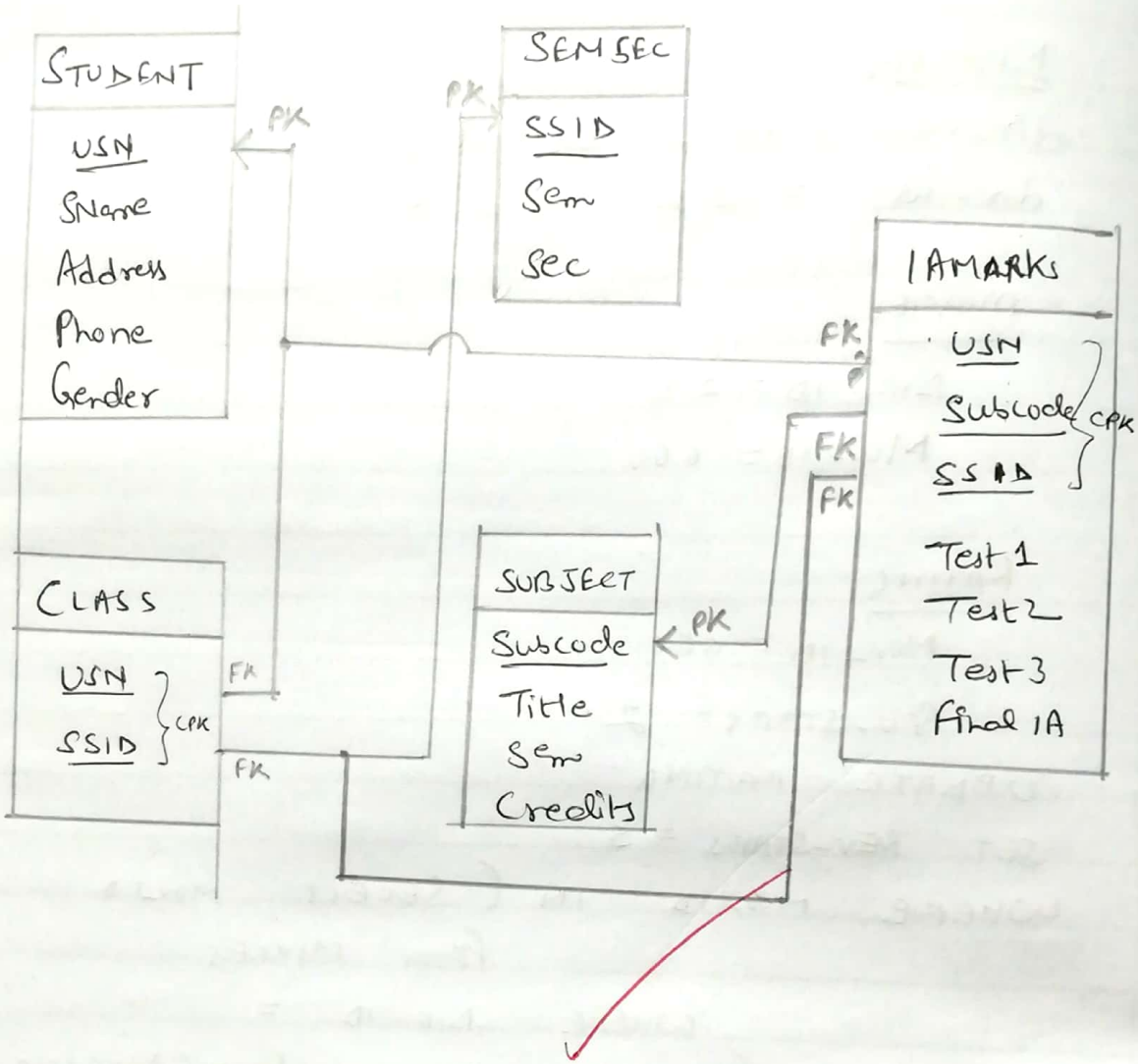
UML DIAGRAM



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ame from Employee e
OT EXISTS ((Select P.PNO

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4. COLLEGE DATABASE

Consider the schema for the 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, FinalA)

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TABLE CREATED

NAME	NULL?	TYPE
USN	NOT NULL	varchar(10)
Sname		varchar(20)
Address		varchar(25)
Phone		Number(10)
Gender		char

ENTER THE VALUE OF USN :
ENTER THE VALUE OF Sname :
ENTER THE VALUE OF Address :
ENTER THE VALUE OF Phone :
ENTER THE VALUE OF GENDER:
1 Row created

USN	Sname	Address	Phone	Gender
1MV17CS001	Ashish	Bangalore	9436131000	M
1MV17CS060	Naela	Mysore	9436131001	F
1MV17CS130	Milind	jammu	9436131002	M
1MV16CS001	Abhijeet	Pune	9436131003	M
1MV16CS060	Ravi	hyderbad	9436131004	M
1MV16CS130	Sanjana	guwahati	9436131005	F
1MV15CS001	Anshuman	Panaji	9436131006	M
1MV15CS060	Amrita	Bangalore	9436131007	F
1MV15CS130	Bhuvnesh	Jaipur	9436131008	M
1MV14CS001	Devyani	Bangalore	9436131009	F
1MV14CS060	David	Kochi	9436131010	M
1MV14CS130	Aishwarya	Mumbai	9436131011	F

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CREATION OF TABLES

1. STUDENT

```
CREATE TABLE STUDENT
(   USN       varchar(10),
    Sname     varchar(20),
    Address   varchar(25),
    Phone     Number(10),
    Gender    char,
CONSTRAINT PK-USN PRIMARY KEY(USN));

DESC STUDENT;

INSERT INTO STUDENT VALUES
('&USN', '&Sname', '&Address', &Phone, '&Gender');

SELECT * FROM STUDENT;
```

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Table Created

Name	NULL?	TYPE
SSID	Not Null	Char(2)
SEM	~~Number~~	Number(1)
Sec		char

ENTER THE VALUE OF SSID: 2a
ENTER THE VALUE OF SEM: 2
ENTER THE VALUE OF SEC: A

1 row created

SSID	SEM	SEC
2a	2	A
2b	2	B
2c	2	C
4a	4	A
4b	4	B
4c	4	C
6a	6	A
6b	6	B
6c	6	C
8a	8	A
8b	8	B
8c	8	C

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and 8));

DESC SEMSEC;

INSERT INTO SEMSEC VALUES
('&SSID', &SEM, '&sec');

SELECT * FROM SEMSEC;

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USN	SSID
1MV17CS001	2a
1MV17CS060	2b
1MV17CS130	2c
1MV16CS001	4a
1MV16CS060	4b
1MV16CS130	4c
1MV15CS001	6a
1MV15CS060	6b
1MV15CS130	6c
1MV14CS001	8a
1MV14CS060	8b
1MV14CS130	8c

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3.) CLASS

```
CREATE TABLE CLASS
( USN varchar(10),
  SSID char(2),
CONSTRAINT CSK PRIMARY KEY(USN, SSID),
CONSTRAINT FK_U FOREIGN KEY (USN)
 REFERENCES STUDENT(USN) ON DELETE CASCADE,
CONSTRAINT FK_SS FOREIGN KEY (SSID)
 REFERENCES STUDSEMSEC(SSID) ON
  DELETE CASCADE );

DESC CLASS;

INSERT INTO CLASS VALUES
('&USN', '&SSID');

SELECT * FROM CLASS;
```

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Table Created

Name	Null ?	Type
Subcode	NOT NULL	varchar(6)
Title		char(15)
Sem		Number(1)
Credits		Number(2)

ENTER THE VALUE OF Subcode: 15CS21
ENTER THE VALUE OF Title: M2
ENTER THE VALUE OF Sem: 2
ENTER THE VALUE OF Credits: 4

SUBCODE	TITLE	SEM	CREDITS
15CS21	M2	2	4
15PCD23	PCD	2	4
15CS42	SE	4	4
15CS46	MP	4	4
15CS64	CG	6	4
15CS62	UXP	6	4
10CS81	SA	8	4
10CS842	ST	8	3

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4.) SUBJECT

```
CREATE TABLE SUBJECT
( subcode      varchar (6),
  Title        Char (15),
  Sem          Number(1),
  Credits      Number(2),
  CONSTRAINT   PK-SUB  PRIMARY KEY (SUBCODE),
  CONSTRAINT   CHK-SI  CHECK (Sem between 1 and 8));
  );
```

```
DESC SUBJECT ;
```

```
INSERT INTO SUBJECT VALUES
( '&subcode', '&title', &Sem, &Credits );
```

```
SELECT * FROM SUBJECT ;
```

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Table Created

NAME	NULL ?	TYPE
USN	NOT NULL	varchar(10)
Subcode	NOT NULL	varchar(8)
SSIA	NOT NULL	char(2)
Test1		NUMBER(2)
Test2		NUMBER(2)
Test3		NUMBER(2)

ENTER VALUE OF USN : 1MV17CS001
ENTER THE VALUE OF Subcode : 15CS21
ENTER THE VALUE OF SSIA : 2a
ENTER THE VALUE OF Test1 : 10
ENTER THE VALUE OF Test2 : 20
ENTER THE VALUE OF Test3 : 7

1 Row created

USN	Subcode	SSIA	Test1	Test2	Test3	Final IA
1MV17CS001	15CS21	2a	10	20	7	
1MV17CS060	15PCS23	2b	18	5	12	
1MV17CS130	15CS21	2c	6	14	17	
1MV16CS001	15CS42	4a	4	15	19	
1MV16CS060	15CS46	4b	12	7	17	
1MV16CS130	15CS42	4c	10	5	2	
1MV15CS001	15CS64	6a	7	13	19	
1MV15CS060	15CS62	6b	18	12	9	
1MV15CS130	15CS64	6c	13	17	5	
1MV14CS001	10CS81	8a	14	8	17	
1MV14CS060	10CS842	8b	9	12	18	
1MV14CS130	10CS81	8c	6	13	18	

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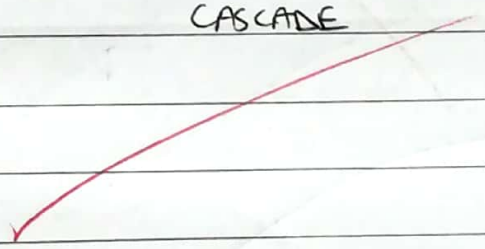
5)

```
CREATE TABLE IAMARKS
( USN      VARCHAR (10),
  SUBCODE  VARCHAR (8),
  SSID     CHAR (2),
  Test1    NUMBER (2),
  Test2    NUMBER (2),
  Test3    NUMBER (2),
  FINALIA  NUMBER (2),
  CONSTRAINT PK_USS PRIMARY KEY ( USN, SUBCODE, SSID),
  CONSTRAINT FK_UF FOREIGN KEY (USN)
     REFERENCES STUDENT (USN) ON DELETE
     CASCADE ;
```



```
DESC IAMARKS;

INSERT INTO IAMARKS
( USN, SUBCODE, SSID, Test1, Test2, Test3 )
VALUES
( '&USN', '&SUBCODE', '&SSID', &Test1, &Test2, &Test3)

SELECT * FROM IAMARKS;
```

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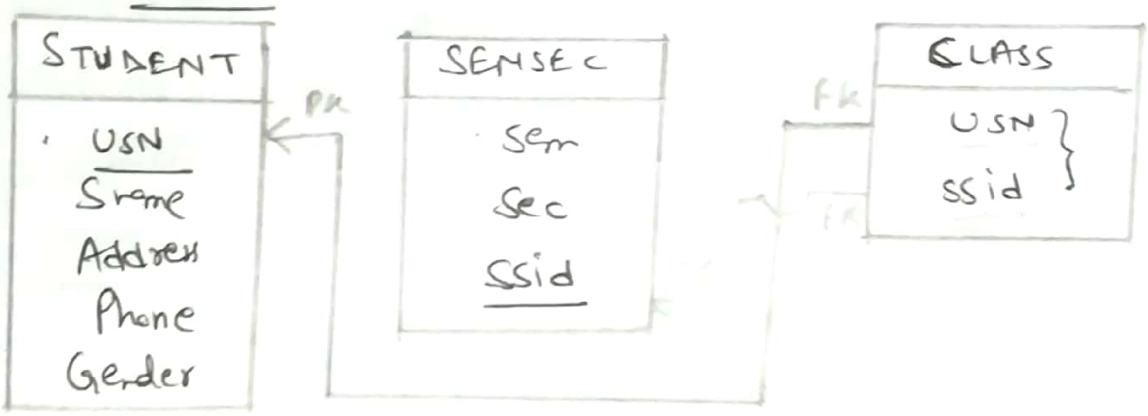
UML



OUTPUT :

SNAME	Address	Phone	Gender	USN
Sanjana	Guwahati	9436131005	F	1MV16CS13

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QUERIES

1. List all the Students details studying in 4th Sem C section

Tables required

Student USN Sname Address Phone gender

Semsec Sem Sec ssid

Class USN ssid

Process

Semsec Sem - 4
Sec - C
Ssid - 4C

Class ssid = 4C
USN = 1MV16CS130

STUDENT
Sanjana Guruvathi 9436131005 f

Query: SELECT S.USN, S.Sname, S.address, S.Phone, S.gender
FROM STUDENT S, CLASS C, SEMSEC SS
WHERE S.USN = C.USN and SS.SSid = C.SSid
and SS.Sem = 4 and SS.sec = 'C';

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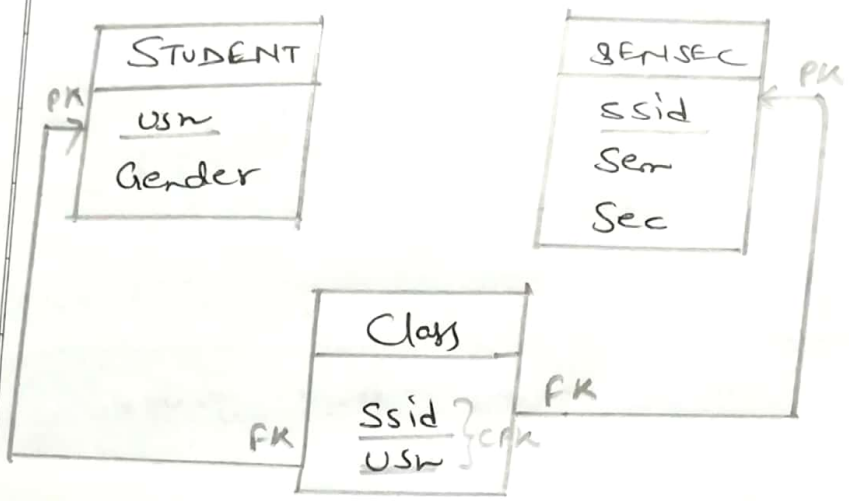
UML Diagram



OUTPUT

SEM	SEC	Gender	COUNT (S-GENDER)
4	B	F	1
6	A	M	1
2	C	M	1
8	B	M	1
8	A	F	1
4	A	M	1
4	C	F	1
2	A	F	1
2	B	f	1
8	C	f	1
6	B	f	1
6	C	M	1

12 rows selected

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2. Compute total no. of male and female Students in each semester and in each section

Tables required

STUDENT USN Gender

Semsec ssid sem sec

Class ssid usn

Process

Semsec group by

Query: Select ss.sem, ss.sec, s.gender, count(s.gender)
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;

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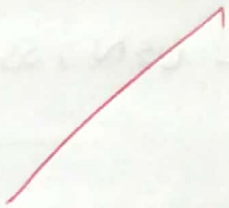
OUTPUT

TEST1	SUBCODE
3	15CS62



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Query 4

ect E.name from Employee e
where NOT EXISTS ((Select P.PNO
from project P
P.dno = 5)

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3. Create a view of Test1 marks of student usn 1MV16CS060 in all subjects

Tables required
IAMARKS(USN, TEST1, SUBCODE)

View
CREATE VIEW TEST1-MARKS AS
SELECT TEST1, SUBCODE FROM IAMARKS
WHERE USN = '1MV16CS060';

SELECT * FROM TEST1-MARKS;

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OUTPUT

USN	SUBCODE	SSID	TEST1	TEST2	TEST3	FINALIA
1MI7CS001	15CS21	2A	20	20	20	20
1MV17CS060	15PCD23	2B	10	10	9	10
1MV17CS130	15CS21	2C	19	16	15	17
1MV16CS001	15CS42	4A	4	10	20	15
1MV16CS060	15CS46	4B	10	3	18	14
1MV16CS130	15CS42	4C	9	13	18	16
1MV15CS001	15CS64	6A	17	14	3	16
1MV15CS060	15CS62	6B	3	13	19	16
1MV15CS130	15CS64	6C	7	14	18	16
1MV14CS001	10CS81	8A	3	16	11	14
1MV14CS060	10CS842	8B	19	4	14	17
1MV14CS130	10CS81	8C	10	2	5	6

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4. CALCULATE the final IA & update the corresponding table for all students.

```
CREATE OR REPLACE PROCEDURE
AVGMARKS
IS
CURSOR C_IAMARKS IS
SELECT GREATEST(TEST1, TEST2) AS A,
       GREATEST (TEST1, TEST3) AS B,
       GREATEST (TEST3, TEST2) AS C
FROM IAMARKS
WHERE FINALIA IS NULL
FOR UPDATE;
C_A NUMBER;
C_B NUMBER;
C_C NUMBER;
C_SUM NUMBER;
C_AVG NUMBER;

BEGIN
    OPEN C_IAMARKS;
    LOOP
    FETCH C_IAMARKS INTO C_A, C_B, C_C;
    EXIT WHEN C_IAMARKS%NOTFOUND;
    DBMS_OUTPUT.PUT_LINE (C_A || ' ' || C_B || ' ' || C_C);
```

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```
IF (C-A != C-B) THEN
C-SUM := C-B + C-B;
ELSE
C-SUM := C-A + C-C;
END IF;
C-AVG := C-SUM / 2;
DBMS_OUTPUT.PUT_LINE ('SUM =' || C-SUM);
DBMS-OUTPUT.PUT_LINE ('AVERAGE =' || C-avg);

UPDATE IAMARKS SET FINALIA = C-AVG
WHERE CURRENT OF C-IAMARKS;
END LOOP;

CLOSE C-IAMARKS;
END;

/ (execute previous query)

SQL > BEGIN
      AVGMARKS;
      END;
/

SELECT *FROM IAMARKS;
```

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) > 5

) = 6

Query 4

Select E.name from Employee e
.. T EXISTS ((Select P.PNO

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5. Categorise
Criteria
if final
if final
if final
Give th
section

SELECT

C

FR

WH

OUTPUT

USN	SNAME	ADDRESS	PHONE	GENDER	CAT
1MV15CS001	Devyani	Bangalore	9313178555	F	Average
1MV15CS060	David	Cochi	9312458787	M	Outstanding
1MV15CS130	Aishwarya	Mumbai	9410429942	F	Weak

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Query 4

E.name from Employee e
...NT EXISTS ((Select P.PNO

E	GENDER	CAT
55	A	Average
787	M	Outstanding
942	F	weak

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...N male and female
... in each

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5. Categorise students based on the following criteria
if final IA = 17-20 then CAT = "Outstanding"
if final IA = 12-16 then CAT = "Average"
if final IA < 12 then CAT = "Weak";
Give these details only for 8 sem A, B & 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
WHERE S.USN = IA.USN AND
      SS.SSid = IA.SSID AND
      SS.Sem = 8
```

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chandra's

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