ASSIGNMENT 3

1. Extract the first three characters from your names.

```
mysql> select left("Nanda Krishnan V",3);
+---------------------------+
| left("Nanda Krishnan V",3) |
+---------------------------+
| Nan                       |
+---------------------------+
1 row in set (0.00 sec)
```

2. Convert your name to both UPPERCASE and lowercase.

```
mysql> select upper("Nanda Krishnan V");
+---------------------------+
| upper("Nanda Krishnan V") |
+---------------------------+
| NANDA KRISHNAN V          |
+---------------------------+
1 row in set (0.00 sec)

mysql> select lower("Nanda Krishnan V");
+---------------------------+
| lower("Nanda Krishnan V") |
+---------------------------+
| nanda krishnan v          |
+---------------------------+
1 row in set (0.00 sec)
```

3. Concatenate the first name and last name of yourself with a space in between.

```
mysql> select concat("Nanda","Krishnan","V");
+---------------------------------+
| concat("Nanda","Krishnan","V") |
+---------------------------------+
| NandaKrishnanV                  |
+---------------------------------+
1 row in set (0.00 sec)
```

4. Find the position of the substring 'IT' in your department names.

```
mysql> select instr("CS with Cybersecurity in IT Field","IT");
+-----------------------------------------------+
| instr("CS with Cybersecurity in IT Field","IT") |
+-----------------------------------------------+
|                                             5 |
+-----------------------------------------------+
1 row in set (0.00 sec)
```

5. Get the current date and time.

```
mysql> select now();
+---------------------+
| now()               |
+---------------------+
| 2024-09-03 13:59:30 |
+---------------------+
1 row in set (0.00 sec)
```

PART 2

- CREATE TABLE Students (student_id INT PRIMARY KEY, student_name VARCHAR(100) NOT NULL, gender CHAR(1) CHECK (gender IN ('M', 'F', 'O')), date_of_birth DATE NOT NULL);

```
mysql> CREATE TABLE Students (student_id INT PRIMARY KEY, student_name VARCHAR(100) NOT NULL, gender CHAR(1) CHECK (gender I
N ('M', 'F', 'O')), date_of_birth DATE NOT NULL);
Query OK, 0 rows affected (0.06 sec)
```

- CREATE TABLE Subjects (subject_id INT PRIMARY KEY, subject_name VARCHAR(100) NOT NULL);

```
mysql> create table subject(subject_id INT PRIMARY KEY,subject_name varchar(20));
Query OK, 0 rows affected (0.06 sec)
```

- CREATE TABLE Marks (student_id INT, subject_id INT, marks_obtained INT, FOREIGN KEY (student_id) REFERENCES Students(student_id), FOREIGN KEY (subject_id) REFERENCES Subjects(subject_id));

```
mysql> CREATE TABLE Marks (student_id INT, subject_id INT, marks_obtained INT, FOREIGN KEY (student_id) REFERENCES Students(
student_id), FOREIGN KEY (subject_id) REFERENCES subject(subject_id));
Query OK, 0 rows affected (0.09 sec)
```

```
mysql> select * from Students;
+------------+--------------+--------+---------------+
| student_id | student_name | gender | date_of_birth |
+------------+--------------+--------+---------------+
|        100 | John         | M      | 2000-05-15    |
|        101 | Alice        | F      | 1999-08-22    |
|        102 | Bob          | M      | 2001-11-10    |
|        103 | Eve          | F      | 2000-01-30    |
+------------+--------------+--------+---------------+
4 rows in set (0.00 sec)

mysql> select * from subject;
+------------+------------------+
| subject_id | subject_name     |
+------------+------------------+
|        200 | Physics          |
|        201 | Chemistry        |
|        202 | Biology          |
|        203 | Computer Science |
+------------+------------------+
4 rows in set (0.00 sec)

mysql> select * from Marks;
+------------+------------+----------------+
| student_id | subject_id | marks_obtained |
+------------+------------+----------------+
|        100 |        200 |             75 |
|        100 |        201 |             85 |
|        101 |        200 |             65 |
|        101 |        202 |             90 |
|        102 |        200 |             70 |
|        102 |        203 |             88 |
|        103 |        201 |             95 |
|        103 |        202 |             78 |
+------------+------------+----------------+
8 rows in set (0.00 sec)
```

1. Retrieve all the records from the students table.

```
mysql> select * from Students;
+------------+--------------+--------+---------------+
| student_id | student_name | gender | date_of_birth |
+------------+--------------+--------+---------------+
|        100 | John         | M      | 2000-05-15    |
|        101 | Alice        | F      | 1999-08-22    |
|        102 | Bob          | M      | 2001-11-10    |
|        103 | Eve          | F      | 2000-01-30    |
+------------+--------------+--------+---------------+
4 rows in set (0.00 sec)
```

2. Retrieve the student_name and date_of_birth of all students.

```
mysql> select student_name, date_of_birth from Students;
+--------------+---------------+
| student_name | date_of_birth |
+--------------+---------------+
| John         | 2000-05-15    |
| Alice        | 1999-08-22    |
| Bob          | 2001-11-10    |
| Eve          | 2000-01-30    |
+--------------+---------------+
4 rows in set (0.00 sec)
```

3. Update the name to ‘Ram’ for the student with student_id 100.

```
mysql> update Students set student_name = 'Ram' where student_id = 100;
Query OK, 1 row affected (0.05 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from Students;
+------------+--------------+--------+---------------+
| student_id | student_name | gender | date_of_birth |
+------------+--------------+--------+---------------+
|        100 | Ram          | M      | 2000-05-15    |
|        101 | Alice        | F      | 1999-08-22    |
|        102 | Bob          | M      | 2001-11-10    |
|        103 | Eve          | F      | 2000-01-30    |
+------------+--------------+--------+---------------+
4 rows in set (0.00 sec)
```

4. Retrieve the names of all students who are male (gender = 'M').

```
mysql> select student_name from Students where gender = 'M';
+--------------+
| student_name |
+--------------+
| Ram          |
| Bob          |
+--------------+
2 rows in set (0.00 sec)
```

5. List the names of students who were born after the year 2000.

```
mysql> select student_name from Students where date_of_birth > '1999-12-31';
+--------------+
| student_name |
+--------------+
| Ram          |
| Bob          |
| Eve          |
+--------------+
3 rows in set (0.04 sec)
```

6. Retrieve all records from the marks table where the student scored more than 80 marks.

```
mysql> select student_id,subject_id,marks_obtained from Marks where marks_obtained>80;
+------------+------------+----------------+
| student_id | subject_id | marks_obtained |
+------------+------------+----------------+
|        100 |        201 |             85 |
|        101 |        202 |             90 |
|        102 |        203 |             88 |
|        103 |        201 |             95 |
+------------+------------+----------------+
4 rows in set (0.00 sec)
```

7. Update the subject name to ‘mathematics’ where subject_id is 202.

```
mysql> update subject set subject_name = "Mathematics" where subject_id = 202;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from subject;
+------------+------------------+
| subject_id | subject_name     |
+------------+------------------+
|        200 | Physics          |
|        201 | Chemistry        |
|        202 | Mathematics      |
|        203 | Computer Science |
+------------+------------------+
4 rows in set (0.00 sec)
```

8. Calculate the age of each student based on their date of birth.

```
mysql> SELECT student_name, date_of_birth, TIMESTAMPDIFF(YEAR, date_of_birth, CURDATE()) AS age FROM students;
+--------------+---------------+------+
| student_name | date_of_birth | age  |
+--------------+---------------+------+
| Ram          | 2000-05-15    |   24 |
| Alice        | 1999-08-22    |   25 |
| Bob          | 2001-11-10    |   22 |
| Eve          | 2000-01-30    |   24 |
+--------------+---------------+------+
4 rows in set (0.04 sec)
```

9. Find the day of the week each student was born.

```
mysql> SELECT student_name, date_of_birth, DAYNAME(date_of_birth) AS day_of_week FROM students;
+--------------+---------------+-------------+
| student_name | date_of_birth | day_of_week |
+--------------+---------------+-------------+
| Ram          | 2000-05-15    | Monday      |
| Alice        | 1999-08-22    | Sunday      |
| Bob          | 2001-11-10    | Saturday    |
| Eve          | 2000-01-30    | Sunday      |
+--------------+---------------+-------------+
4 rows in set (0.00 sec)
```

10. Display the students who were born in the month of May.

```
mysql> SELECT student_name, date_of_birth FROM students WHERE MONTH(date_of_birth) = 5;
+--------------+---------------+
| student_name | date_of_birth |
+--------------+---------------+
| Ram          | 2000-05-15    |
+--------------+---------------+
1 row in set (0.00 sec)
```