**1. Create StudentManagement database.**

Create Database StudentManagement_54;

```
mysql> Create Database StudentManagement_54;
Query OK, 1 row affected (0.02 sec)
```

**2. Create the Students table under StudentManagement database.**

use StudentManagement_54;

Create TABLE Students_54 (PRN INT, FirstName varchar(100),LastName varchar(100),MiddleName varchar(100),Year INT, Email varchar(100),Age INT,Department varchar(100));

```
mysql> Create TABLE Students_54  (PRN INT, FirstName varchar(100),LastName varchar(100),MiddleName varchar(100),Year INT, Email varchar(100),A
ge INT,Department varchar(100));
Query OK, 0 rows affected (0.06 sec)
```

```
mysql> describe Students_54;
+------------+--------------+------+-----+---------+-------+
| Field      | Type         | Null | Key | Default | Extra |
+------------+--------------+------+-----+---------+-------+
| PRN        | int          | YES  |     | NULL    |       |
| FirstName  | varchar(100) | YES  |     | NULL    |       |
| LastName   | varchar(100) | YES  |     | NULL    |       |
| MiddleName | varchar(100) | YES  |     | NULL    |       |
| Year       | int          | YES  |     | NULL    |       |
| Email      | varchar(100) | YES  |     | NULL    |       |
| Age        | int          | YES  |     | NULL    |       |
| Department | varchar(100) | YES  |     | NULL    |       |
+------------+--------------+------+-----+---------+-------+
8 rows in set (0.01 sec)
```

**3. Insert records into the Students table**

insert into Students_54 values (1,'JOhn','Smith','A.',2,'john@gmail.com',19,'CS'),(2,'Jane','Doe','B.',3,'jane@gmail.com',22,'Electronics'),(3,'Sona','Sharma',null,4,'sona@gmal.com',23,'IT'),(4,'Navi','Singh','C.',2,'navi@gmail.com', 19,'CS'),(5,'Sonia','Thakur','Jasbir Singh',2,'sonia@gmail.com',19,'CS');

```
mysql> insert into Students_54 values (1,'JOhn','Smith','A.',2,'john@gmail.com',19,'CS'),(2,'Jane','Doe','B.',3,'jane@gmail.com',22,'Electroni
cs'),(3,'Sona','Sharma',null,4,'sona@gmal.com',23,'IT'),(4,'Navi','Singh','C.',2,'navi@gmail.com', 19,'CS'),(5,'Sonia','Thakur','Jasbir Singh'
,2,'sonia@gmail.com',19,'CS');
Query OK, 5 rows affected (0.02 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

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

SElect* from Students_54;

```
mysql> SElect* from Students_54;
+------+-----------+----------+-------------+------+-----------------+------+-------------+
| PRN  | FirstName | LastName | MiddleName  | Year | Email           | Age  | Department  |
+------+-----------+----------+-------------+------+-----------------+------+-------------+
|    1 | JOhn      | Smith    | A.          |    2 | john@gmail.com  |   19 | CS          |
|    2 | Jane      | Doe      | B.          |    3 | jane@gmail.com  |   22 | Electronics |
|    3 | Sona      | Sharma   | NULL        |    4 | sona@gmal.com   |   23 | IT          |
|    4 | Navi      | Singh    | C.          |    2 | navi@gmail.com  |   19 | CS          |
|    5 | Sonia     | Thakur   | Jasbir Singh |    2 | sonia@gmail.com |   19 | CS          |
+------+-----------+----------+-------------+------+-----------------+------+-------------+
5 rows in set (0.00 sec)
```

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

update Students_54 SET Year=2 where PRN=2;

```
mysql> update Students_54 SET Year=2 where PRN=2;
Query OK, 1 row affected (0.02 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> select * from Students_54;
+------+-----------+----------+-------------+------+-----------------+------+-------------+
| PRN  | FirstName | LastName | MiddleName  | Year | Email           | Age  | Department  |
+------+-----------+----------+-------------+------+-----------------+------+-------------+
|    1 | JOhn      | Smith    | A.          |    2 | john@gmail.com  |   19 | CS          |
|    2 | Jane      | Doe      | B.          |    2 | jane@gmail.com  |   22 | Electronics |
|    3 | Sona      | Sharma   | NULL        |    4 | sona@gmal.com   |   23 | IT          |
|    4 | Navi      | Singh    | C.          |    2 | navi@gmail.com  |   19 | CS          |
|    5 | Sonia     | Thakur   | Jasbir Singh |    2 | sonia@gmail.com |   19 | CS          |
+------+-----------+----------+-------------+------+-----------------+------+-------------+
5 rows in set (0.00 sec)
```

**6. Write a query to delete the record of the student whose PRN is 2**

delete from Students_54 where PRN=2;

```
mysql> delete from Students_54 where PRN=2;
Query OK, 1 row affected (0.02 sec)
```

```
mysql> select * from Students_54;
+------+-----------+----------+-------------+------+-----------------+------+-------------+
| PRN  | FirstName | LastName | MiddleName  | Year | Email           | Age  | Department  |
+------+-----------+----------+-------------+------+-----------------+------+-------------+
|    1 | JOhn      | Smith    | A.          |    2 | john@gmail.com  |   19 | CS          |
|    3 | Sona      | Sharma   | NULL        |    4 | sona@gmal.com   |   23 | IT          |
|    4 | Navi      | Singh    | C.          |    2 | navi@gmail.com  |   19 | CS          |
|    5 | Sonia     | Thakur   | Jasbir Singh |    2 | sonia@gmail.com |   19 | CS          |
+------+-----------+----------+-------------+------+-----------------+------+-------------+
4 rows in set (0.00 sec)
```

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

Drop TABLE Students_54;

```
mysql> Drop TABLE Students_54;
Query OK, 0 rows affected (0.03 sec)
```

**8. Alter the Students table**
**Write a query to add a new column PhoneNumber of type VARCHAR(15) to the Students**
**table.**

ALTER TABLE Students_54
-> ADD PhoneNumber Varchar (100);

```
mysql> ALTER TABLE Students_54
    -> ADD PhoneNumber Varchar (100);
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

**9. Write a query to retrieve all distinct departments from the Students table.**
Select DISTINCT Department from Students_54;

```
mysql> Select DISTINCT Department from Students_54;
+------------+
| CS         |
| IT         |
+------------+
2 rows in set (0.00 sec)
```

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

Select count( DISTINCT Department) from Students_54;

```
mysql> Select count( DISTINCT Department) from Students_54;
+-----------------------------+
| count( DISTINCT Department) |
+-----------------------------+
|                           2 |
+-----------------------------+
1 row in set (0.00 sec)
```

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

SELECT distinct Year from Students_54;

```
mysql> SElECT distinct Year from Students_54 ;
+------+
| Year |
+------+
|    2 |
|    4 |
+------+
2 rows in set (0.00 sec)
```

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

Select distinct Age from Students_54 where Department =’CS’;

```
mysql> Select distinct Age from Students_54 where Department='CS';
+------+
| Age  |
+------+
|   19 |
+------+
1 row in set (0.00 sec)
```

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

Select distinct FirstName from Students_54 where age<21;

```
mysql> Select distinct FirstName  from Students_54 where age<21;
+-----------+
| FirstName |
+-----------+
| JOhn      |
| Navi      |
| Sonia     |
+-----------+
3 rows in set (0.00 sec)
```

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

Select * from Students_54 where age>20;

```
mysql> Select * from Students_54 where age>20;
+------+-----------+----------+------------+------+---------------+------+------------+-------------+
| PRN  | FirstName | LastName | MiddleName | Year | Email         | Age  | Department | PhoneNumber |
+------+-----------+----------+------------+------+---------------+------+------------+-------------+
|    3 | Sona      | Sharma   | NULL       |    4 | sona@gmal.com |   23 | IT         | NULL        |
+------+-----------+----------+------------+------+---------------+------+------------+-------------+
1 row in set (0.00 sec)
```

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

select * from Students_54 where Year=3;

```
mysql> select * from Students_54 where Year=3;
Empty 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 2.**

Select distinct FirstName, LastName,Department from Students_54 where PRN>2;

```
mysql> Select distinct FirstName,LastName,Department  from Students_54 where PRN>2;
+-----------+----------+------------+
| FirstName | LastName | Department |
+-----------+----------+------------+
| Sona      | Sharma   | IT         |
| Navi      | Singh    | CS         |
| Sonia     | Thakur   | CS         |
+-----------+----------+------------+
3 rows in set (0.00 sec)
```

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

Select distinct FirstName,Email from Students_54 where Department =’Electronics’;

```
mysql> Select distinct FirstName,Email  from Students_54 where Department='ELECTRONICS';
Empty set (0.00 sec)
```

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

select * from Students_54 where Department=’CS’ AND age>19;

```
mysql> select * from Students_54 where Department='CS' && age>19;
Empty set, 1 warning (0.00 sec)
```

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

TRUNCATE TABLE Students_54;

```
mysql> TRUNCATE TABLE Students_54;
Query OK, 0 rows affected (0.06 sec)
```

**20. Drop the Students table**
**Write a query to delete the Students table from the StudentManagement database.**

Drop TABLE Students_54;

```
mysql> Drop TABLE Students_54;
Query OK, 0 rows affected (0.03 sec)
```