**Assignment No.2**

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**Roll No:** 62

**Title:** Design at least 10 SQL queries for suitable database application using SQL DML statements: All types of join,Sub-query and View.

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mysql> show databases;

+--------------------+

| Database |

+--------------------+

| anuj |

| employee |

| information\_schema |

| mysql |

| performance\_schema |

| practical4 |

| sai |

| sys |

+--------------------+

8 rows in set (0.01 sec)

mysql> use sai;

Database changed

mysql> show tables;

+---------------+

| Tables\_in\_sai |

+---------------+

| borrower |

| fine |

+---------------+

2 rows in set (0.01 sec)

mysql> create table student(Rollno int(10),Name varchar(12),Address varchar(13),Phone int(20),Age int(15));

Query OK, 0 rows affected, 3 warnings (0.09 sec)

mysql> create table studentcourse(Courseid int(10),Rollno int(15));

Query OK, 0 rows affected, 2 warnings (0.06 sec)

mysql> show tables;

+---------------+

| Tables\_in\_sai |

+---------------+

| borrower |

| fine |

| student |

| studentcourse |

+---------------+

4 rows in set (0.00 sec)

mysql> insert into student values('08','Sai','Ozar','23145','20');

Query OK, 1 row affected (0.00 sec)

mysql> insert into student values('10','Anuj','Naryangaon','12345','22');

Query OK, 1 row affected (0.01 sec)

mysql> insert into student values('12','Raj','Junner','23145','23');

Query OK, 1 row affected (0.03 sec)

mysql> insert into student values('1','Payal','Pune','43215','18');

Query OK, 1 row affected (0.00 sec)

mysql> insert into student values('2','Gauri','Nashik','54321','19');

Query OK, 1 row affected (0.00 sec)

mysql> select \* from student;

+--------+-------+------------+-------+------+

| Rollno | Name | Address | Phone | Age |

+--------+-------+------------+-------+------+

| 8 | Sai | Ozar | 23145 | 20 |

| 10 | Anuj | Naryangaon | 12345 | 22 |

| 12 | Raj | Junner | 23145 | 23 |

| 1 | Payal | Pune | 43215 | 18 |

| 2 | Gauri | Nashik | 54321 | 19 |

+--------+-------+------------+-------+------+

5 rows in set (0.00 sec)

mysql> insert into studentcourse values('1','08');

Query OK, 1 row affected (0.01 sec)

mysql> insert into studentcourse values('2','10');

Query OK, 1 row affected (0.00 sec)

mysql> insert into studentcourse values('3','10');

Query OK, 1 row affected (0.00 sec)

mysql> insert into studentcourse values('3','1');

Query OK, 1 row affected (0.01 sec)

mysql> insert into studentcourse values('4','2');

Query OK, 1 row affected (0.00 sec)

mysql> select \* from studentcourse;

+----------+--------+

| Courseid | Rollno |

+----------+--------+

| 1 | 8 |

| 2 | 10 |

| 3 | 10 |

| 3 | 1 |

| 4 | 2 |

+----------+--------+

5 rows in set (0.00 sec)

* **All Types Of Join**

mysql> select studentcourse.courseid,student.name,student.age from student

-> INNER JOIN studentcourse on student.Rollno = studentcourse.Rollno;

+----------+-------+------+

| courseid | name | age |

+----------+-------+------+

| 1 | Sai | 20 |

| 2 | Anuj | 22 |

| 3 | Anuj | 22 |

| 3 | Payal | 18 |

| 4 | Gauri | 19 |

+----------+-------+------+

5 rows in set (0.00 sec)

mysql> select student.name,studentcourse.courseid

-> from student

-> LEFT JOIN studentcourse on studentcourse.Rollno = student.Rollno;

+-------+----------+

| name | courseid |

+-------+----------+

| Sai | 1 |

| Anuj | 3 |

| Anuj | 2 |

| Raj | NULL |

| Payal | 3 |

| Gauri | 4 |

+-------+----------+

6 rows in set (0.00 sec)

mysql> select student.name,studentcourse.courseid from student

-> RIGHT JOIN studentcourse on studentcourse.Rollno = student.Rollno;

+-------+----------+

| name | courseid |

+-------+----------+

| Sai | 1 |

| Anuj | 2 |

| Anuj | 3 |

| Payal | 3 |

| Gauri | 4 |

+-------+----------+

5 rows in set (0.00 sec)

mysql> select student.name,studentcourse.Rollno from student

-> CROSS JOIN studentcourse on studentcourse.Rollno = student.Rollno;

+-------+--------+

| name | Rollno |

+-------+--------+

| Sai | 8 |

| Anuj | 10 |

| Anuj | 10 |

| Payal | 1 |

| Gauri | 2 |

+-------+--------+

5 rows in set (0.00 sec)

-> LEFT JOIN studentcourse on studentcourse.Rollno = student.name;

+-------+----------+

| name | courseid |

+-------+----------+

| Sai | NULL |

| Anuj | NULL |

| Raj | NULL |

| Payal | NULL |

| Gauri | NULL |

+-------+----------+

5 rows in set, 5 warnings (0.00 sec)

mysql> select \* from student INNER JOIN studentcourse on student.Rollno = studentcourse.Rollno;

+--------+-------+------------+-------+------+----------+--------+

| Rollno | Name | Address | Phone | Age | Courseid | Rollno |

+--------+-------+------------+-------+------+----------+--------+

| 8 | Sai | Ozar | 23145 | 20 | 1 | 8 |

| 10 | Anuj | Naryangaon | 12345 | 22 | 2 | 10 |

| 10 | Anuj | Naryangaon | 12345 | 22 | 3 | 10 |

| 1 | Payal | Pune | 43215 | 18 | 3 | 1 |

| 2 | Gauri | Nashik | 54321 | 19 | 4 | 2 |

+--------+-------+------------+-------+------+----------+--------+

5 rows in set (0.00 sec)

mysql> select \* from student LEFT JOIN studentcourse on student.Rollno = studentcourse.Rollno;

+--------+-------+------------+-------+------+----------+--------+

| Rollno | Name | Address | Phone | Age | Courseid | Rollno |

+--------+-------+------------+-------+------+----------+--------+

| 8 | Sai | Ozar | 23145 | 20 | 1 | 8 |

| 10 | Anuj | Naryangaon | 12345 | 22 | 3 | 10 |

| 10 | Anuj | Naryangaon | 12345 | 22 | 2 | 10 |

| 12 | Raj | Junner | 23145 | 23 | NULL | NULL |

| 1 | Payal | Pune | 43215 | 18 | 3 | 1 |

| 2 | Gauri | Nashik | 54321 | 19 | 4 | 2 |

+--------+-------+------------+-------+------+----------+--------+

6 rows in set (0.00 sec)

mysql> select \* from student CROSS JOIN studentcourse;

+--------+-------+------------+-------+------+----------+--------+

| Rollno | Name | Address | Phone | Age | Courseid | Rollno |

+--------+-------+------------+-------+------+----------+--------+

| 2 | Gauri | Nashik | 54321 | 19 | 1 | 8 |

| 1 | Payal | Pune | 43215 | 18 | 1 | 8 |

| 12 | Raj | Junner | 23145 | 23 | 1 | 8 |

| 10 | Anuj | Naryangaon | 12345 | 22 | 1 | 8 |

| 8 | Sai | Ozar | 23145 | 20 | 1 | 8 |

| 2 | Gauri | Nashik | 54321 | 19 | 2 | 10 |

| 1 | Payal | Pune | 43215 | 18 | 2 | 10 |

| 12 | Raj | Junner | 23145 | 23 | 2 | 10 |

| 10 | Anuj | Naryangaon | 12345 | 22 | 2 | 10 |

| 8 | Sai | Ozar | 23145 | 20 | 2 | 10 |

| 2 | Gauri | Nashik | 54321 | 19 | 3 | 10 |

| 1 | Payal | Pune | 43215 | 18 | 3 | 10 |

| 12 | Raj | Junner | 23145 | 23 | 3 | 10 |

| 10 | Anuj | Naryangaon | 12345 | 22 | 3 | 10 |

| 8 | Sai | Ozar | 23145 | 20 | 3 | 10 |

| 2 | Gauri | Nashik | 54321 | 19 | 3 | 1 |

| 1 | Payal | Pune | 43215 | 18 | 3 | 1 |

| 12 | Raj | Junner | 23145 | 23 | 3 | 1 |

| 10 | Anuj | Naryangaon | 12345 | 22 | 3 | 1 |

| 8 | Sai | Ozar | 23145 | 20 | 3 | 1 |

| 2 | Gauri | Nashik | 54321 | 19 | 4 | 2 |

| 1 | Payal | Pune | 43215 | 18 | 4 | 2 |

| 12 | Raj | Junner | 23145 | 23 | 4 | 2 |

| 10 | Anuj | Naryangaon | 12345 | 22 | 4 | 2 |

| 8 | Sai | Ozar | 23145 | 20 | 4 | 2 |

+--------+-------+------------+-------+------+----------+--------+

25 rows in set (0.00 sec)

mysql> select student.name,studentcourse.Rollno from student CROSS JOIN studentcourse;

+-------+--------+

| name | Rollno |

+-------+--------+

| Gauri | 8 |

| Payal | 8 |

| Raj | 8 |

| Anuj | 8 |

| Sai | 8 |

| Gauri | 10 |

| Payal | 10 |

| Raj | 10 |

| Anuj | 10 |

| Sai | 10 |

| Gauri | 10 |

| Payal | 10 |

| Raj | 10 |

| Anuj | 10 |

| Sai | 10 |

| Gauri | 1 |

| Payal | 1 |

| Raj | 1 |

| Anuj | 1 |

| Sai | 1 |

| Gauri | 2 |

| Payal | 2 |

| Raj | 2 |

| Anuj | 2 |

| Sai | 2 |

+-------+--------+

25 rows in set (0.00 sec)

mysql> select a.name,b.Rollno from student a,student b where a.age<b.age;

+-------+--------+

| name | Rollno |

+-------+--------+

| Gauri | 8 |

| Payal | 8 |

| Gauri | 10 |

| Payal | 10 |

| Sai | 10 |

| Gauri | 12 |

| Payal | 12 |

| Anuj | 12 |

| Sai | 12 |

| Payal | 2 |

+-------+--------+

10 rows in set (0.00 sec)

mysql> select a.name,b.Rollno from student a,student b where a.age<b.age order by a.name;

+-------+--------+

| name | Rollno |

+-------+--------+

| Anuj | 12 |

| Gauri | 8 |

| Gauri | 10 |

| Gauri | 12 |

| Payal | 8 |

| Payal | 10 |

| Payal | 12 |

| Payal | 2 |

| Sai | 10 |

| Sai | 12 |

+-------+--------+

10 rows in set (0.01 sec)

* **View**

mysql> create view newview as select student.name,student.Rollno,studentcourse.courseid from student LEFT JOIN studentc

ourse on student.Rollno = studentcourse.Rollno;

Query OK, 0 rows affected (0.03 sec)

mysql> select \* from newview;

+-------+--------+----------+

| name | Rollno | courseid |

+-------+--------+----------+

| Sai | 8 | 1 |

| Anuj | 10 | 3 |

| Anuj | 10 | 2 |

| Raj | 12 | NULL |

| Payal | 1 | 3 |

| Gauri | 2 | 4 |

+-------+--------+----------+

6 rows in set (0.01 sec)

* **Sub-query**

mysql> select \* from student where Rollno in

-> (select Rollno from studentcourse);

+--------+-------+------------+-------+------+

| Rollno | Name | Address | Phone | Age |

+--------+-------+------------+-------+------+

| 8 | Sai | Ozar | 23145 | 20 |

| 10 | Anuj | Naryangaon | 12345 | 22 |

| 1 | Payal | Pune | 43215 | 18 |

| 2 | Gauri | Nashik | 54321 | 19 |

+--------+-------+------------+-------+------+

4 rows in set (0.01 sec)

mysql> select \* from student where Rollno in (select Rollno from studentcourse where student.age<20);

+--------+-------+---------+-------+------+

| Rollno | Name | Address | Phone | Age |

+--------+-------+---------+-------+------+

| 1 | Payal | Pune | 43215 | 18 |

| 2 | Gauri | Nashik | 54321 | 19 |

+--------+-------+---------+-------+------+