**AIM:**

Create a table **student** with following fields roll no int (primary key), Name char (20) not null (first letter as either B,S E,P), sex char (1) accept only m or f, dob date not null, course (values must be MCA, CSE ME), sem(values must be S3, S4), Date_of_Join.

Create second table **marks** with following data Mid in (primary key), roll no int (foreign key) referencing student tables). Sub_code char (5) not null and marks int not null (>=0 &<=100). Insert the data into these tables.

```
SQL> CREATE TABLE student (
  2      roll_no INT PRIMARY KEY,
  3      Name CHAR(20) NOT NULL CHECK (Name LIKE 'B%' OR Name LIKE 'S%' OR Name LIKE 'E%' OR Name LIKE 'P%'),
  4      sex CHAR(1) CHECK (sex IN ('m', 'f')),
  5      dob DATE NOT NULL,
  6      course CHAR(3) CHECK (course IN ('MCA', 'CSE', 'ME')),
  7      sem CHAR(2) CHECK (sem IN ('S3', 'S4')),
  8      Date_of_Join DATE
  9  );

Table created.

SQL> CREATE TABLE marks (
  2      Mid INT PRIMARY KEY,
  3      roll_no INT,
  4      Sub_code CHAR(5) NOT NULL,
  5      marks INT NOT NULL CHECK (marks >= 0 AND marks <= 100),
  6      FOREIGN KEY (roll_no) REFERENCES student(roll_no)
  7  );

Table created.
```

a. List the name of students joined in mca after 10-10-1990.

```
SQL> select name from student where course='MCA' and Date_Of_Join >'10-OCT-1998';

NAME
--------------------
Bharat
```

b. List the name of students who are not in CS department.

```
SQL> SELECT Name FROM student WHERE course != 'CSE';

NAME
--------------------
Bharat
Emily
```

c. List the names of students whose names start with ‘E’ and ‘P as 3rd character

```
SQL> SELECT Name FROM student WHERE Name LIKE 'E_P%';

no rows selected

SQL>
```

d. List all marks of the student Sourav from MCA.

```
SQL> SELECT m.Sub_code, m.marks FROM student s JOIN marks m ON s.roll_no = m.roll_no WHERE s.Name = 'Sourav' AND s.cours
e = 'MCA';

SUB_C      MARKS
----- ----------
CS101          85
```

e. List all roll no from two table (avoid duplicate roll no).

```
SQL> SELECT DISTINCT roll_no FROM student UNION SELECT DISTINCT roll_no FROM marks;

   ROLL_NO
----------
         1
         2
         3
         9
```

f. List all roll no which is common in both tables.

```
SQL> SELECT DISTINCT s.roll_no FROM student s JOIN marks m ON s.roll_no = m.roll_no;

   ROLL_NO
----------
         1
         2
         9
```

g. List name from student table and all marks from marks of roll no 23 in student table.

```
SQL> SELECT s.Name, m.Sub_code, m.marks FROM student s JOIN marks m ON s.roll_no = m.roll_no WHERE s.roll_no = 23;

no rows selected
```

h. List the roll no and total marks of each roll no from mark table.

```
SQL> SELECT roll_no, SUM(marks) AS total_marks FROM marks GROUP BY roll_no;

   ROLL_NO TOTAL_MARKS
---------- -----------
         1         175
         2          78
         9          85
```

i. Display name and roll no of students, where marks are entered in marks table.

```
SQL> SELECT DISTINCT s.Name, s.roll_no FROM student s JOIN marks m ON s.roll_no = m.roll_no;

NAME                   ROLL_NO
-------------------- ----------
Simran                        2
Sourav                        9
Bharat                        1
```

j. Display the name, roll no, sex, dob, sub_code and mark of highest subject mark.

```
SQL> SELECT s.Name, s.roll_no, s.sex, s.dob, m.Sub_code, m.marks FROM student s JOIN marks m ON s.roll_no = m.roll_no WH
ERE m.marks = (SELECT MAX(marks) FROM marks);

NAME                   ROLL_NO S DOB       SUB_C      MARKS
-------------------- ---------- - --------- ----- ----------
Bharat                        1 m 15-JAN-00 MATH1         90
```

k. List the student name and Date of Join in format dd/mm/yy

```
SQL> SELECT Name, TO_CHAR(Date_of_Join, 'DD/MM/YY') AS Date_of_Join FROM student;

NAME                 DATE_OF_
-------------------- --------
Bharat               01/08/23
Simran               01/08/23
Emily                01/08/98
Sourav               01/08/23
```

l. List all students joined during the year 1998

```
SQL> SELECT Name FROM student WHERE EXTRACT(YEAR FROM Date_of_Join) = 1998;

NAME
--------------------
Emily
```

m. List the minimum mark of various students in various department having minimum mark greater than 60.

```
SQL> SELECT s.course, MIN(m.marks) AS min_marks FROM student s JOIN marks m ON s.roll_no = m.roll_no GROUP BY s.course H
AVING MIN(m.marks) > 60;

COU  MIN_MARKS
--- ----------
CSE         78
MCA         85
```

n. List all the students in the college other than CS Department

```
SQL> SELECT Name FROM student WHERE course <> 'CSE';

NAME
--------------------
Bharat
Emily
Sourav
```

o. Count the number of students in each department whose mark in greater than 60

```
SQL> SELECT s.course, COUNT(DISTINCT s.roll_no) AS num_students FROM student s JOIN marks m ON s.roll_no = m.roll_no WHE
RE m.marks > 60 GROUP BY s.course;

COU NUM_STUDENTS
--- ------------
CSE            1
MCA            2
```