1. Create a database "college".

```
mysql> CREATE DATABASE college;
Query OK, 1 row affected (0.01 sec)
```

2. Create a table 'student' with columns (id, name, date of birth, gender, branch, section, year, address) under the "college" database.

```
mysql> CREATE TABLE student (id INT PRIMARY KEY,name VARCHAR(100),date_of_birth DATE,gender varchar(10),branch VARCHAR(5
0),section varchar(10),year INT,address VARCHAR(255));
Query OK, 0 rows affected (0.01 sec)
```

3. Insert 10 rows into the table.

```
mysql> INSERT INTO student (id,name, date_of_birth, gender, branch, section, year, address) VALUES (1,'Nilesh Gurav', '2
001-12-23', 'Male', 'Computer Science Engineering', 'A', 2, 'Belagavi'),(2,'Nikhil Gurav', '1999-09-20', 'Male', 'Comput
er Science Engineering', 'B', 1, 'Khanapur'),(3,'Neha Gurav', '2000-02-10', 'Female', 'Mechanical Engineering', 'C', 3,
'Kolhapur'),(4,'Yogesh Patil', '1997-11-25', 'Male', 'Civil Engineering', 'A', 4, 'Mysuru'),(5,'Sanika Gurav', '1999-04-
30', 'Female', 'Chemical Engineering', 'B', 2, 'Mangalore'),(6,'Saikiran Junjwadkar', '1998-08-05', 'Male', 'Computer Sc
ience Engineering', 'C', 3, 'Dharwad'),(7,'Suhani Gurav', '2000-01-12', 'Female', 'Electronics Engineering', 'A', 1, 'Ba
nglore'),(8,'Omkar Tavnoji','1997-06-28', 'Male', 'Information Technology', 'B', 4, 'Belagavi'),(9,'Reena Gurav', '1998-
10-17', 'Female', 'Aerospace Engineering', 'C', 2, 'Dharwad'),(10,'Kundan Aknoji', '1999-03-22', 'Male', 'Mechanical Eng
ineering', 'A', 3, 'Gokak');
Query OK, 10 rows affected (0.00 sec)
Records: 10  Duplicates: 0  Warnings: 0

mysql> select * from student;
+----+--------------------+---------------+--------+------------------------------+---------+------+-----------+
| id | name               | date_of_birth | gender | branch                       | section | year | address   |
+----+--------------------+---------------+--------+------------------------------+---------+------+-----------+
|  1 | Nilesh Gurav       | 2001-12-23    | Male   | Computer Science Engineering | A       |    2 | Belagavi  |
|  2 | Nikhil Gurav       | 1999-09-20    | Male   | Computer Science Engineering | B       |    1 | Khanapur  |
|  3 | Neha Gurav         | 2000-02-10    | Female | Mechanical Engineering       | C       |    3 | Kolhapur  |
|  4 | Yogesh Patil       | 1997-11-25    | Male   | Civil Engineering            | A       |    4 | Mysuru    |
|  5 | Sanika Gurav       | 1999-04-30    | Female | Chemical Engineering         | B       |    2 | Mangalore |
|  6 | Saikiran Junjwadkar | 1998-08-05    | Male   | Computer Science Engineering | C       |    3 | Dharwad   |
|  7 | Suhani Gurav       | 2000-01-12    | Female | Electronics Engineering      | A       |    1 | Banglore  |
|  8 | Omkar Tavnoji      | 1997-06-28    | Male   | Information Technology        | B       |    4 | Belagavi  |
|  9 | Reena Gurav        | 1998-10-17    | Female | Aerospace Engineering        | C       |    2 | Dharwad   |
| 10 | Kundan Aknoji      | 1999-03-22    | Male   | Mechanical Engineering       | A       |    3 | Gokak     |
+----+--------------------+---------------+--------+------------------------------+---------+------+-----------+
10 rows in set (0.00 sec)
```

4. Create a user with username: 'admin' and password: 'admin@123' with all the permissions like select, create, alter, drop, truncate, insert, update, and delete.

```
mysql> CREATE USER 'admin' IDENTIFIED BY 'admin@123';
Query OK, 0 rows affected (0.00 sec)

mysql> GRANT SELECT, CREATE, ALTER, DROP, INSERT, UPDATE, DELETE ON student TO 'admin';
Query OK, 0 rows affected (0.00 sec)
```

5. Create user username: 'principal' and password: 'principal@123' with select, insert, update, and delete permissions.

```
mysql> CREATE USER 'principal' IDENTIFIED BY 'principal@123';
Query OK, 0 rows affected (0.00 sec)

mysql> GRANT SELECT, INSERT, UPDATE, DELETE ON student TO 'principal';
Query OK, 0 rows affected (0.00 sec)
```

6. Create user username: 'faculty' and password: 'faculty@123' with select,and update permissions.

```
mysql> CREATE USER 'faculty' IDENTIFIED BY 'faculty@123';
Query OK, 0 rows affected (0.00 sec)

mysql> GRANT SELECT, UPDATE ON student TO 'faculty';
Query OK, 0 rows affected (0.00 sec)
```

7. Create user username: 'student' without a password and with select permission only.

```
mysql> CREATE USER 'student';
Query OK, 0 rows affected (0.00 sec)

mysql> GRANT SELECT ON student TO 'student';
Query OK, 0 rows affected (0.00 sec)
```

8. Login with the 'admin' user and add a new column phone number.

```
C:\Program Files\MySQL\MySQL Server 8.0\bin>mysql -u admin -p
Enter password: ********
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 12
Server version: 5.5.5-10.4.28-MariaDB mariadb.org binary distribution

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use college;
Database changed
mysql> ALTER TABLE student ADD COLUMN phone_number VARCHAR(10);
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

9. Login with the 'principal' user and add 5 more new rows to the table with all column values including phone numbers.

```
mysql> use college;
Database changed
mysql> INSERT INTO student (id,name, date_of_birth, gender, branch, section, year, address, phone_number) VALUES (11,'Yuvraj Jadhav', '2000-02-1
0', 'Male', 'Mechanical Engineering', 'C', 3, 'Kolhapur', '9876543210'),(12,'Viren Patil', '1997-11-25', 'Male', 'Civil Engineering', 'A', 4, 'M
ysuru', '9876543211'),(13,'Nagraj Ankalgi', '1999-04-30', 'Male', 'Computer Science Engineering', 'B', 2, 'Mangalore', '9876543212'),(14,'Pratee
k Shelke', '1997-06-28', 'Male', 'Information Technology', 'B', 4, 'Belagavi', '9876543213'),(15,'Prateek Patil', '1999-09-20', 'Male', 'Electri
cal Engineering', 'B', 1, 'Khanapur', '9876543214');
Query OK, 5 rows affected (0.00 sec)
Records: 5  Duplicates: 0  Warnings: 0

mysql> select * from student;
+----+--------------------+---------------+--------+------------------------------+---------+------+-----------+--------------+
| id | name               | date_of_birth | gender | branch                       | section | year | address   | phone_number |
+----+--------------------+---------------+--------+------------------------------+---------+------+-----------+--------------+
|  1 | Nilesh Gurav       | 2001-12-23    | Male   | Computer Science Engineering | A       |    2 | Belagavi  | NULL         |
|  2 | Nikhil Gurav       | 1999-09-20    | Male   | Computer Science Engineering | B       |    1 | Khanapur  | NULL         |
|  3 | Neha Gurav         | 2000-02-10    | Female | Mechanical Engineering       | C       |    3 | Kolhapur  | NULL         |
|  4 | Yogesh Patil       | 1997-11-25    | Male   | Civil Engineering            | A       |    4 | Mysuru    | NULL         |
|  5 | Sanika Gurav       | 1999-04-30    | Female | Chemical Engineering         | B       |    2 | Mangalore | NULL         |
|  6 | Saikiran Junjwadkar| 1998-08-05    | Male   | Computer Science Engineering | C       |    3 | Dharwad   | NULL         |
|  7 | Suhani Gurav       | 2000-01-12    | Female | Electronics Engineering      | A       |    1 | Banglore  | NULL         |
|  8 | Omkar Tavnoji      | 1997-06-28    | Male   | Information Technology        | B       |    4 | Belagavi  | NULL         |
|  9 | Reena Gurav        | 1998-10-17    | Female | Aerospace Engineering        | C       |    2 | Dharwad   | NULL         |
| 10 | Kundan Aknoji      | 1999-03-22    | Male   | Mechanical Engineering       | A       |    3 | Gokak     | NULL         |
| 11 | Yuvraj Jadhav      | 2000-02-10    | Male   | Mechanical Engineering       | C       |    3 | Kolhapur  | 9876543210   |
| 12 | Viren Patil        | 1997-11-25    | Male   | Civil Engineering            | A       |    4 | Mysuru    | 9876543211   |
| 13 | Nagraj Ankalgi     | 1999-04-30    | Male   | Computer Science Engineering | B       |    2 | Mangalore | 9876543212   |
| 14 | Prateek Shelke     | 1997-06-28    | Male   | Information Technology        | B       |    4 | Belagavi  | 9876543213   |
| 15 | Prateek Patil      | 1999-09-20    | Male   | Electrical Engineering        | B       |    1 | Khanapur  | 9876543214   |
+----+--------------------+---------------+--------+------------------------------+---------+------+-----------+--------------+
15 rows in set (0.00 sec)
```

10. Login with the 'faculty' user and update all the 10 students phone numbers.

```
mysql> use college;
Database changed
mysql> UPDATE student
    -> SET phone_number = CASE
    ->      WHEN id = 1 THEN '9876543210'
    ->      WHEN id = 2 THEN '8976543210'
    ->      WHEN id = 3 THEN '7986543210'
    ->      WHEN id = 4 THEN '6987543210'
    ->      WHEN id = 5 THEN '5987643210'
    ->      WHEN id = 6 THEN '4987653210'
    ->      WHEN id = 7 THEN '3987654210'
    ->      WHEN id = 8 THEN '2987654310'
    ->      WHEN id = 9 THEN '1987654320'
    ->      WHEN id = 10 THEN '9087654321'
    -> END
    -> WHERE phone_number IS NULL;
Query OK, 10 rows affected (0.01 sec)
Rows matched: 10  Changed: 10  Warnings: 0

mysql> select * from student;
+----+--------------------+---------------+--------+------------------------------+---------+------+-----------+--------------+
| id | name               | date_of_birth | gender | branch                       | section | year | address   | phone_number |
+----+--------------------+---------------+--------+------------------------------+---------+------+-----------+--------------+
|  1 | Nilesh Gurav       | 2001-12-23    | Male   | Computer Science Engineering | A       |    2 | Belagavi  | 9876543210   |
|  2 | Nikhil Gurav       | 1999-09-20    | Male   | Computer Science Engineering | B       |    1 | Khanapur  | 8976543210   |
|  3 | Neha Gurav         | 2000-02-10    | Female | Mechanical Engineering       | C       |    3 | Kolhapur  | 7986543210   |
|  4 | Yogesh Patil       | 1997-11-25    | Male   | Civil Engineering            | A       |    4 | Mysuru    | 6987543210   |
|  5 | Sanika Gurav       | 1999-04-30    | Female | Chemical Engineering         | B       |    2 | Mangalore | 5987643210   |
|  6 | Saikiran Junjwadkar| 1998-08-05    | Male   | Computer Science Engineering | C       |    3 | Dharwad   | 4987653210   |
|  7 | Suhani Gurav       | 2000-01-12    | Female | Electronics Engineering      | A       |    1 | Banglore  | 3987654210   |
|  8 | Omkar Tavnoji      | 1997-06-28    | Male   | Information Technology        | B       |    4 | Belagavi  | 2987654310   |
|  9 | Reena Gurav        | 1998-10-17    | Female | Aerospace Engineering        | C       |    2 | Dharwad   | 1987654320   |
| 10 | Kundan Aknoji      | 1999-03-22    | Male   | Mechanical Engineering       | A       |    3 | Gokak     | 9087654321   |
| 11 | Yuvraj Jadhav      | 2000-02-10    | Male   | Mechanical Engineering       | C       |    3 | Kolhapur  | 9876543210   |
| 12 | Viren Patil        | 1997-11-25    | Male   | Civil Engineering            | A       |    4 | Mysuru    | 9876543211   |
| 13 | Nagraj Ankalgi     | 1999-04-30    | Male   | Computer Science Engineering | B       |    2 | Mangalore | 9876543212   |
| 14 | Prateek Shelke     | 1997-06-28    | Male   | Information Technology        | B       |    4 | Belagavi  | 9876543213   |
| 15 | Prateek Patil      | 1999-09-20    | Male   | Electrical Engineering        | B       |    1 | Khanapur  | 9876543214   |
+----+--------------------+---------------+--------+------------------------------+---------+------+-----------+--------------+
15 rows in set (0.00 sec)
```

11. Login with the 'student' user and display the following outputs:

a. Display all the student data records.

```
mysql> use college;
Database changed
mysql> SELECT * FROM student;
+----+--------------------+------------+--------+------------------------------+---------+------+-----------+--------------+
| id | name               | date_of_birth | gender | branch                    | section | year | address   | phone_number |
+----+--------------------+------------+--------+------------------------------+---------+------+-----------+--------------+
|  1 | Nilesh Gurav       | 2001-12-23 | Male   | Computer Science Engineering | A       |    2 | Belagavi  | 9876543210   |
|  2 | Nikhil Gurav       | 1999-09-20 | Male   | Computer Science Engineering | B       |    1 | Khanapur  | 8976543210   |
|  3 | Neha Gurav         | 2000-02-10 | Female | Mechanical Engineering       | C       |    3 | Kolhapur  | 7986543210   |
|  4 | Yogesh Patil       | 1997-11-25 | Male   | Civil Engineering            | A       |    4 | Mysuru    | 6987543210   |
|  5 | Sanika Gurav       | 1999-04-30 | Female | Chemical Engineering         | B       |    2 | Mangalore | 5987643210   |
|  6 | Saikiran Junjwadkar| 1998-08-05 | Male   | Computer Science Engineering | C       |    3 | Dharwad   | 4987653210   |
|  7 | Suhani Gurav       | 2000-01-12 | Female | Electronics Engineering      | A       |    1 | Banglore  | 3987654210   |
|  8 | Omkar Tavnoji      | 1997-06-28 | Male   | Information Technology        | B       |    4 | Belagavi  | 2987654310   |
|  9 | Reena Gurav        | 1998-10-17 | Female | Aerospace Engineering        | C       |    2 | Dharwad   | 1987654320   |
| 10 | Kundan Aknoji      | 1999-03-22 | Male   | Mechanical Engineering       | A       |    3 | Gokak     | 9876540123   |
| 11 | Yuvraj Jadhav      | 2000-02-10 | Male   | Mechanical Engineering       | C       |    3 | Kolhapur  | 9876540321   |
| 12 | Viren Patil        | 1997-11-25 | Male   | Civil Engineering            | A       |    4 | Mysuru    | 9876543211   |
| 13 | Nagraj Ankalgi     | 1999-04-30 | Male   | Computer Science Engineering | B       |    2 | Mangalore | 9876543212   |
| 14 | Prateek Shelke     | 1997-06-28 | Male   | Information Technology        | B       |    4 | Belagavi  | 9876543213   |
| 15 | Prateek Patil      | 1999-09-20 | Male   | Electrical Engineering        | B       |    1 | Khanapur  | 9876543214   |
+----+--------------------+------------+--------+------------------------------+---------+------+-----------+--------------+
15 rows in set (0.00 sec)
```

b. Display only one student data record with any given phone number.

```
mysql> SELECT * FROM student WHERE phone_number = '9876543210';
+----+--------------+------------+--------+------------------------------+---------+------+----------+--------------+
| id | name         | date_of_birth | gender | branch                    | section | year | address  | phone_number |
+----+--------------+------------+--------+------------------------------+---------+------+----------+--------------+
|  1 | Nilesh Gurav | 2001-12-23 | Male   | Computer Science Engineering | A       |    2 | Belagavi | 9876543210   |
+----+--------------+------------+--------+------------------------------+---------+------+----------+--------------+
1 row in set (0.00 sec)
```

c. Display students from any one branch

```
mysql> SELECT * FROM student WHERE branch = 'Computer Science Engineering';
+----+--------------------+------------+--------+------------------------------+---------+------+-----------+--------------+
| id | name               | date_of_birth | gender | branch                    | section | year | address   | phone_number |
+----+--------------------+------------+--------+------------------------------+---------+------+-----------+--------------+
|  1 | Nilesh Gurav       | 2001-12-23 | Male   | Computer Science Engineering | A       |    2 | Belagavi  | 9876543210   |
|  2 | Nikhil Gurav       | 1999-09-20 | Male   | Computer Science Engineering | B       |    1 | Khanapur  | 8976543210   |
|  6 | Saikiran Junjwadkar| 1998-08-05 | Male   | Computer Science Engineering | C       |    3 | Dharwad   | 4987653210   |
| 13 | Nagraj Ankalgi     | 1999-04-30 | Male   | Computer Science Engineering | B       |    2 | Mangalore | 9876543212   |
+----+--------------------+------------+--------+------------------------------+---------+------+-----------+--------------+
4 rows in set (0.00 sec)
```

d. Display students from any specific branch and specific section.

```
mysql> SELECT * FROM student WHERE branch = 'Mechanical Engineering' AND section = 'A';
+----+--------------+------------+--------+------------------------+---------+------+---------+--------------+
| id | name         | date_of_birth | gender | branch              | section | year | address | phone_number |
+----+--------------+------------+--------+------------------------+---------+------+---------+--------------+
| 10 | Kundan Aknoji| 1999-03-22 | Male   | Mechanical Engineering | A       |    3 | Gokak   | 9876540123   |
+----+--------------+------------+--------+------------------------+---------+------+---------+--------------+
1 row in set (0.00 sec)
```

e. Display girl students from the table.

```
mysql> SELECT * FROM student WHERE gender = 'Female';
+----+--------------+---------------+--------+------------------------+---------+------+-----------+--------------+
| id | name         | date_of_birth | gender | branch                 | section | year | address   | phone_number |
+----+--------------+---------------+--------+------------------------+---------+------+-----------+--------------+
|  3 | Neha Gurav   | 2000-02-10    | Female | Mechanical Engineering | C       |    3 | Kolhapur  | 7986543210   |
|  5 | Sanika Gurav | 1999-04-30    | Female | Chemical Engineering   | B       |    2 | Mangalore | 5987643210   |
|  7 | Suhani Gurav | 2000-01-12    | Female | Electronics Engineering| A       |    1 | Banglore  | 3987654210   |
|  9 | Reena Gurav  | 1998-10-17    | Female | Aerospace Engineering  | C       |    2 | Dharwad   | 1987654320   |
+----+--------------+---------------+--------+------------------------+---------+------+-----------+--------------+
4 rows in set (0.00 sec)
```

12 Revoke all the permissions from the user 'admin'.

```
mysql> REVOKE SELECT, CREATE, ALTER, DROP, INSERT, UPDATE, DELETE ON student FROM 'admin';
Query OK, 0 rows affected (0.00 sec)
```

13. Revoke only insert permission from the user 'principal'.

```
mysql> REVOKE INSERT ON student FROM 'principal';
Query OK, 0 rows affected (0.00 sec)
```

14. Revoke update permission from the user 'faculty'.

```
mysql> REVOKE UPDATE ON student FROM 'faculty';
Query OK, 0 rows affected (0.00 sec)
```

15. Revoke all the permissions from the user 'student'.

```
mysql> REVOKE SELECT, CREATE, ALTER, DROP, INSERT, UPDATE, DELETE ON student FROM 'student';
Query OK, 0 rows affected (0.00 sec)
```