

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)