i. Find the names of subjects for students of CSE 5th semester.

Code:

SELECT SUBJECTNAME FROM SUBJECT WHERE SEMESTER IN 'SEM5';

Output:

```
SUBJECTNAME
--------------------------
Discrete Mathematics
Data Communication
Data Base Systems
Analog Signals
Operating Systems
```

ii. Find the roll numbers who got marks between 61 to 70 in CS501.

Code:

SELECT ROLLNO FROM RESULT WHERE MARKS>61 AND MARKS<70 AND SUB_CODE='CS501';

Output:

```
ROLLNO
----------
      1001
```

iii. Change the address of the student whose roll number is given.

Code:

UPDATE STUDENT SET ADDRESS='VIP Road kolkata' WHERE ROLLNO=1001;

Previously:

```
SQL> SELECT * FROM STUDENT WHERE ROLLNO=1001;

    ROLLNO NAME                 ADDRESS                PHONENO  YEAROFADM DEPT SEME BIRTHDAT
---------- -------------------- -------------------- ---------- ---------- ---- ---- --------
      1001 ANKIT DAS            VIP Road, Kolkata    9830675221      2017 CSE  SEM5 10-02-99
```

After Update:

```
SQL> SELECT * FROM STUDENT WHERE ROLLNO=1001;

    ROLLNO NAME                 ADDRESS                PHONENO  YEAROFADM DEPT SEME BIRTHDAT
---------- -------------------- -------------------- ---------- ---------- ---- ---- --------
      1001 ANKIT DAS            VIP Road kolkata     9830675221      2017 CSE  SEM5 10-02-99
```

iv. Increase the total number of student allocation of IT to 75.

Code:

UPDATE DEPARTMENT SET STUDENT_ALLOTTED=75 WHERE DEPTCODE='IT';

Output:

Before:

```
DEPT DEPTNAME                                              STUDENT_ALLOTED
---- -------------------------------------------------- ----------------
IT   INFORMATION TECHNOLOGY                                             60
```

After:

```
DEPT DEPTNAME                                              STUDENT_ALLOTTED
---- -------------------------------------------------- ----------------
IT   Information Technology                                             75
```

v. Increase the total number of student allocation of CSE by 15.

Code:

UPDATE DEPARTMENT

SET STUDENT_ALLOTTED=STUDENT_ALLOTTED + 15

WHERE DEPTCODE='CSE';

Output:

Before:

```
DEPT DEPTNAME                                              STUDENT_ALLOTED
---- -------------------------------------------------- ----------------
CSE  Computer Science and Engineering                                  120
```

After:

```
DEPT DEPTNAME                                              STUDENT_ALLOTTED
---- -------------------------------------------------- ----------------
CSE  Computer Science and Engineering                                  135
```

vi. Increase the marks of all students of subject CS302 by 5.

Code:

UPDATE RESULT

SET MARKS=MARKS + 5

WHERE SUB_CODE='CS302';

Output:

Before:

```
ROLLNO SUB_CODE       MARKS PASS_MARKS
---------- --------  ----------- ----------
    1023 CS302            75         40
    1029 CS302            71         40
    1500 CS302            35         40
```

After:

```
ROLLNO SUB_CODE       MARKS PASS_MARKS
---------- --------  ----------- ----------
    1023 CS302            80         40
    1029 CS302            76         40
    1500 CS302            40         40
```

vii. Add a default phone number to all CSE 5th semester students who do not have phone number.

Code:

UPDATE STUDENT

SET PHONENO=8910793249

WHERE DEPTCODE='CSE' AND SEMESTER='SEM5' AND PHONENO IS NULL;

SELECT * FROM STUDENT WHERE DEPTCODE='CSE' AND SEMESTER='SEM5';

Output:

```
    ROLLNO NAME                 ADDRESS                    PHONENO  YEAROFADM DEPT SEME BIRTHDAT
---------- --------------------  --------------------  ----------  ---------- ---- ---- --------
      1001 ANKIT DAS             VIP Road, Kolkata     9830675221       2017 CSE  SEM5 10-02-99
      1002 MOINAK GHOSH          MG Road, Kolkata      7988822201       2015 CSE  SEM5 01-05-98
      1003 PARIMAL KUMAR         NSB Road, Birati      8099922211       2016 CSE  SEM5 17-03-01
      1011 RAHUL KHAN            Jadavpur, Kolkata     8910793249       2017 CSE  SEM5 07-07-01
```

viii. Display the rows from RESULT where a student failed to obtain pass marks.

Code :

SELECT * FROM RESULT WHERE MARKS < PASS_MARKS;

Output:

```
SQL> SELECT * FROM RESULT WHERE MARKS < PASS_MARKS;

    ROLLNO SUB_CODE        MARKS PASS_MARKS
---------- --------- ----------- ----------
      1001 CS502              38         40
```

ix. Add 2 marks to the students who failed for maximum 2 marks to any the subjects with CS code.

Code:

UPDATE RESULT

SET MARKS=MARKS+2

WHERE MARKS < PASS_MARKS AND PASS_MARKS-MARKS >= 2 AND SUB_CODE LIKE 'CS%';

Previously:

```
SQL> SELECT * FROM RESULT WHERE MARKS < PASS_MARKS;

    ROLLNO SUB_CODE        MARKS PASS_MARKS
---------- --------- ----------- ----------
      1001 CS502              38         40
```

After Update:

```
SQL> SELECT * FROM RESULT WHERE ROLLNO=1001 AND SUB_CODE='CS502';

    ROLLNO SUB_CODE        MARKS PASS_MARKS
---------- -------- ----------- -----------
      1001 CS502             40          40
```

x. Delete the student with a given roll number from the student table.

Code:

SELECT * FROM STUDENT WHERE ROLLNO = 3005;

```
SQL> SELECT * FROM STUDENT WHERE ROLLNO=3005;

    ROLLNO NAME                ADDRESS                 PHONENO   YEAROFADM DEPT SEME BIRTHDAT
---------- ------------------- -------------------- ---------- ---------- ---- ---- --------
      3005 MOHAMMAD AZIB       Saltlake             7910000666       2017 EE   SEM5 20-05-01
```

DELETE FROM STUDENT WHERE ROLLNO = 3005;

```
SQL> SELECT * FROM STUDENT WHERE ROLLNO=3005;

no rows selected
```

xi. Display the students name, deptcode, semester who admitted before 2017 in alphabetical order of name.

Code:

SELECT NAME,DEPTCODE,SEMESTER FROM STUDENT

WHERE YEAROFADM < 2017

ORDER BY NAME ASC;

```
NAME                DEPT SEME
------------------- ---- ----
MOINAK GHOSH        CSE  SEM5
NIKHIL SINGH        ECE  SEM5
PARIMAL KUMAR       CSE  SEM5
```

xii. Display the roll number, subject code who got more than 90 in either CS301 or CS302.

Code:

SELECT ROLLNO,SUB_CODE FROM RESULT

WHERE (SUB_CODE='CS301' OR SUB_CODE='CS302') AND MARKS > 90;

```
  ROLLNO SUB_CODE
---------- --------
    1023 CS301
```

xiii. Insert two students in the students table.

Code:

INSERT INTO STUDENT
VALUES (3005,'MOHAMMAD
AZIB','Saltlake',7910000666,2017,'EE','SEM5',TO_DATE('20-05-2001','DD-MM-YYYY'));

INSERT INTO STUDENT
VALUES (3055,'CHONK
PRAMANIK','Dunlop',8910793249,2021,'CSE','SEM5',TO_DATE('24-02-2003','DD-MM-YYYY'));

OUTPUT:

```
SQL> SELECT * FROM STUDENT WHERE ROLLNO=3005;

    ROLLNO NAME                   ADDRESS              PHONENO  YEAROFADM DEPT SEME BIRTHDAT
---------- -------------------- -------------------- ---------- ---------- ---- ---- --------
      3005 MOHAMMAD AZIB          Saltlake           7910000666      2017 EE   SEM5 20-05-01

SQL> SELECT * FROM STUDENT WHERE ROLLNO=3055;

    ROLLNO NAME                   ADDRESS              PHONENO  YEAROFADM DEPT SEME BIRTHDAT
---------- -------------------- -------------------- ---------- ---------- ---- ---- --------
      3055 CHONK PRAMANIK         Dunlop             8910793249      2021 CSE  SEM5 24-02-03
```

xiv. Delete phone number of a given student.

Code:

UPDATE STUDENT SET PHONENO = NULL WHERE NAME='CHONK PRAMANIK';

Output:

```
    ROLLNO NAME                   ADDRESS              PHONENO  YEAROFADM DEPT SEME BIRTHDAT
---------- -------------------- -------------------- ---------- ---------- ---- ---- --------
      3055 CHONK PRAMANIK         Dunlop                             2021 CSE  SEM5 24-02-03
```

xv. Display the roll number, subject code who got more than 40 from pass marks in either CS501 or CS502.

Code:

SELECT ROLLNO,SUB_CODE FROM RESULT
WHERE MARKS > (40 + PASS_MARKS) AND SUB_CODE='CS501' OR SUB_CODE='CS502';

Output:

```
    ROLLNO SUB_CODE
---------- --------
      1003 CS501
      1001 CS502
      1002 CS502
      1003 CS502
```