ASSIGNMENT – 3

Question (A)

Develop DDL to implement the above schema specifying appropriate data types for each attribute and enforcing primary key, check constraints and foreign key constraint.

Dept Table

```
mysql> Create table Dept(Deptno varchar(5),Name varchar(30));
Query OK, 0 rows affected (0.04 sec)

mysql> Alter table Dept add primary key(Deptno);
Query OK, 0 rows affected (0.10 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> Alter table Dept add constraint cpk check(Deptno like 'd%');
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc Dept;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| Deptno | varchar(5)  | NO   | PRI | NULL    |       |
| Name   | varchar(30) | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
2 rows in set (0.01 sec)
```

Staff Table

```
mysql> Create table Staff(Staffno int(20),Name varchar(30),Dob date,
Gender char(2),Doj date,Designation varchar(30),Basic_pay int(6),Dep
t varchar(5));

mysql> Alter table Staff add primary key(Staffno);
Query OK, 0 rows affected (0.09 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> Alter table Staff add foreign key(Deptno) references Dept
(Deptno);
Query OK, 0 rows affected (0.07 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> Alter table Staff add constraint chk check(Gender IN ('M','F'));
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
mysql> desc Staff;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| Staffno     | int(20)     | NO   | PRI | NULL    |       |
| Name        | varchar(30) | YES  |     | NULL    |       |
| Dob         | date        | YES  |     | NULL    |       |
| Gender      | char(2)     | YES  |     | NULL    |       |
| Doj         | date        | YES  |     | NULL    |       |
| Designation | varchar(30) | YES  |     | NULL    |       |
| Basic_pay   | int(6)      | YES  |     | NULL    |       |
| Deptno      | varchar(5)  | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
8 rows in set (0.00 sec)
```

Skill Table

```
mysql> Create table Skill(Skill_code varchar(5),Description varchar(30),
Charge_Outrate int(3));
Query OK, 0 rows affected (0.03 sec)

mysql> Alter table Skill add primary key(Skill_code);
Query OK, 0 rows affected (0.04 sec)
Records: 0  Duplicates: 0  Warnings: 0
mysql> Alter table Skill add constraint cpk4 check(Skill_Code like 'S%');
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0
mysql> desc Skill;
+---------------+-------------+------+-----+---------+-------+
| Field         | Type        | Null | Key | Default | Extra |
+---------------+-------------+------+-----+---------+-------+
| Skill_code    | varchar(5)  | NO   | PRI | NULL    |       |
| Description   | varchar(30) | YES  |     | NULL    |       |
| Charge_Outrate | int(3)     | YES  |     | NULL    |       |
+---------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

Staff_Skill Table

```
mysql> create table Staff_Skill(Staffno int(5), Skill_code varchar(5));
Query OK, 0 rows affected (0.06 sec)

mysql> Alter table Staff_Skill add primary key(Staffno,Skill_code);
Query OK, 0 rows affected (0.08 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> Alter table Staff_Skill add foreign key(Staffno) references Staff(Staffno);
Query OK, 0 rows affected (0.09 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
mysql> Alter table Staff_Skill add foreign key(Skill_code) references Skill(Skill_code);
Query OK, 0 rows affected (0.10 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
mysql> desc Staff_Skill;
+------------+------------+------+-----+---------+-------+
| Field      | Type       | Null | Key | Default | Extra |
+------------+------------+------+-----+---------+-------+
| Staffno    | int(5)     | NO   | PRI | NULL    |       |
| Skill_code | varchar(5) | NO   | PRI | NULL    |       |
+------------+------------+------+-----+---------+-------+
2 rows in set (0.00 sec)
```

Project Table

```
mysql> Create table Project(Projectno varchar(5),Pname varchar(5)
,Start_Date date,End_Date date, Project_Manager_Staffno int(5));
Query OK, 0 rows affected (0.07 sec)

mysql> Alter table Project add primary key(Projectno);
Query OK, 0 rows affected (0.09 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> Alter table Project add constraint chk1 check(Pname Like 'P%');
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
mysql> desc Project;
+-------------------------+-------------+------+-----+---------+-------+
| Field                   | Type        | Null | Key | Default | Extra |
+-------------------------+-------------+------+-----+---------+-------+
| Projectno               | varchar(5)  | NO   | PRI | NULL    |       |
| Pname                   | varchar(20) | YES  |     | NULL    |       |
| Start_Date              | date        | YES  |     | NULL    |       |
| End_Date                | date        | YES  |     | NULL    |       |
| Project_Manager_Staffno | int(5)      | YES  |     | NULL    |       |
+-------------------------+-------------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

Works Table

```
mysql> Create table Works(Staffno int(5),Projectno varchar(5),Date
_Worked_On date,Intime Timestamp default Current_Timestamp,Outtime
 Timestamp default Current_Timestamp);

mysql> Alter table Works add primary key(Staffno,Projectno);
Query OK, 0 rows affected (0.07 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
mysql> Alter table Works add foreign key(Staffno) references Sta
ff(Staffno);
Query OK, 0 rows affected (0.12 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> Alter table Works add foreign key(Projectno) references Project(Projectno);
Query OK, 0 rows affected (0.10 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
mysql> desc Works;
+---------------+------------+------+-----+-------------------+-------+
| Field         | Type       | Null | Key | Default           | Extra |
+---------------+------------+------+-----+-------------------+-------+
| Staffno       | int(5)     | NO   | PRI | NULL              |       |
| Projectno     | varchar(5) | NO   | PRI | NULL              |       |
| Date_Worked_On | date       | YES  |     | NULL              |       |
| Intime        | timestamp  | NO   |     | CURRENT_TIMESTAMP |       |
| Outtime       | timestamp  | NO   |     | CURRENT_TIMESTAMP |       |
+---------------+------------+------+-----+-------------------+-------+
5 rows in set (0.00 sec)
```

Question (B)

Populate the database with rich data set.

Dept Table

```
mysql> INSERT INTO DEPT VALUES('D0001','Marketing');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO DEPT VALUES('D0002','Finance');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO DEPT VALUES('D0003','HR');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO DEPT VALUES('D0004','Production');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO DEPT VALUES('D0005','Research and Development');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> SELECT * FROM Dept;
+--------+--------------------------+
| Deptno | Name                     |
+--------+--------------------------+
| D0001  | Marketing                |
| D0002  | Finance                  |
| D0003  | HR                       |
| D0004  | Production               |
| D0005  | Research and Development |
+--------+--------------------------+
5 rows in set (0.00 sec)
```

Staff Table

```
mysql> INSERT INTO Staff VALUES(101,'Isha Khare','1990-11-20','F','2022-03-19','Backend Developer',40000,'D0001');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff VALUES(102,'Kanika Jain','1988-02-11','F','2024-06-20','Marketing Manager',55000,'D0002');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff VALUES(103,'Avinash Sharma','1992-09-07','M','2023-12-16','Team Leader',50000,'D0001');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff VALUES(104,'Ishan Khatri','1991-10-31','M','2022-10-09','Accountant',30000,'D0004');
Query OK, 1 row affected (0.00 sec)
mysql> INSERT INTO Staff VALUES(105,'Namit Mehta','1994-06-06','M','2023-07-27','R & D Specialist',60000,'D0003');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff VALUES(106,'Tina Thakur','1993-03-24','F','2024-09-01','CTO',80000,'D0001');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff VALUES(107,'Dhwani Rajput','1996-08-25','F','2022-08-02','CA',95000,'D0004');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff VALUES(108,'Rohit Saraf','1997-12-12','M','2023-11-19','Frontend Developer',30000,'D0001');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff VALUES(109,'Rakulpreet Singh','1989-01-22','F','2022-01-24','Database Manager',68000,'D0001');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff VALUES(110,'Naman Gupta','1994-03-16','M','2023-09-30','HR Manager',70000,'D0005');
Query OK, 1 row affected (0.00 sec)
mysql> INSERT INTO STAFF VALUES(111,'Amit Nandwal','1999-04-16','M','2024-04-16','Python Developer',35000,'D0001');
Query OK, 1 row affected (0.01 sec)
```

```
mysql> SELECT * FROM Staff;
+---------+------------------+------------+--------+------------+--------------------+-----------+--------+
| Staffno | Name             | Dob        | Gender | Doj        | Designation        | Basic_pay | Deptno |
+---------+------------------+------------+--------+------------+--------------------+-----------+--------+
|     101 | Isha Khare       | 1990-11-20 | F      | 2022-03-19 | Backend Developer  |     40000 | D0001  |
|     102 | Kanika Jain      | 1988-02-11 | F      | 2024-06-20 | Marketing Manager  |     55000 | D0002  |
|     103 | Avinash Sharma   | 1992-09-07 | M      | 2023-12-16 | Team Leader        |     50000 | D0001  |
|     104 | Ishan Khatri     | 1991-10-31 | M      | 2022-10-09 | Accountant         |     30000 | D0004  |
|     105 | Namit Mehta      | 1994-06-06 | M      | 2023-07-27 | R & D Specialist   |     60000 | D0003  |
|     106 | Tina Thakur      | 1993-03-24 | F      | 2024-09-01 | CTO                |     80000 | D0001  |
|     107 | Dhwani Rajput    | 1996-08-25 | F      | 2022-08-02 | CA                 |     95000 | D0004  |
|     108 | Rohit Saraf      | 1997-12-12 | M      | 2023-11-19 | Frontend Developer |     30000 | D0001  |
|     109 | Rakulpreet Singh | 1989-01-22 | F      | 2022-01-24 | Database Manager   |     68000 | D0001  |
|     110 | Naman Gupta      | 1994-03-16 | M      | 2023-09-30 | HR Manager         |     70000 | D0005  |
|     111 | Amit Nandwal     | 1999-04-16 | M      | 2024-04-16 | Python Developer   |     35000 | D0001  |
+---------+------------------+------------+--------+------------+--------------------+-----------+--------+
11 rows in set (0.00 sec)
```

Skill Table

```
mysql> INSERT INTO SKILL VALUES('S0001','Communication',65);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO SKILL VALUES('S0002','Python',65);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO SKILL VALUES('S0003','Frontend Developer',70);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO SKILL VALUES('S0004','Full Stack',90);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO SKILL VALUES('S0005','Team Manager',75);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO SKILL VALUES('S0006','Critical Thinking',60);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> INSERT INTO SKILL VALUES('S0007','Organization Skills',65);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO SKILL VALUES('S0008','Accounting',55);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO SKILL VALUES('S0009','Digital Marketing',60);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO SKILL VALUES('S0010','Data Analytics',85);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO SKILL VALUES('S0011','DBMS',70);
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM Skill;
+------------+---------------------+----------------+
| Skill_code | Description         | Charge_Outrate |
+------------+---------------------+----------------+
| S0001      | Communication       |             65 |
| S0002      | Python              |             65 |
| S0003      | Frontend Developer  |             70 |
| S0004      | Full Stack          |             90 |
| S0005      | Team Manager        |             75 |
| S0006      | Critical Thinking   |             60 |
| S0007      | Organization Skills |             65 |
| S0008      | Accounting          |             55 |
| S0009      | Digital Marketing   |             60 |
| S0010      | Data Analytics      |             85 |
| S0011      | DBMS                |             70 |
+------------+---------------------+----------------+
11 rows in set (0.00 sec)
```

Staff_Skill Table

```
mysql> INSERT INTO Staff_Skill VALUES(101,'S0001');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Staff_Skill VALUES(101,'S0004');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(101,'S0010');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(101,'S0011');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(102,'S0005');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(102,'S0009');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(103,'S0005');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(103,'S0007');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(104,'S0008');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(105,'S0010');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(105,'S0006');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(106,'S0002');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(106,'S0004');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(106,'S0005');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(106,'S0011');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> INSERT INTO Staff_Skill VALUES(107,'S0001');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(107,'S0006');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(107,'S0008');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(108,'S0003');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(109,'S0006');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(109,'S0007');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(109,'S0011');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(110,'S0001');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(110,'S0005');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(110,'S0006');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(111,'S0001');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Staff_Skill VALUES(111,'S0002');
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM Staff_Skill;
+---------+------------+
| Staffno | Skill_code |
+---------+------------+
|     101 | S0001      |
|     107 | S0001      |
|     110 | S0001      |
|     111 | S0001      |
|     106 | S0002      |
|     111 | S0002      |
|     108 | S0003      |
|     101 | S0004      |
|     106 | S0004      |
|     102 | S0005      |
|     103 | S0005      |
|     106 | S0005      |
|     110 | S0005      |
|     105 | S0006      |
|     107 | S0006      |
|     109 | S0006      |
|     110 | S0006      |
|     103 | S0007      |
|     109 | S0007      |
|     104 | S0008      |
|     107 | S0008      |
|     102 | S0009      |
|     101 | S0010      |
|     105 | S0010      |
|     101 | S0011      |
|     106 | S0011      |
|     109 | S0011      |
+---------+------------+
27 rows in set (0.00 sec)
```

Project Table

```
mysql> INSERT INTO Project VALUES('P0001','Foodie Finder','2023-01-10','2023-04-10',101);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Project VALUES('P0002','Smart Style','2024-01-01','2024-04-10',104);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Project VALUES('P0003','Fashion Tech','2024-02-09','2024-12-10',102);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Project VALUES('P0004','Gadget Gear','2023-06-02','2024-01-18',105);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Project VALUES('P0005','Picture Perfect','2023-12-12','2024-05-20',110);
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM Project;
+-----------+-----------------+------------+------------+--------------------------+
| Projectno | Pname           | Start_Date | End_Date   | Project_Manager_Staffno |
+-----------+-----------------+------------+------------+--------------------------+
| P0001     | Foodie Finder   | 2023-01-10 | 2023-04-10 |                      101 |
| P0002     | Smart Style     | 2024-01-01 | 2024-04-10 |                      104 |
| P0003     | Fashion Tech    | 2024-02-09 | 2024-12-10 |                      102 |
| P0004     | Gadget Gear     | 2023-06-02 | 2024-01-18 |                      105 |
| P0005     | Picture Perfect | 2023-12-12 | 2024-05-20 |                      110 |
+-----------+-----------------+------------+------------+--------------------------+
5 rows in set (0.00 sec)
```

Works Table

```
mysql> INSERT INTO Works VALUES(101,'P0001','2023-01-20','2023-01-20 09:00:00','2023-01-20 17:00:00');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Works VALUES(103,'P0002','2024-02-02','2024-02-02 09:15:00','2024-02-02 5:30:00');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Works VALUES(102,'P0003','2024-03-15','2024-03-15 09:00:00','2024-03-15 4:30:00');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Works VALUES(105,'P0004','2024-02-09','2024-02-09 09:30:00','2024-02-09 5:00:00');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Works VALUES(104,'P0005','2024-01-10','2024-01-10 09:30:00','2024-01-10 5:30:00');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Works VALUES(106,'P0001','2023-02-02','2023-02-02 09:15:00','2023-02-02 5:30:00');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Works VALUES(107,'P0002','2024-03-20','2024-03-20 09:30:00','2024-03-20 6:30:00');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Works VALUES(108,'P0003','2024-06-25','2024-06-25 10:00:00','2024-06-25 6:00:00');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Works VALUES(109,'P0004','2024-05-26','2024-05-26 10:15:00','2024-05-26 6:30:00');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Works VALUES(110,'P0005','2023-12-18','2023-12-18 09:15:00','2023-12-18 5:30:00');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> SELECT * FROM Works;
+---------+-----------+----------------+---------------------+---------------------+
| Staffno | Projectno | Date_Worked_On | Intime              | Outtime             |
+---------+-----------+----------------+---------------------+---------------------+
|     101 | P0001     | 2023-01-20     | 2023-01-20 09:00:00 | 2023-01-20 17:00:00 |
|     102 | P0003     | 2024-03-15     | 2024-03-15 09:00:00 | 2024-03-15 04:30:00 |
|     103 | P0002     | 2024-02-02     | 2024-02-02 09:15:00 | 2024-02-02 05:30:00 |
|     104 | P0005     | 2024-01-10     | 2024-01-10 09:30:00 | 2024-01-10 05:30:00 |
|     105 | P0004     | 2024-02-09     | 2024-02-09 09:30:00 | 2024-02-09 05:00:00 |
|     106 | P0001     | 2023-02-02     | 2023-02-02 09:15:00 | 2023-02-02 05:30:00 |
|     107 | P0002     | 2024-03-20     | 2024-03-20 09:30:00 | 2024-03-20 06:30:00 |
|     108 | P0003     | 2024-06-25     | 2024-06-25 10:00:00 | 2024-06-25 06:00:00 |
|     109 | P0004     | 2024-05-26     | 2024-05-26 10:15:00 | 2024-05-26 06:30:00 |
|     110 | P0005     | 2023-12-18     | 2023-12-18 09:15:00 | 2023-12-18 05:30:00 |
+---------+-----------+----------------+---------------------+---------------------+
10 rows in set (0.00 sec)
```

Question (C)

Develop a SQL query to list the departmentno and number of staff in each department.

```
mysql> SELECT Deptno, Count(Deptno) AS Number_of_Staff FROM STAFF GROUP BY Deptno;
+--------+-----------------+
| Deptno | Number_of_Staff |
+--------+-----------------+
| D0001  |               6 |
| D0002  |               1 |
| D0003  |               1 |
| D0004  |               2 |
| D0005  |               1 |
+--------+-----------------+
5 rows in set (0.00 sec)
```

Question (D)

Develop a SQL query to list the details of staff who earn the AVG basic pay of all staff.

```
mysql> SELECT * FROM Staff WHERE Basic_pay=(SELECT AVG(Basic_pay) FROM Staff);
Empty set (0.01 sec)
```

Question (E)

Develop a SQL query to list the details of staff who have more than 3 skills.

```
mysql> SELECT * FROM Staff WHERE Staffno IN
    -> (SELECT Staffno FROM Staff_Skill GROUP BY Staffno HAVING COUNT(Skill_code)>3);
+---------+-------------+------------+--------+------------+--------------------+-----------+---------+
| Staffno | Name        | Dob        | Gender | Doj        | Designation        | Basic_pay | Deptno |
+---------+-------------+------------+--------+------------+--------------------+-----------+---------+
|     101 | Isha Khare  | 1990-11-20 | F      | 2022-03-19 | Backend Developer  |     40000 | D0001  |
|     106 | Tina Thakur | 1993-03-24 | F      | 2024-09-01 | CTO                |     80000 | D0001  |
+---------+-------------+------------+--------+------------+--------------------+-----------+---------+
2 rows in set (0.00 sec)
```

Question (F)

Develop a SQL query to list the details of staff who have skills with a charge outrate greater than 60 per hour.

```
mysql> SELECT * FROM Staff WHERE Staffno IN
    -> (SELECT Staffno FROM Staff_Skill WHERE Skill_Code IN
    -> (SELECT Skill_Code FROM Skill WHERE Charge_Outrate > 60));
+---------+-----------------+------------+--------+------------+--------------------+-----------+---------+
| Staffno | Name            | Dob        | Gender | Doj        | Designation        | Basic_pay | Deptno |
+---------+-----------------+------------+--------+------------+--------------------+-----------+---------+
|     101 | Isha Khare      | 1990-11-20 | F      | 2022-03-19 | Backend Developer  |     40000 | D0001  |
|     102 | Kanika Jain     | 1988-02-11 | F      | 2024-06-20 | Marketing Manager  |     55000 | D0002  |
|     103 | Avinash Sharma  | 1992-09-07 | M      | 2023-12-16 | Team Leader        |     50000 | D0001  |
|     105 | Namit Mehta     | 1994-06-06 | M      | 2023-07-27 | R & D Specialist   |     60000 | D0003  |
|     106 | Tina Thakur     | 1993-03-24 | F      | 2024-09-01 | CTO                |     80000 | D0001  |
|     107 | Dhwani Rajput   | 1996-08-25 | F      | 2022-08-02 | CA                 |     95000 | D0004  |
|     108 | Rohit Saraf     | 1997-12-12 | M      | 2023-11-19 | Frontend Developer |     30000 | D0001  |
|     109 | Rakulpreet Singh | 1989-01-22 | F      | 2022-01-24 | Database Manager   |     68000 | D0001  |
|     110 | Naman Gupta     | 1994-03-16 | M      | 2023-09-30 | HR Manager         |     70000 | D0005  |
|     111 | Amit Nandwal    | 1999-04-16 | M      | 2024-04-16 | Python Developer   |     35000 | D0001  |
+---------+-----------------+------------+--------+------------+--------------------+-----------+---------+
10 rows in set (0.00 sec)
```

Question (G)

Create a view that will keep track of the department number, department name, the number of employees in the department and total basic pay expenditure for the department.

```
mysql> CREATE VIEW StaffCount AS
    -> SELECT D.DEPTNO, D.NAME, COUNT(S.STAFFNO) AS
    -> STAFF_COUNT,SUM(S.BASIC_PAY) AS DEPT_EXPENSE
    -> FROM DEPT D,STAFF S
    -> WHERE D.DEPTNO=S.DEPTNO GROUP BY D.DEPTNO,D.NAME;
Query OK, 0 rows affected (0.00 sec)

mysql> SELECT * FROM StaffCount;
+--------+--------------------------+-------------+--------------+
| DEPTNO | NAME                     | STAFF_COUNT | DEPT_EXPENSE |
+--------+--------------------------+-------------+--------------+
| D0001  | Marketing                |           6 |       303000 |
| D0002  | Finance                  |           1 |        55000 |
| D0003  | HR                       |           1 |        60000 |
| D0004  | Production               |           2 |       125000 |
| D0005  | Research and Development |           1 |        70000 |
+--------+--------------------------+-------------+--------------+
5 rows in set (0.01 sec)
```

Question (H)

Develop a SQL query to list the details of Depts which has more than 5 staff working in it.

```
mysql> SELECT * FROM DEPT WHERE Deptno IN
    -> (SELECT Deptno FROM Staff GROUP BY Deptno HAVING COUNT(Staffno)>5);
+--------+-----------+
| Deptno | Name      |
+--------+-----------+
| D0001  | Marketing |
+--------+-----------+
1 row in set (0.00 sec)
```

Question (I)

Develop a SQL query to list the details of staff who have more than 3 skills.

```
mysql> SELECT * FROM Staff WHERE Staffno IN
    -> (SELECT Staffno FROM Staff_Skill GROUP BY Staffno HAVING COUNT(Skill_code)>3);
+---------+-------------+------------+--------+------------+-------------------+-----------+---------+
| Staffno | Name        | Dob        | Gender | Doj        | Designation       | Basic_pay | Deptno |
+---------+-------------+------------+--------+------------+-------------------+-----------+---------+
|     101 | Isha Khare  | 1990-11-20 | F      | 2022-03-19 | Backend Developer |     40000 | D0001  |
|     106 | Tina Thakur | 1993-03-24 | F      | 2024-09-01 | CTO               |     80000 | D0001  |
+---------+-------------+------------+--------+------------+-------------------+-----------+---------+
2 rows in set (0.00 sec)
```