```
SQL> CREATE TABLE STUDENT (
  2       rollno INT PRIMARY KEY,
  3       name VARCHAR(100) NOT NULL,
  4       class VARCHAR(20) NOT NULL,
  5       birthdate DATE NOT NULL
  6   );

Table created.
```

```
SQL> CREATE TABLE COURSE (
  2       courseno INT PRIMARY KEY,
  3       coursename VARCHAR(100) NOT NULL,
  4       max_marks INT CHECK (max_marks > 0),
  5       pass_marks INT,
  6       CHECK (pass_marks > 0 AND pass_marks <= max_marks)
  7   );

Table created.
```

```
SQL> CREATE TABLE SC (
  2       rollno INT,
  3       courseno INT,
  4       marks INT CHECK (marks BETWEEN 0 AND 100),
  5       PRIMARY KEY (rollno, courseno),
  6       FOREIGN KEY (rollno) REFERENCES STUDENT(rollno) ON DELETE CASCADE,
  7       FOREIGN KEY (courseno) REFERENCES COURSE(courseno) ON DELETE CASCADE
  8   );

Table created.
```

```
SQL> INSERT INTO COURSE (courseno, coursename, max_marks, pass_marks) VALUES (101, 'Database Management System', 100, 40);

1 row created.

SQL> INSERT INTO COURSE (courseno, coursename, max_marks, pass_marks) VALUES (102, 'Computer Networks', 100, 35);

1 row created.

SQL> INSERT INTO COURSE (courseno, coursename, max_marks, pass_marks) VALUES (103, 'Data Structures', 100, 50);

1 row created.
```

```
SQL> SELECT s.rollno, s.name, s.class, s.birthdate, c.coursename, sc.marks
  2  FROM STUDENT s
  3  JOIN SC sc ON s.rollno = sc.rollno
  4  JOIN COURSE c ON sc.courseno = c.courseno
  5  WHERE c.coursename = 'Database Management System';

   ROLLNO NAME                                                                                                CLASS                BIRTHDATE COURSENAME
            MARKS
---------- ---------------------------------------------------------------------------------------------------- -------------------- --------- ----------
------ ----------
         1 Alice                                                                                              MCA                  10-MAY-98 Database Management System
                  85
         2 Bob                                                                                                MCA                  15-AUG-97 Database Management System
                  48
```

```
SQL> INSERT INTO SC (rollno, courseno, marks) VALUES (1, 101, 85);

1 row created.

SQL> INSERT INTO SC (rollno, courseno, marks) VALUES (1, 102, 72);

1 row created.

SQL> INSERT INTO SC (rollno, courseno, marks) VALUES (2, 101, 40);

1 row created.

SQL> INSERT INTO SC (rollno, courseno, marks) VALUES (2, 103, 55);

1 row created.

SQL> INSERT INTO SC (rollno, courseno, marks) VALUES (3, 102, 30);

1 row created.

SQL> INSERT INTO SC (rollno, courseno, marks) VALUES (3, 103, 90);

1 row created.
```

```
SQL> SELECT s.rollno, s.name
  2  FROM STUDENT s
  3  JOIN SC sc ON s.rollno = sc.rollno
  4  JOIN COURSE c ON sc.courseno = c.courseno
  5  WHERE c.coursename = 'Computer Networks'
  6    AND sc.marks > (c.max_marks * 0.7)
  7    AND s.rollno NOT IN (
  8      SELECT sc2.rollno
  9      FROM SC sc2
 10      JOIN COURSE c2 ON sc2.courseno = c2.courseno
 11      WHERE sc2.marks < c2.pass_marks
 12  );

    ROLLNO NAME
---------- --------------------------------------------------------------------------------------------------------------------------------
         1 Alice
```

```
SQL> SELECT s.rollno, s.name, AVG(sc.marks) AS avg_marks
  2  FROM STUDENT s
  3  JOIN SC sc ON s.rollno = sc.rollno
  4  GROUP BY s.rollno, s.name;

    ROLLNO NAME                                                                                                                              AVG_MARKS
---------- -------------------------------------------------------------------------------------------------------------------------------- ----------
         1 Alice                                                                                                                              78.5
         2 Bob                                                                                                                                47.5
         3 Charlie                                                                                                                              60
```

```
SQL> SELECT * FROM COURSE WHERE pass_marks > (max_marks * 0.3);

 COURSENO COURSENAME                                                                                                                     MAX_MARKS PASS_MARKS
--------- -------------------------------------------------------------------------------------------------------------------------------- --------- ----------
      101 Database Management System                                                                                                         100         40
      102 Computer Networks                                                                                                                  100         35
      103 Data Structures                                                                                                                    100         50
```

```
SQL> SELECT *
  2  FROM STUDENT
  3  WHERE EXTRACT(YEAR FROM birthdate) IN (1980, 1982);

no rows selected
```

```
SQL> CREATE VIEW Student_Course_Marks AS
  2  SELECT rollno, courseno, marks
  3  FROM SC;

View created.

SQL>
SQL> SELECT * FROM Student_Course_Marks;

    ROLLNO    COURSENO       MARKS
---------- ---------- ----------
         1        101         85
         1        102         72
         2        101         40
         2        103         55
         3        102         30
         3        103         90

6 rows selected.
```

```
SQL> INSERT INTO STUDENT (rollno, name, class, birthdate)
  2  VALUES (1, 'Alice', 'MCA', TO_DATE('1998-05-10', 'YYYY-MM-DD'));

1 row created.

SQL> INSERT INTO STUDENT (rollno, name, class, birthdate)
  2  VALUES (2, 'Bob', 'MCA', TO_DATE('1997-08-15', 'YYYY-MM-DD'));

1 row created.

SQL> INSERT INTO STUDENT (rollno, name, class, birthdate)
  2  VALUES (3, 'Charlie', 'BSc', TO_DATE('1999-02-20', 'YYYY-MM-DD'));

1 row created.
```