Assignment No.2

Name :- Shailesh Pawar PRN :- 123B1B230

1. Create StudentManagement database

Code :-

```
CREATE DATABASE StudentManagement;
USE StudentManagement;
```

2.Create the Students table under the StudentManagement database

Code :-

```
create table students_230(
    -> PRN INT PRIMARY KEY,
    ->     FirstName VARCHAR(50) NOT NULL,
    ->     LastName VARCHAR(50) NOT NULL,
    ->     MiddleName VARCHAR(50) NULL,
    ->     Year INT NOT NULL,
    ->     Email VARCHAR(100) UNIQUE,
    ->     Age INT NOT NULL,
    ->     Department VARCHAR(100) NOT NULL
    -> );
```

3.Insert records into the Students table

Code :-

```
INSERT INTO students_230 (PRN, FirstName, LastName, MiddleName, Year, Email,
Age, Department)
VALUES
(101, 'John', 'Doe', 'A.', 2, 'john.doe@example.com', 20, 'Computer Science'),
(102, 'Jane', 'Smith', 'B.', 1, 'jane.smith@example.com', 19, 'Electronics'),
(103, 'Alice', 'Johnson', NULL, 3, 'alice.johnson@example.com', 21, 'Mechanical'),
(104, 'Brod', 'Stud', 'B', 2, 'Brod.a@example.com', 20, 'Electronics');
```

4.Write a query to retrieve all records from the Students table.

Code :-

```
SELECT * FROM Students;
```

Output :-

PRN	FirstName	LastName	MiddleName	Year	Email	Age	Department
101	John	Doe	A.	2	john.doe@example.com	20	Computer Science
102	Jane	Smith	B.	1	jane.smith@example.com	19	Electronics
103	Alice	Johnson	NULL	3	alice.johnson@example.com	21	Mechanical
104	Brod	Stud	B	2	Brod.a@example.com	20	Electronics

5.Write a query to update the Year of the student with PRN 102 to 2

Code :-

```
UPDATE students_230
    -> SET Year = 2
    -> WHERE PRN = 102;
```

Output :-

PRN	FirstName	LastName	MiddleName	Year	Email	Age	Department
101	John	Doe	A.	2	john.doe@example.com	20	Computer Science
102	Jane	Smith	B.	2	jane.smith@example.com	19	Electronics
103	Alice	Johnson	NULL	3	alice.johnson@example.com	21	Mechanical
104	Brod	Stud	B	2	Brod.a@example.com	20	Electronics

6.Write a query to delete the record of the student whose PRN is 103

Code :-

```
DELETE FROM students_230
WHERE PRN = 103;
```

Output :-

PRN	FirstName	LastName	MiddleName	Year	Email	Age	Department
101	John	Doe	A.	2	john.doe@example.com	20	Computer Science
102	Jane	Smith	B.	2	jane.smith@example.com	19	Electronics
104	Brod	Stud	B	2	Brod.a@example.com	20	Electronics

7.Write a query to delete the Students table from the StudentManagement database

Code :-

```
DROP TABLE students_230;
```

Output :-

```
Query OK, 0 rows affected (0.02 sec)
```

8.Alter the Students table - Add a new column PhoneNumber of type VARCHAR(15)

Code :-

```
ALTER TABLE students_230
ADD COLUMN PhoneNumber VARCHAR(15);
```

Output :-

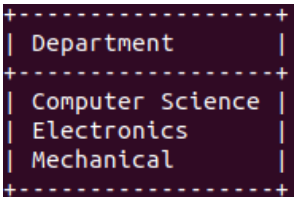
PRN	FirstName	LastName	MiddleName	Year	Email	Age	Department	PhoneNumber
101	John	Doe	A.	2	john.doe@example.com	20	Computer Science	NULL
102	Jane	Smith	B.	1	jane.smith@example.com	19	Electronics	NULL
103	Alice	Johnson	NULL	3	alice.johnson@example.com	21	Mechanical	NULL
104	Brod	Stud	B	2	Brod.a@example.com	20	Electronics	NULL

9. Write a query to retrieve all distinct departments from the Students table

Code :-

```
SELECT DISTINCT Department FROM students_230;
```

Output :-



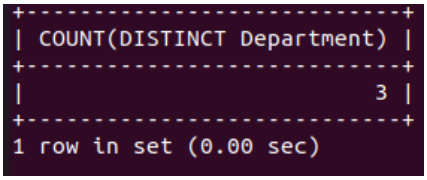
```
+------------------+
| Department       |
+------------------+
| Computer Science |
| Electronics      |
| Mechanical       |
+------------------+
```

10. Write a query to find the number of distinct departments from the Students table

Code :-

```
SELECT COUNT(DISTINCT Department) FROM students_230;
```

Output :-



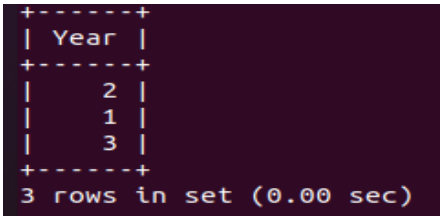
```
+----------------------------+
| COUNT(DISTINCT Department) |
+----------------------------+
|                          3 |
+----------------------------+
1 row in set (0.00 sec)
```

11. Write a query to retrieve the distinct years in which students are enrolled

Code :-

```
SELECT DISTINCT Year FROM Students;
```

Output :-



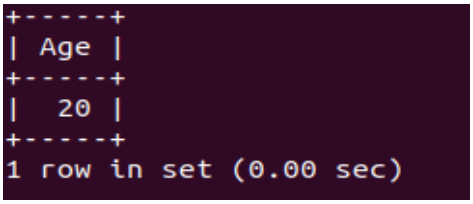
```
+------+
| Year |
+------+
|    2 |
|    1 |
|    3 |
+------+
3 rows in set (0.00 sec)
```

12. Write a query to retrieve all distinct ages of students in the "Computer Science" department

Code :-

```
SELECT DISTINCT Age FROM students_230 WHERE Department = 'Computer
Science';
```

Output :-



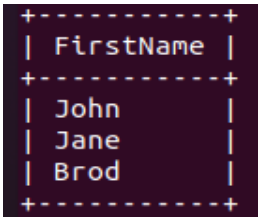
```
+-----+
| Age |
+-----+
|  20 |
+-----+
1 row in set (0.00 sec)
```

13. Write a query to retrieve distinct first names of students whose age is less than 21

Code :-

```
SELECT DISTINCT FirstName FROM students_230 WHERE Age < 21;
```

Output :-



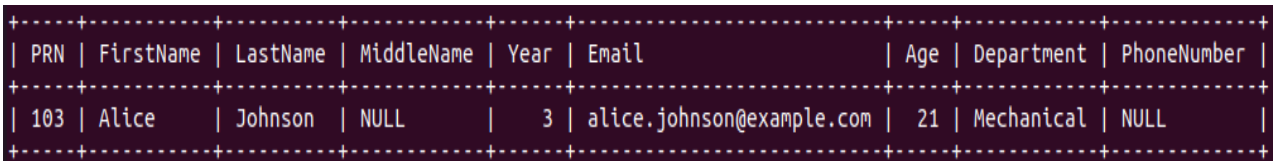
```
+-----------+
| FirstName |
+-----------+
| John      |
| Jane      |
| Brod      |
+-----------+
```

14. Write a query to retrieve the full details of students who are older than 20 years

Code :-

```
SELECT * FROM students_230 WHERE Age > 20;
```

Output :-



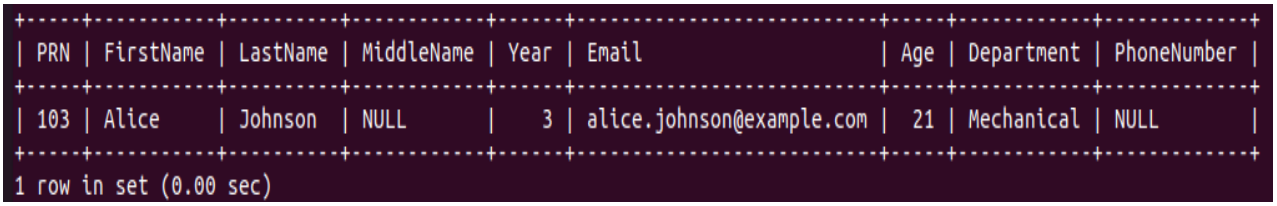
```
+-----+-----------+----------+------------+------+-------------------------+-----+------------+-------------+
| PRN | FirstName | LastName | MiddleName | Year | Email                   | Age | Department | PhoneNumber |
+-----+-----------+----------+------------+------+-------------------------+-----+------------+-------------+
| 103 | Alice     | Johnson  | NULL       |    3 | alice.johnson@example.com |  21 | Mechanical | NULL        |
+-----+-----------+----------+------------+------+-------------------------+-----+------------+-------------+
```

15. Write a query to retrieve all students enrolled in their third year

Code :-

```
SELECT * FROM students_230 WHERE Year = 3;
```

Output :-



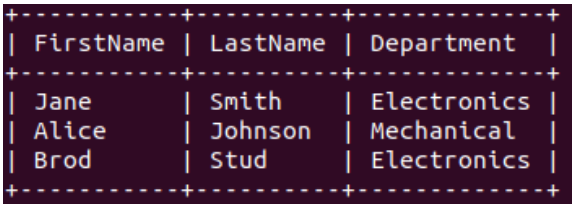
```
+-----+-----------+----------+------------+------+-------------------------+-----+------------+-------------+
| PRN | FirstName | LastName | MiddleName | Year | Email                   | Age | Department | PhoneNumber |
+-----+-----------+----------+------------+------+-------------------------+-----+------------+-------------+
| 103 | Alice     | Johnson  | NULL       |    3 | alice.johnson@example.com |  21 | Mechanical | NULL        |
+-----+-----------+----------+------------+------+-------------------------+-----+------------+-------------+
1 row in set (0.00 sec)
```

16. Write a query to display the first and last names of students along with their department, but only for students whose PRN is greater than 101.

Code :-

```
SELECT FirstName, LastName, Department FROM students_230 WHERE PRN > 101;
```

Output :-



```
+-----------+----------+-------------+
| FirstName | LastName | Department  |
+-----------+----------+-------------+
| Jane      | Smith    | Electronics |
| Alice     | Johnson  | Mechanical  |
| Brod      | Stud     | Electronics |
+-----------+----------+-------------+
```

17. Write a query to fetch the first names and email addresses of all students in the "Electronics" department

Code :-

```
SELECT FirstName, Email FROM students_230 WHERE Department = 'Electronics';
```

Output :-

```
+-----------+------------------------+
| FirstName | Email                  |
+-----------+------------------------+
| Jane      | jane.smith@example.com |
| Brod      | Brod.a@example.com     |
+-----------+------------------------+
```

18. Write a query to fetch details of students in the "Computer Science" department who are older than 19

Code :-

```
SELECT * FROM students_230 WHERE Department ='Computer Science' AND
Age>19;
```

Output :-

```
+-----+-----------+----------+------------+------+---------------------+-----+-----------------+-------------+
| PRN | FirstName | LastName | MiddleName | Year | Email               | Age | Department      | PhoneNumber |
+-----+-----------+----------+------------+------+---------------------+-----+-----------------+-------------+
| 101 | John      | Doe      | A.         |    2 | john.doe@example.com |  20 | Computer Science | NULL        |
+-----+-----------+----------+------------+------+---------------------+-----+-----------------+-------------+
```

19. Write a query to remove all records from the Students table without deleting the structure of the table

Code :-

```
TRUNCATE TABLE students_230;
```

Output :-

```
Query OK, 0 rows affected (0.02 sec)
```

20. Drop the Students table

Code :-

```
DROP TABLE students_230;
```

Output :-

```
Query OK, 0 rows affected (0.02 sec)
```