NAME : AMAN KUMAR RAJAK
ROLL NO. : 53
DATABASE MANAGEMENT SYSTEM

ASSIGNMENT : 1

Q1 Attempt any three questions and use relevant output:

Question (A)

Develop a SQL query to list details of Departments that offer more than 3 branches.

Question (B)

Develop a SQL query to list the details of Departments that offer more than 6 courses.

Question (D)

Develop a SQL query to list students who got 'S' in more than 2 courses during single enrollment.

TABLES

```
mysql> use db1;
Database changed
mysql> show tables;
+--------------+
| Tables_in_db1 |
+--------------+
| branch       |
| course       |
| dept         |
| enrolls      |
| student      |
+--------------+
5 rows in set (0.00 sec)
```

TABLE : 1

```
mysql> select * from branch;
+-------+------------------+------+
| Bcode | Bname            | dno  |
+-------+------------------+------+
| ab1   | agriculture      |    6 |
| ab2   | agriculture      |    5 |
| cs1   | computer science |    1 |
| cs2   | computer science |    1 |
| bsc1  | chemistry        |    5 |
| bsc2  | chemistry        |    5 |
| bsit1 | it and innovation |   1 |
| bsit2 | it and innovation |   1 |
| bms1  | business mngt     |    1 |
| bms2  | business mngt     |    6 |
| bms3  | business mngt     |    6 |
+-------+------------------+------+
11 rows in set (0.00 sec)
```

Table : 2)

```
mysql> select * from dept;
+-------+------------+
| DNO   | DNAME      |
+-------+------------+
|     1 | MATHS      |
|     2 | PHYSICS    |
|     3 | CSE        |
|     4 | LANG       |
|     5 | CHEMISTRY  |
|     6 | MANGEMENT  |
|    11 | ENGG       |
+-------+------------+
7 rows in set (0.00 sec)
```

3)

```
mysql> select * from student;
+--------+-----------+-----------+--------+-----------+-------+
| ROLLNO | NAME      | DOB       | GENDER | DOA       | BCODE |
+--------+-----------+-----------+--------+-----------+-------+
|   1200 | RAM       | 2/3/2017  | M      | 5/15/2020 |   110 |
|   1201 | SHYAM     | 5/4/2019  | F      | 9/16/2020 |   112 |
|   1202 | ALI       | 9/16/2017 | M      | 5/4/2020  |   114 |
|   1203 | KOHLI     | 5/15/2020 | F      | 5/2/2020  |   109 |
|   1204 | GHANSHYAM | 6/14/2019 | M      | 7/19/2020 |   106 |
|   1205 | NEGI      | 8/12/2033 | F      | 7/13/2020 |   101 |
+--------+-----------+-----------+--------+-----------+-------+
6 rows in set (0.00 sec)
```

4)

```
mysql> select * from course;
+-------+-------------------------+---------+-----+
| CCODE | CNAME                   | CREDITS | DNO |
+-------+-------------------------+---------+-----+
|    11 | LINEAR ALGEBRA          |       2 |   1 |
|    12 | TRIGONOMETRY            |       3 |   1 |
|    13 | DISCRETE MATH           |       2 |   1 |
|    14 | STATS                   |       2 |   1 |
|    21 | REAL ANALYTICS          |       3 |   1 |
|    22 | FIELD THEORY            |       4 |   1 |
|    23 | DIFF EQN                |       4 |   1 |
|    24 | CALCULUS                |       3 |   1 |
|    51 | ENGG MATH               |       2 |   1 |
|    52 | ENGG GRAPHICS           |       3 |   1 |
|    61 | ART OF PROG             |       2 |   1 |
|    62 | MECH OF SOLIDS          |       3 |   1 |
|    63 | ELEC ENGG BASIC         |       3 |   1 |
|    64 | HIGH VOLTAGE ENGG       |       2 |   1 |
|    65 | ENGG ELECTRIC           |       3 |   2 |
|    66 | CLASSIC MECH            |       4 |   2 |
|    81 | THEORY OF RELATIVITY    |       3 |   2 |
|    82 | MATTER AND KINETIC THEORY |     4 |   2 |
|    83 | COMPLEX ANALYSIS        |       4 |   2 |
|    84 | SEMICONDUCTOR DEVICES   |       4 |   2 |
|    85 | WAVE AND OPTICS         |       3 |   3 |
|    86 | NUCLEAR PHYSICS         |       4 |   3 |
|    91 | ELECTROPHYSICS          |       5 |   3 |
|    92 | MOLECULAR PHYSICS       |       6 |   3 |
|    93 | ATMOSPHERIC PHYSICS     |       2 |   3 |
|     1 | RADIATION PHYSICS       |       3 |   3 |
|     2 | MATH FOR CS             |       1 |   3 |
|   111 | PROGRAMMING             |       5 |   4 |
|   112 | WEB PROGRAMMING         |       7 |   5 |
|   113 | OS                      |       3 |   2 |
|   121 | COMPUTER GRAPHICS       |       2 |   1 |
|   122 | COMPUTER NETWORKS       |       2 |   2 |
|   123 | RESEARCH METHODS        |       2 |   3 |
|   103 | ENGLISH-1               |       1 |   3 |
|   110 | ENGLISH-2               |       4 |   2 |
|   114 | C LANGUAGE              |       9 |   2 |
|   115 | JAVA                    |       5 |   1 |
|   116 | RDBMS                   |       2 |   1 |
|   117 | JAVA                    |       2 |   2 |
|   118 | JAVA CORE               |       2 |   3 |
|   119 | COMPUTER ORGANIZATION   |       2 |   2 |
|   120 | SANSKRIT                |       2 |   5 |
|   124 | HINDI                   |       0 |   6 |
|   125 | FRENCH                  |       2 |   2 |
+-------+-------------------------+---------+-----+
44 rows in set (0.00 sec)
```

5)

```
mysql> select * from enrolls;
+--------+--------+--------+-------+
| ROLLNO | CCODE  | SESS   | GRADE |
+--------+--------+--------+-------+
|   1200 |   1011 | Apr-14 | S     |
|   1201 |   1012 | Apr-14 | S     |
|   1202 |   1013 | Apr-14 | S     |
|   1203 |   1014 | Apr-08 | S     |
|   1204 |   1015 | Apr-12 | A     |
|   1205 |   1016 | Apr-08 | S     |
|   1206 |   1017 | May-13 | B     |
|   1207 |   1018 | May-13 | S     |
|   1208 |   1019 | Nov-12 | A     |
|   1209 |   1020 | Dec-12 | C     |
|   1210 |   1021 | Jan-13 | D     |
|   1211 |   1022 | Feb-13 | U     |
|   1212 |   1023 | Mar-13 | C     |
|   1213 |   1024 | Apr-13 | E     |
|   1214 |   1025 | May-13 | K     |
|   1215 |   1026 | Jun-13 | L     |
|   1216 |   1027 | Jul-13 | Z     |
|   1217 |   1028 | Aug-13 | A     |
|   1218 |   1029 | Sep-13 | F     |
|   1219 |   1030 | Oct-13 | W     |
|   1220 |   1031 | Nov-13 | A     |
|   1221 |   1032 | Dec-13 | S     |
+--------+--------+--------+-------+
22 rows in set (0.00 sec)
```

Ans a)

```
mysql> select * from dept
    -> where dno in(
    -> select dno
    -> from branch
    -> group by dno
    -> having count(*)>3);
+-----+-------+
| dno | DNAME |
+-----+-------+
|   1 | MATHS |
+-----+-------+
1 row in set (0.02 sec)
```

Question (A)
Develop a SQL query to list details of Departments that offer more than 3 branches.

Question (B)

Develop a SQL query to list the details of Departments that offer more than 6 courses.

```
mysql> select * from dept
    -> where dno in(
    -> select DNO
    -> from course
    -> group by dno
    -> having count(dno)>6);
+------+---------+
| dno  | DNAME   |
+------+---------+
|    1 | MATHS   |
|    2 | PHYSICS |
|    3 | CSE     |
+------+---------+
3 rows in set (0.00 sec)
```

Question (D)

Develop a SQL query to list students who got 'S' in more than 2 courses during single enrollment.

```
mysql> select name from student
    -> where rollno in(
    -> select rollno from enrolls
    -> where grade='s'
    -> group by rollno
    -> having count(ccode)>2);
Empty set (0.00 sec)
```