

```
CREATE TABLE STUDENT (USN VARCHAR (10),  
SNAME VARCHAR (20),  
ADDRESS VARCHAR (20),  
PHONE NUMBER (10),  
GENDER CHAR (1),  
CONSTRAINT PKST PRIMARY KEY(USN));
```

```
CREATE TABLE SEMSEC (SSID VARCHAR (5),  
SEM NUMBER (2),  
SEC CHAR (1),  
CONSTRAINT PKSEM PRIMARY KEY(SSID));
```

```
CREATE TABLE CLASS (USN VARCHAR (10),  
SSID VARCHAR (5),  
CONSTRAINT PKCL PRIMARY KEY (USN, SSID),  
CONSTRAINT FKUSN FOREIGN KEY (USN) REFERENCES  
STUDENT (USN),  
CONSTRAINT FKSSID FOREIGN KEY (SSID) REFERENCES  
SEMSEC (SSID));
```

```
CREATE TABLE SUBJECT (SUBCODE VARCHAR (8),  
TITLE VARCHAR (20),  
SEM NUMBER (2),
```

```
CREDITS NUMBER (5),  
CONSTRAINT PKSUB PRIMARY KEY (SUBCODE));
```

```
CREATE TABLE IAMARKS (USN VARCHAR (10),  
SUBCODE VARCHAR (8),  
SSID VARCHAR (5),  
TEST1 NUMBER,  
TEST2 NUMBER,  
TEST3 NUMBER,  
FINALIA NUMBER,  
CONSTRAINT PKIA PRIMARY KEY (USN, SUBCODE, SSID),  
CONSTRAINT FKUS FOREIGN KEY (USN) REFERENCES  
STUDENT (USN),  
CONSTRAINT FKSU FOREIGN KEY (SUBCODE) REFERENCES  
SUBJECT (SUBCODE),  
CONSTRAINT FKSSI FOREIGN KEY (SSID) REFERENCES  
SEMSEC (SSID));
```

Queries

1.List all the student details studying in fourth semester 'C' section.

```
SELECT S.*, SS.SEM, SS.SEC  
FROM STUDENT S, SEMSEC SS, CLASS C
```

```
WHERE S.USN = C.USN AND  
SS.SSID = C.SSID AND  
SS.SEM = 4 AND  
SS.SEC='C';
```

2. Compute the total number of male and female students in each semester and in each section.

```
SELECT SS.SEM, SS.SEC, S.GENDER, COUNT (S.GENDER) AS  
COUNT  
FROM STUDENT S, SEMSEC SS, CLASS C  
WHERE S.USN = C.USN AND  
SS.SSID = C.SSID  
GROUP BY SS.SEM, SS.SEC, S.GENDER  
ORDER BY SEM;
```

3. Create a view of Test1 marks of student USN '1BI15CS101' in all subjects.

```
CREATE VIEW STU_TEST1_MARKS_VIEW  
AS  
SELECT TEST1, SUBCODE  
FROM IAMARKS  
WHERE USN = '1BI15CS101';
```

4. Calculate the FinalIA (average of best two test marks) and update the corresponding table for all students.

```
UPDATE IAMARKS SET FINALIA=((TEST1+TEST2+TEST3)-  
LEAST(TEST1,TEST2,TEST3))/2;
```

5. Categorize students based on the following criterion:

If FinalIA = 17 to 20 then CAT = 'Outstanding'

If FinalIA = 12 to 16 then CAT = 'Average'

If FinalIA < 12 then CAT = 'Weak'

Give these details only for 8th semester A, B, and C section students.

```
SELECT S.USN,S.SNAME,S.ADDRESS,S.PHONE,S.GENDER,  
IA.SUBCODE,  
(CASE  
WHEN IA.FINALIA BETWEEN 17 AND 20 THEN  
'OUTSTANDING'  
WHEN IA.FINALIA BETWEEN 12 AND 16 THEN 'AVERAGE'  
ELSE 'WEAK'  
END) AS CAT  
FROM STUDENT S, SEMSEC SS, IAMARKS IA, SUBJECT SUB  
WHERE S.USN = IA.USN AND  
SS.SSID = IA.SSID AND  
SUB.SUBCODE = IA.SUBCODE AND  
SUB.SEM = 8 ;;
```