

**VAIBHAVI PATIL**  
**1BM19CS217**  
**CSE SEC 'A'**

## **Program 10**

**Consider the schema for College Database:**

**STUDENT (USN, SName, Address, Phone, Gender)**

**SEMSEC (SSID, Sem, Sec)**

**CLASS (USN, SSID)**

**SUBJECT (Subcode, Title, Sem, Credits)**

**IAMARKS (USN, Subcode, SSID, Test1, Test2, Test3, FinalIA)**

### **CODE**

```
CREATE DATABASE COLLEGEDATABASEENTRY;  
USE COLLEGEDATABASEENTRY;
```

```
CREATE TABLE STUDENT (  
  USN VARCHAR (10),  
  SNAME VARCHAR (25),  
  ADDRESS VARCHAR (25),  
  PHONE LONG,  
  GENDER CHAR (1),  
  PRIMARY KEY (USN));
```

```
CREATE TABLE SEMSEC (  
  SSID VARCHAR (5),  
  SEM INT,  
  SEC CHAR (1),  
  PRIMARY KEY (SSID));
```

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

```
CREATE TABLE SUBJECT (  
  SUBCODE VARCHAR (8),  
  TITLE VARCHAR (20),  
  SEM INT,  
  CREDITS INT,  
  PRIMARY KEY (SUBCODE));
```

```

CREATE TABLE IAMARKS (
USN VARCHAR (10),
SUBCODE VARCHAR (8),
SSID VARCHAR (5),
TEST1 INT,
TEST2 INT,
TEST3 INT,
FINALIA INT,
PRIMARY KEY (USN, SUBCODE, SSID),
FOREIGN KEY (USN) REFERENCES STUDENT (USN),
FOREIGN KEY (SUBCODE) REFERENCES SUBJECT (SUBCODE),
FOREIGN KEY (SSID) REFERENCES SEMSEC (SSID));

```

```

INSERT INTO STUDENT VALUES ('1RN13CS020','AKSHAY','BELAGAVI', 8877881122,'M'),
('1RN13CS062','SANDHYA','BENGALURU', 7722829912,'F'),
('1RN13CS091','TEESHA','BENGALURU', 7712312312,'F'),
('1RN13CS066','SUPRIYA','MANGALURU', 8877881122,'F'),
('1RN14CS010','ABHAY','BENGALURU', 9900211201,'M'),
('1RN14CS032','BHASKAR','BENGALURU', 9923211099,'M'),
('1RN14CS025','ASMI','BENGALURU', 7894737377,'F'),
('1RN15CS011','AJAY','TUMKUR', 9845091341,'M');

```

```

INSERT INTO STUDENT VALUES ('1RN15CS029','CHITRA','DAVANGERE', 7696772121,'F'),
('1RN15CS045','JEEVA','BELLARY', 9944850121,'M'),
('1RN15CS091','SANTOSH','MANGALURU', 8812332201,'M'),
('1RN16CS045','ISMAIL','KALBURGI', 9900232201,'M'),
('1RN16CS088','SAMEERA','SHIMOGA', 9905542212,'F'),
('1RN16CS122','VINAYAKA','CHIKAMAGALUR', 8800880011,'M');

```

```

INSERT INTO SEMSEC VALUES ('CSE8A', 8,'A'),
('CSE8B', 8,'B'),
('CSE8C', 8,'C'),
('CSE7A', 7,'A'),
('CSE7B', 7,'B'),
('CSE7C', 7,'C'),
('CSE6A', 6,'A'),
('CSE6B', 6,'B'),
('CSE6C', 6,'C'),
('CSE5A', 5,'A'),
('CSE5B', 5,'B'),
('CSE5C', 5,'C'),
('CSE4A', 4,'A'),
('CSE4B', 4,'B'),
('CSE4C', 4,'C'),
('CSE3A', 3,'A'),
('CSE3B', 3,'B'),
('CSE3C', 3,'C'),

```

('CSE2A', 2, 'A'),  
('CSE2B', 2, 'B'),  
('CSE2C', 2, 'C'),  
('CSE1A', 1, 'A'),  
('CSE1B', 1, 'B'),  
('CSE1C', 1, 'C');

INSERT INTO CLASS VALUES ('1RN13CS020','CSE8A'),  
('1RN13CS062','CSE8A'),  
('1RN13CS066','CSE8B'),  
('1RN13CS091','CSE8C'),  
('1RN14CS010','CSE7A'),  
('1RN14CS025','CSE7A'),  
('1RN14CS032','CSE7A'),  
('1RN15CS011','CSE4A'),  
('1RN15CS029','CSE4A'),  
('1RN15CS045','CSE4B'),  
('1RN15CS091','CSE4C'),  
('1RN16CS045','CSE3A'),  
('1RN16CS088','CSE3B'),  
('1RN16CS122','CSE3C');

INSERT INTO SUBJECT VALUES ('10CS81','ACA', 8, 4),  
('10CS82','SSM', 8, 4),  
('10CS83','NM', 8, 4),  
('10CS84','CC', 8, 4),  
('10CS85','PW', 8, 4),  
('10CS71','OOAD', 7, 4),  
('10CS72','ECS', 7, 4),  
('10CS73','PTW', 7, 4),  
('10CS74','DWDM', 7, 4),  
('10CS75','JAVA', 7, 4),  
('10CS76','SAN', 7, 4),  
('15CS51', 'ME', 5, 4),  
('15CS52','CN', 5, 4),  
('15CS53','DBMS', 5, 4),  
('15CS54','ATC', 5, 4),  
('15CS55','JAVA', 5, 3),  
('15CS56','AI', 5, 3),  
('15CS41','M4', 4, 4),  
('15CS42','SE', 4, 4),  
('15CS43','DAA', 4, 4),  
('15CS44','MPMC', 4, 4),  
('15CS45','OOC', 4, 3),  
('15CS46','DC', 4, 3),  
('15CS31','M3', 3, 4),  
('15CS32','ADE', 3, 4),  
('15CS33','DSA', 3, 4),  
('15CS34','CO', 3, 4),  
('15CS35','USP', 3, 3),

('15CS36','DMS', 3, 3);

INSERT INTO IAMARKS VALUES ('1RN13CS091','10CS81','CSE8C', 15, 16, 18,17),  
('1RN13CS091','10CS82','CSE8C', 12, 19, 14,17),  
('1RN13CS091','10CS83','CSE8C', 19, 15, 20,20),  
('1RN13CS091','10CS84','CSE8C', 20, 16, 19,20),  
('1RN13CS091','10CS85','CSE8C', 15, 15, 12,15);

SELECT \* FROM STUDENT;

	USN	SNAME	ADDRESS	PHONE	GENDER
▶	1RN13CS020	AKSHAY	BELAGAVI	8877881122	M
	1RN13CS062	SANDHYA	BENGALURU	7722829912	F
	1RN13CS066	SUPRIYA	MANGALURU	8877881122	F
	1RN13CS091	TEESHA	BENGALURU	7712312312	F
	1RN14CS010	ABHAY	BENGALURU	9900211201	M
	1RN14CS025	ASMI	BENGALURU	7894737377	F
	1RN14CS032	BHASKAR	BENGALURU	9923211099	M
	1RN15CS011	AJAY	TUMKUR	9845091341	M
	1RN15CS029	CHITRA	DAVANGERE	7696772121	F
	1RN15CS045	JEEVA	BELLARY	9944850121	M
	1RN15CS091	SANTOSH	MANGALURU	8812332201	M
	1RN16CS045	ISMAIL	KALBURGI	9900232201	M
	1RN16CS088	SAMEERA	SHIMOGA	9905542212	F
	1RN16CS122	VINAYAKA	CHIKAMAG...	8800880011	M
*	NULL	NULL	NULL	NULL	NULL

student 7 ×

SELECT \* FROM SEMSEC;

	SSID	SEM	SEC
▶	CSE1A	1	A
	CSE1B	1	B
	CSE1C	1	C
	CSE2A	2	A
	CSE2B	2	B
	CSE2C	2	C
	CSE3A	3	A
	CSE3B	3	B
	CSE3C	3	C
	CSE4A	4	A
	CSE4B	4	B
	CSE4C	4	C
	CSE5A	5	A
	CSE5B	5	B
	CSE5C	5	C
	CSE6A	6	A
	CSE6B	6	B
	CSE6C	6	C
	CSE7A	7	A
	CSE7B	7	B
	CSE7C	7	C
	CSE8A	8	A
	CSE8B	8	B
	CSE8C	8	C
*	NULL	NULL	NULL

semsec 8 x

SELECT \* FROM CLASS;

	USN	SSID
▶	1RN16CS045	CSE3A
	1RN16CS088	CSE3B
	1RN16CS122	CSE3C
	1RN15CS011	CSE4A
	1RN15CS029	CSE4A
	1RN15CS045	CSE4B
	1RN15CS091	CSE4C
	1RN14CS010	CSE7A
	1RN14CS025	CSE7A
	1RN14CS032	CSE7A
	1RN13CS020	CSE8A
	1RN13CS062	CSE8A
	1RN13CS066	CSE8B
	1RN13CS091	CSE8C
*	NULL	NULL

SELECT \* FROM SUBJECT;

	SUBCODE	TITLE	SEM	CREDITS
▶	10CS71	OOAD	7	4
	10CS72	ECS	7	4
	10CS73	PTW	7	4
	10CS74	DWDM	7	4
	10CS75	JAVA	7	4
	10CS76	SAN	7	4
	10CS81	ACA	8	4
	10CS82	SSM	8	4
	10CS83	NM	8	4
	10CS84	CC	8	4
	10CS85	PW	8	4
	15CS31	M3	3	4
	15CS32	ADE	3	4
	15CS33	DSA	3	4
	15CS34	CO	3	4
	15CS35	USP	3	3
	15CS36	DMS	3	3
	15CS41	M4	4	4
	15CS42	SE	4	4
	15CS43	DAA	4	4
	15CS44	MPMC	4	4
	15CS45	OOC	4	3
	15CS46	DC	4	3
	15CS51	ME	5	4
	15CS52	CN	5	4
	15CS53	DBMS	5	4
	15CS54	ATC	5	4
	15CS55	JAVA	5	3
	15CS56	AI	5	3
*	NULL	NULL	NULL	NULL

subject 10 ×

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';

	USN	SNAME	ADDRESS	PHONE	GENDER	SEM	SEC
▶	1RN15CS091	SANTOSH	MANGALURU	8812332201	M	4	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;
```

	SEM	SEC	GENDER	COUNT
▶	3	A	M	1
	3	B	F	1
	3	C	M	1
	4	A	F	1
	4	A	M	1
	4	B	M	1
	4	C	M	1
	7	A	F	1
	7	A	M	2
	8	A	F	1
	8	A	M	1
	8	B	F	1
	8	C	F	1

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

```
CREATE VIEW STUDENT_TEST1_MARKS_VIEW
AS
SELECT TEST1, SUBCODE
FROM IAMARKS
WHERE USN = '1RN13CS091';
```

```
SELECT * FROM STUDENT_TEST1_MARKS_VIEW;
```

Result Grid		Filter Rows:
	TEST1	SUBCODE
▶	15	10CS81
	12	10CS82
	19	10CS83
	20	10CS84
	15	10CS85

STUDENT\_TEST1\_MARKS\_VIE... x

**4. 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,  
(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;
```

	USN	SNAME	ADDRESS	PHONE	GENDER	CAT
▶	1RN13CS091	TEESHA	BENGALURU	7712312312	F	OUTSTANDING
	1RN13CS091	TEESHA	BENGALURU	7712312312	F	OUTSTANDING
	1RN13CS091	TEESHA	BENGALURU	7712312312	F	OUTSTANDING
	1RN13CS091	TEESHA	BENGALURU	7712312312	F	OUTSTANDING
	1RN13CS091	TEESHA	BENGALURU	7712312312	F	AVERAGE