-----+-----+-----+-----+-----+-----+
| 3 | Atharva | 86 | 501 | 4 | Samruddhi | 90 | 501 |
| 3 | Atharva | 86 | 501 | 5 | Sahil | 100 | 501 |
| 4 | Samruddhi | 90 | 501 | 3 | Atharva | 86 | 501 |
| 4 | Samruddhi | 90 | 501 | 5 | Sahil | 100 | 501 |
| 5 | Sahil | 100 | 501 | 3 | Atharva | 86 | 501 |
| 5 | Sahil | 100 | 501 | 4 | Samruddhi | 90 | 501 |
+-----+-----+-----+-----+-----+-----+
```

6 rows in set (0.00 sec)

```
mysql> Select * from Student where StuMarks in (Select StuMarks from Student where StuMarks > 80);
```

```
+-----+-----+-----+
| StuRoll | StuName | StuMarks | StuDeptID |
+-----+-----+-----+
| 3 | Atharva | 86 | 501 |
| 4 | Samruddhi | 90 | 501 |
| 5 | Sahil | 100 | 501 |
+-----+-----+-----+
```

3 rows in set (0.03 sec)

```
mysql> select StuRoll, StuName from Student where StuMarks in (Select StuMarks from Student where StuMarks > 80);
```

```
+-----+
| StuRoll | StuName |
+-----+
| 3 | Atharva |
| 4 | Samruddhi |
| 5 | Sahil |
+-----+
```

3 rows in set (0.00 sec)

```
mysql> select StuRoll, StuName,StuDeptID from Student where StuDeptID not in (Select DeptID from Department);
```

Empty set (0.00 sec)

```
mysql> create view DepartmentNames as select DeptName from Department;
Query OK, 0 rows affected (0.10 sec)
```

```
mysql> select * from DepartmentNames;
```

```
+-----+
| DeptName |
+-----+
| First Year |
| Computer |
+-----+
```

```
| IT      |
| ENTC    |
+-----+
4 rows in set (0.01 sec)
```

```
mysql> create or replace view StudentNames as Select StuRoll,StuName from Student;
Query OK, 0 rows affected (0.10 sec)
```

```
mysql> select * from StudentNames;
+-----+-----+
| StuRoll | StuName  |
+-----+-----+
|   1 | Adil    |
|   2 | Suhani   |
|   3 | Atharva  |
|   4 | Samruddhi|
|   5 | Sahil    |
+-----+-----+
5 rows in set (0.00 sec)
```

```
mysql> drop view DepartmentNames;
Query OK, 0 rows affected (0.09 sec)
```

```
mysql> drop view StudentNames;
Query OK, 0 rows affected (0.11 sec)
```