DIVYASHREE K
1BM19CS054
CSE-4A

Question:-

Program 10:

COLLEGE DATABASE

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)

Write SQL queries to

i. List all the student details studying in fourth semester ‘C’ section.

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

iii. Create a view of Test1 marks of student USN ‘1BI15CS101’ in all subjects.

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

v. 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.

Program 10:

```
CREATE DATABASE COLLEGEDB;
USE COLLEGEDB;

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

select * from student;
```

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

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));
```

```
select * from class;

CREATE TABLE SUBJECT (
SUBCODE VARCHAR (8),
TITLE VARCHAR (20),
SEM INT,
CREDITS INT,
PRIMARY KEY (SUBCODE));
select * from subject;

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));

select * from iamarks;


INSERT INTO STUDENT VALUES
('1RN13CS020','AKSHAY','BELAGAVI',
8877881122,'M');
```

```
INSERT INTO STUDENT VALUES
('1RN13CS062','SANDHYA','BENGALUR
U', 7722829912,'F');

INSERT INTO STUDENT VALUES
('1RN13CS091','TEESHA','BENGALURU',
7712312312,'F');

INSERT INTO STUDENT VALUES
('1RN13CS066','SUPRIYA','MANGALUR
U', 8877881122,'F');

INSERT INTO STUDENT VALUES
('1RN14CS010','ABHAY','BENGALURU',
9900211201,'M');

INSERT INTO STUDENT VALUES
('1RN14CS032','BHASKAR','BENGALURU
', 9923211099,'M');

INSERT INTO STUDENT VALUES
('1RN14CS025','ASMI','BENGALURU',
7894737377,'F');
```

```
INSERT INTO STUDENT VALUES
('1RN15CS011','AJAY','TUMKUR',
9845091341,'M');

INSERT INTO STUDENT VALUES
('1RN15CS029','CHITRA','DAVANGERE',
7696772121,'F');

INSERT INTO STUDENT VALUES
('1RN15CS045','JEEVA','BELLARY',
9944850121,'M');

INSERT INTO STUDENT VALUES
('1RN15CS091','SANTOSH','MANGALUR
U', 8812332201,'M');

INSERT INTO STUDENT VALUES
('1RN16CS045','ISMAIL','KALBURGI',
9900232201,'M');
```

```
INSERT INTO STUDENT VALUES
('1RN16CS088','SAMEERA','SHIMOGA',
9905542212,'F');

INSERT INTO STUDENT VALUES
('1RN16CS122','VINAYAKA','CHIKAMAG
ALUR', 8800880011,'M');



INSERT INTO SEMSEC VALUES ('CSE8A',
8,'A');

INSERT INTO SEMSEC VALUES ('CSE8B',
8,'B');

INSERT INTO SEMSEC VALUES ('CSE8C',
8,'C');

INSERT INTO SEMSEC VALUES ('CSE7A',
7,'A');
```

```
INSERT INTO SEMSEC VALUES ('CSE7B', 7,'B');

INSERT INTO SEMSEC VALUES ('CSE7C', 7,'C');

INSERT INTO SEMSEC VALUES ('CSE6A', 6,'A');

INSERT INTO SEMSEC VALUES ('CSE6B', 6,'B');

INSERT INTO SEMSEC VALUES ('CSE6C', 6,'C');

INSERT INTO SEMSEC VALUES ('CSE5A', 5,'A');

INSERT INTO SEMSEC VALUES ('CSE5B', 5,'B');

INSERT INTO SEMSEC VALUES ('CSE5C', 5,'C');
```

```
INSERT INTO SEMSEC VALUES ('CSE4A', 4,'A');

INSERT INTO SEMSEC VALUES ('CSE4B', 4,'B');

INSERT INTO SEMSEC VALUES ('CSE4C', 4,'C');

INSERT INTO SEMSEC VALUES ('CSE3A', 3,'A');

INSERT INTO SEMSEC VALUES ('CSE3B', 3,'B');

INSERT INTO SEMSEC VALUES ('CSE3C', 3,'C');

INSERT INTO SEMSEC VALUES ('CSE2A', 2,'A');

INSERT INTO SEMSEC VALUES ('CSE2B', 2,'B');
```

```
INSERT INTO SEMSEC VALUES ('CSE2C',
2,'C');

INSERT INTO SEMSEC VALUES ('CSE1A',
1,'A');

INSERT INTO SEMSEC VALUES ('CSE1B',
1,'B');

INSERT INTO SEMSEC VALUES ('CSE1C',
1,'C');


INSERT INTO CLASS VALUES
('1RN13CS020','CSE8A');

INSERT INTO CLASS VALUES
('1RN13CS062','CSE8A');

INSERT INTO CLASS VALUES
('1RN13CS066','CSE8B');

INSERT INTO CLASS VALUES
('1RN13CS091','CSE8C');
```

```
INSERT INTO CLASS VALUES
('1RN14CS010','CSE7A');

INSERT INTO CLASS VALUES
('1RN14CS025','CSE7A');

INSERT INTO CLASS VALUES
('1RN14CS032','CSE7A');

INSERT INTO CLASS VALUES
('1RN15CS011','CSE4A');

INSERT INTO CLASS VALUES
('1RN15CS029','CSE4A');

INSERT INTO CLASS VALUES
('1RN15CS045','CSE4B');

INSERT INTO CLASS VALUES
('1RN15CS091','CSE4C');

INSERT INTO CLASS VALUES
('1RN16CS045','CSE3A');
```

```
INSERT INTO CLASS VALUES
('1RN16CS088','CSE3B');

INSERT INTO CLASS VALUES
('1RN16CS122','CSE3C');



INSERT INTO SUBJECT VALUES
('10CS81','ACA', 8, 4);

INSERT INTO SUBJECT VALUES
('10CS82','SSM', 8, 4);

INSERT INTO SUBJECT VALUES
('10CS83','NM', 8, 4);

INSERT INTO SUBJECT VALUES
('10CS84','CC', 8, 4);

INSERT INTO SUBJECT VALUES
('10CS85','PW', 8, 4);
```

```
INSERT INTO SUBJECT VALUES
('10CS71','OOAD', 7, 4);

INSERT INTO SUBJECT VALUES
('10CS72','ECS', 7, 4);

INSERT INTO SUBJECT VALUES
('10CS73','PTW', 7, 4);

INSERT INTO SUBJECT VALUES
('10CS74','DWDM', 7, 4);

INSERT INTO SUBJECT VALUES
('10CS75','JAVA', 7, 4);

INSERT INTO SUBJECT VALUES
('10CS76','SAN', 7, 4);

INSERT INTO SUBJECT VALUES
('15CS51', 'ME', 5, 4);

INSERT INTO SUBJECT VALUES
('15CS52','CN', 5, 4);
```

```
INSERT INTO SUBJECT VALUES
('15CS53','DBMS', 5, 4);

INSERT INTO SUBJECT VALUES
('15CS54','ATC', 5, 4);

INSERT INTO SUBJECT VALUES
('15CS55','JAVA', 5, 3);

INSERT INTO SUBJECT VALUES
('15CS56','AI', 5, 3);

INSERT INTO SUBJECT VALUES
('15CS41','M4', 4, 4);

INSERT INTO SUBJECT VALUES
('15CS42','SE', 4, 4);

INSERT INTO SUBJECT VALUES
('15CS43','DAA', 4, 4);

INSERT INTO SUBJECT VALUES
('15CS44','MPMC', 4, 4);
```

```
INSERT INTO SUBJECT VALUES
('15CS45','OOC', 4, 3);

INSERT INTO SUBJECT VALUES
('15CS46','DC', 4, 3);

INSERT INTO SUBJECT VALUES
('15CS31','M3', 3, 4);

INSERT INTO SUBJECT VALUES
('15CS32','ADE', 3, 4);

INSERT INTO SUBJECT VALUES
('15CS33','DSA', 3, 4);

INSERT INTO SUBJECT VALUES
('15CS34','CO', 3, 4);

INSERT INTO SUBJECT VALUES
('15CS35','USP', 3, 3);

INSERT INTO SUBJECT VALUES
('15CS36','DMS', 3, 3);
```

```
INSERT INTO IAMARKS (USN, SUBCODE, SSID, TEST1, TEST2, TEST3) VALUES ('1RN13CS091','10CS81','CSE8C', 15, 16, 18);

INSERT INTO IAMARKS (USN, SUBCODE, SSID, TEST1, TEST2, TEST3) VALUES ('1RN13CS091','10CS82','CSE8C', 12, 19, 14);

INSERT INTO IAMARKS (USN, SUBCODE, SSID, TEST1, TEST2, TEST3) VALUES ('1RN13CS091','10CS83','CSE8C', 19, 15, 20);

INSERT INTO IAMARKS (USN, SUBCODE, SSID, TEST1, TEST2, TEST3) VALUES ('1RN13CS091','10CS84','CSE8C', 20, 16, 19);

INSERT INTO IAMARKS (USN, SUBCODE, SSID, TEST1, TEST2, TEST3) VALUES
```

('1RN13CS091','10CS85','CSE8C', 15, 15, 12);

/*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 = '1RN13CS091';

SELECT * FROM
STU_TEST1_MARKS_VIEW;

/*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’
```

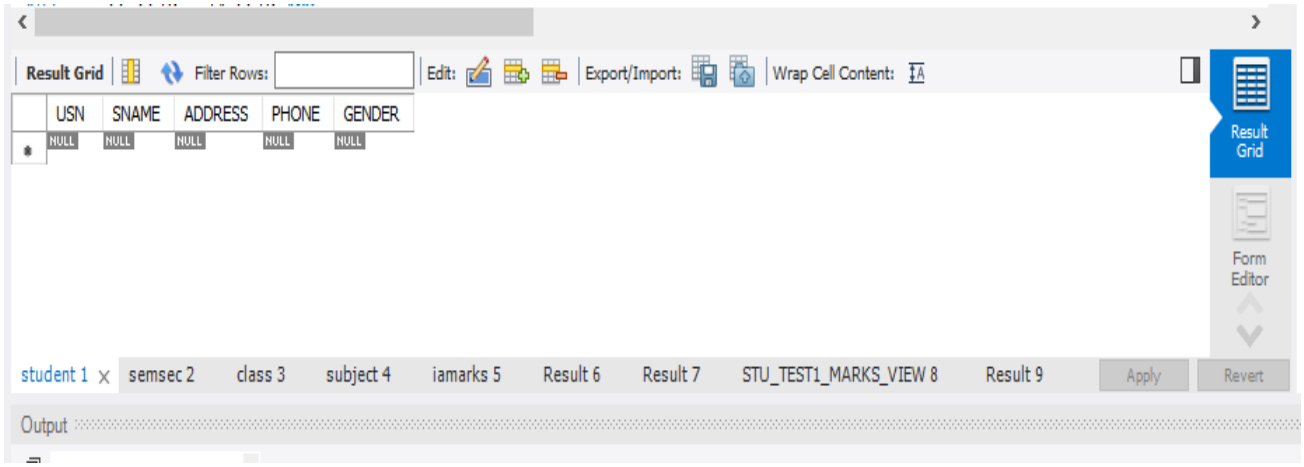
```
Give these details only for 8th
semester A, B, and C section students.
*/

SELECT
S.USN,S.SNAME,S.ADDRESS,S.PHONE,S.
GENDER,

(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
```

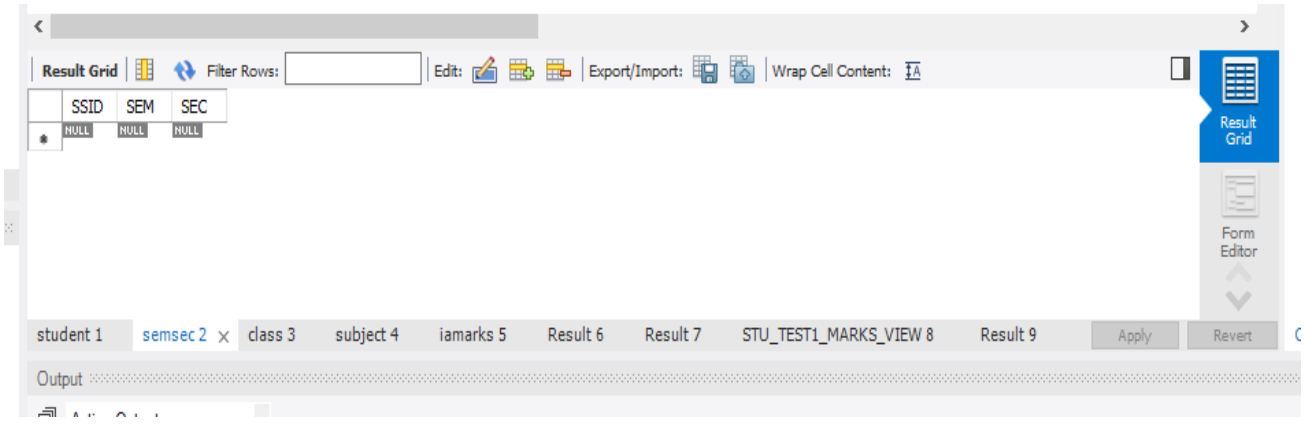
SS.SSID = IA.SSID AND

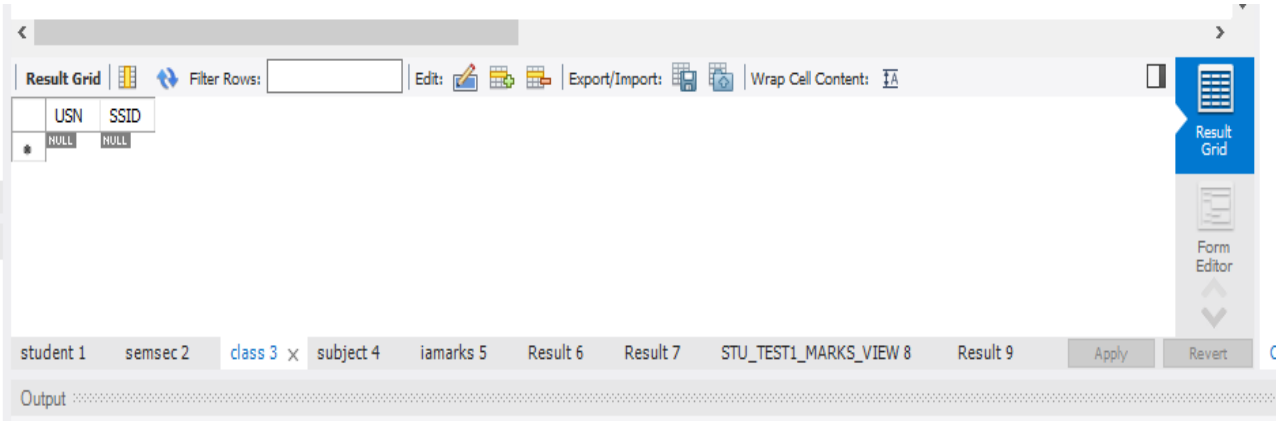
SUB.SUBCODE = IA.SUBCODE AND

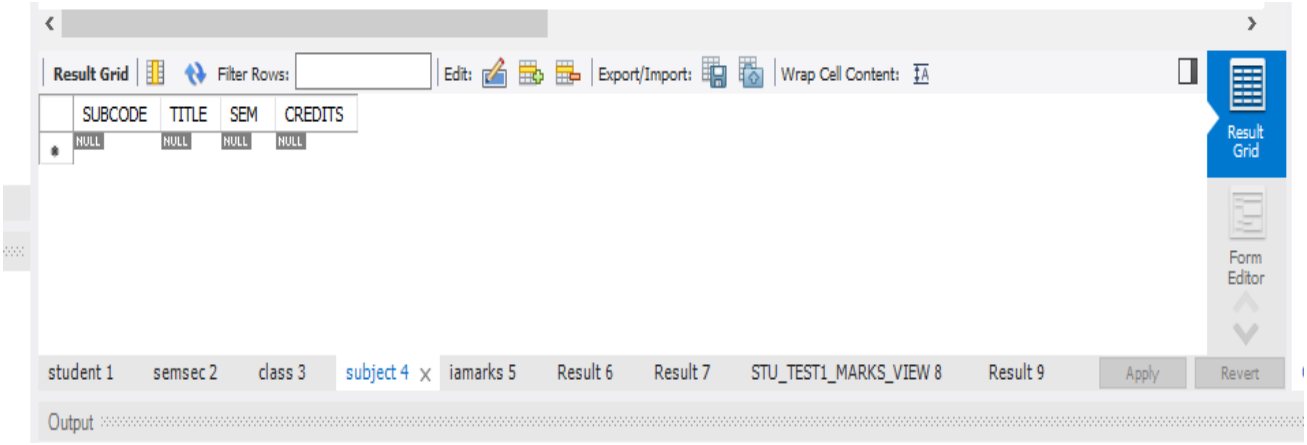
SUB.SEM = 8;

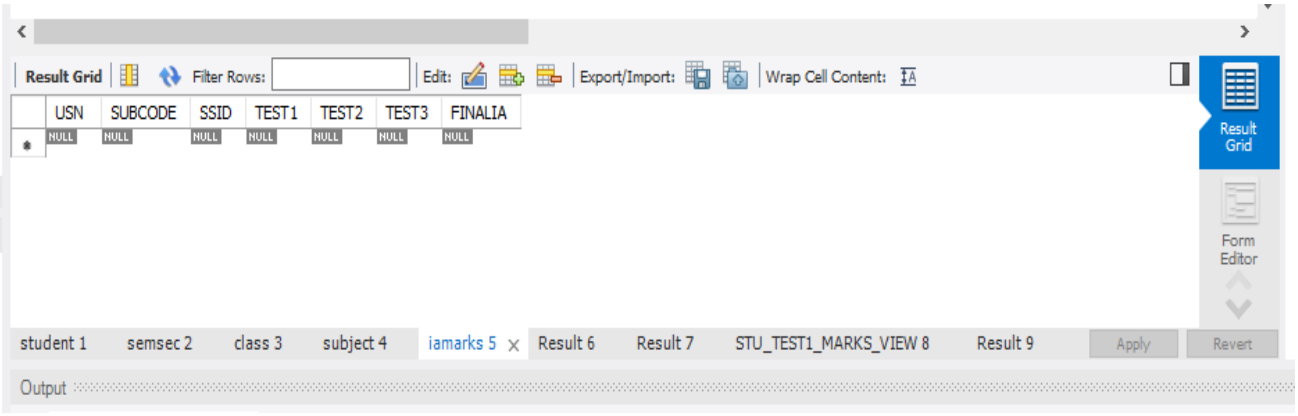
Output:

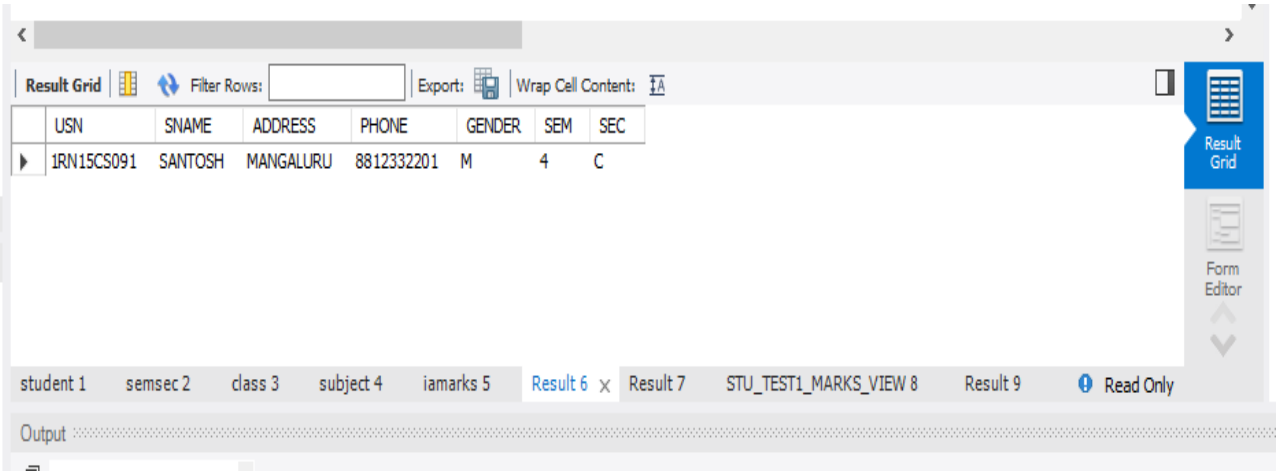





Result Grid
Filter Rows:
Edit:
Export/Import:
Wrap Cell Content:
USN
SSID
NULL
NULL
Result Grid
Form Editor
student 1
semsec 2
class 3
subject 4
iamarks 5
Result 6
Result 7
STU_TEST1_MARKS_VIEW 8
Result 9
Apply
Revert
Output


Result Grid
Filter Rows:
Edit:
Export/Import:
Wrap Cell Content:
SUBCODE
TITLE
SEM
CREDITS
NULL
NULL
NULL
NULL
Result Grid
Form Editor
student 1
semsec 2
class 3
subject 4
iamarks 5
Result 6
Result 7
STU_TEST1_MARKS_VIEW 8
Result 9
Apply
Revert
Output


Result Grid
Filter Rows:
Edit:
Export/Import:
Wrap Cell Content:
USN
SUBCODE
SSID
TEST1
TEST2
TEST3
FINALIA
NULL
NULL
NULL
NULL
NULL
NULL
NULL
Result Grid
Form Editor
student 1
semsec 2
class 3
subject 4
iamarks 5
Result 6
Result 7
STU_TEST1_MARKS_VIEW 8
Result 9
Apply
Revert
Output



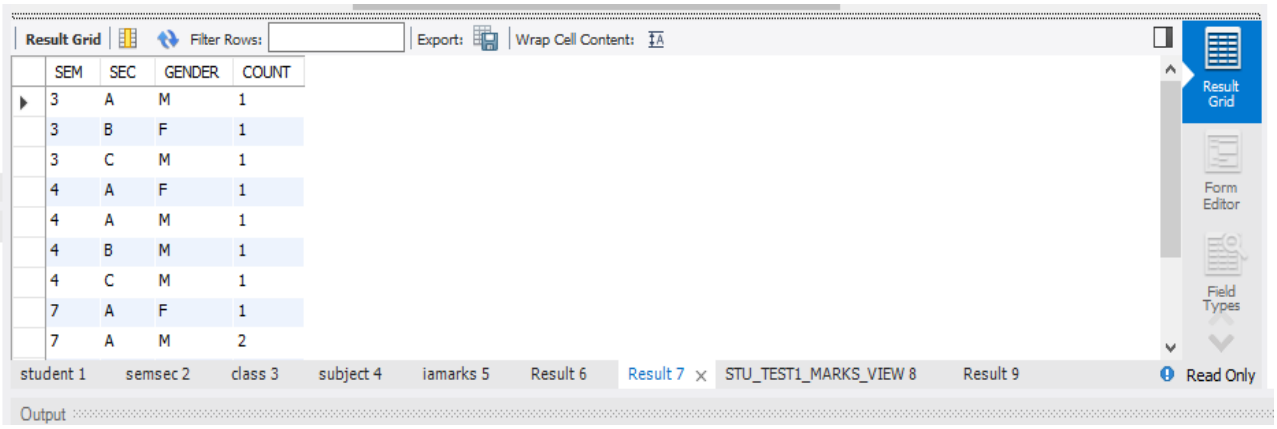
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

USN	SNAME	ADDRESS	PHONE	GENDER	SEM	SEC
1RN15CS091	SANTOSH	MANGALURU	8812332201	M	4	C

Result Grid | Form Editor

student 1 | semsec 2 | class 3 | subject 4 | iamarks 5 | Result 6 | Result 7 | STU_TEST1_MARKS_VIEW 8 | Result 9 | Read Only

Output



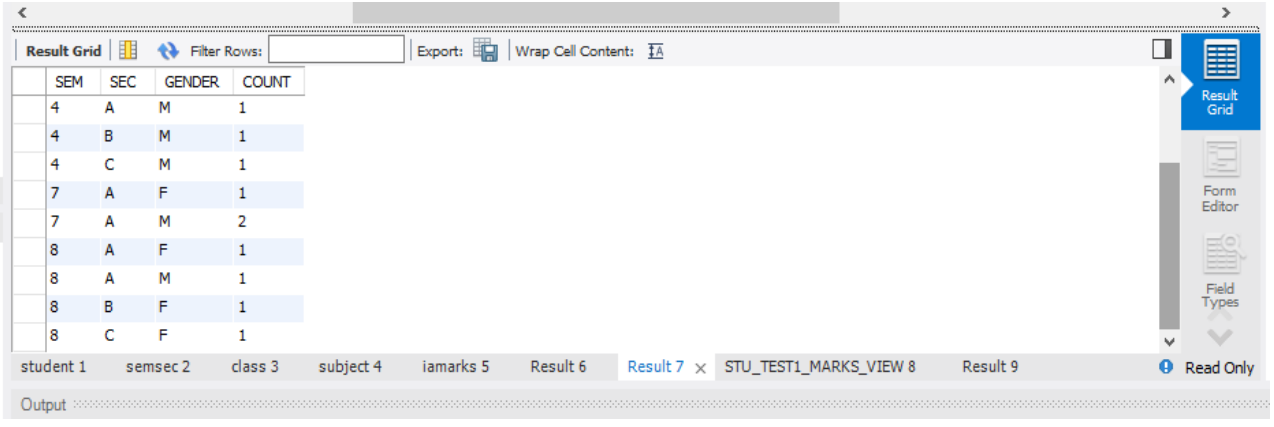
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

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

Result Grid | Form Editor | Field Types

student 1 | semsec 2 | class 3 | subject 4 | iamarks 5 | Result 6 | Result 7 | STU_TEST1_MARKS_VIEW 8 | Result 9 | Read Only

Output



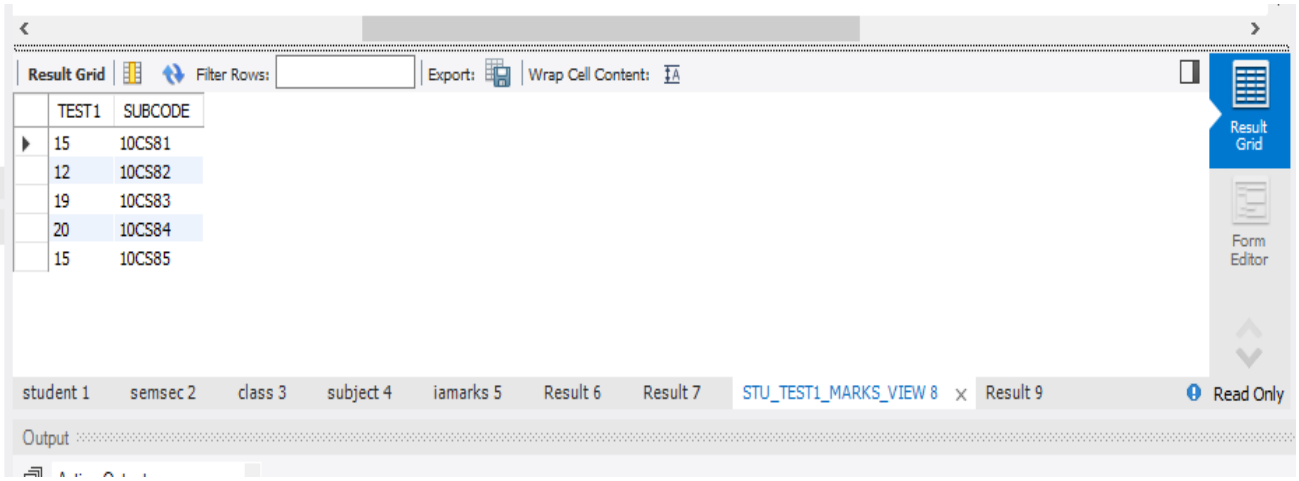
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

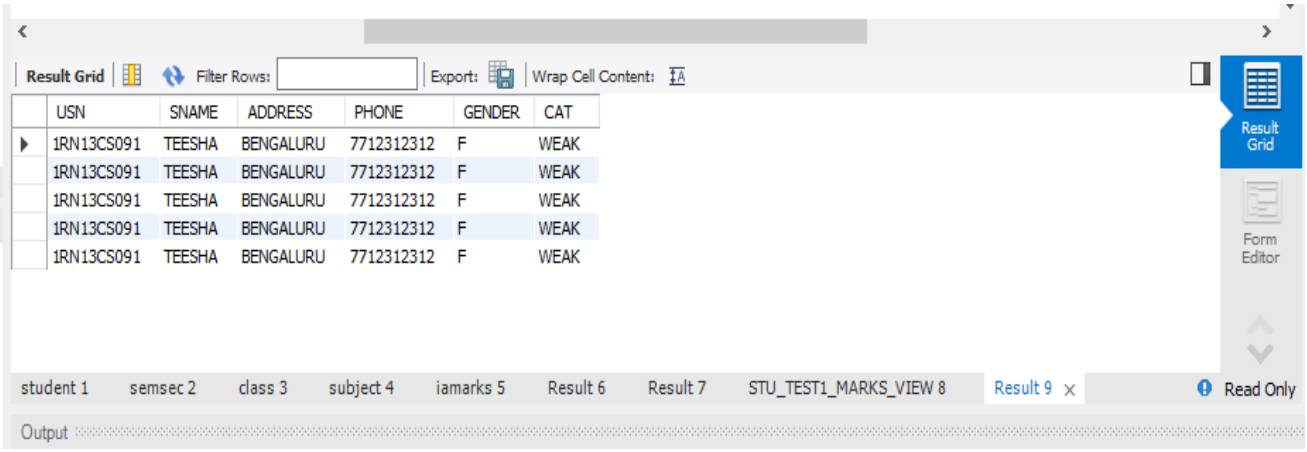
SEM	SEC	GENDER	COUNT
4	A	M	1
4	B	M	1
4	C	M	1
7	A	F	1
7	A	M	2
8	A	F	1
8	A	M	1
8	B	F	1
8	C	F	1

Result Grid | Form Editor | Field Types

student 1 | semsec 2 | class 3 | subject 4 | iamarks 5 | Result 6 | Result 7 | STU_TEST1_MARKS_VIEW 8 | Result 9 | Read Only

Output


Result Grid
Filter Rows:
Export:
Wrap Cell Content:
TEST1
SUBCODE
15
10CS81
12
10CS82
19
10CS83
20
10CS84
15
10CS85
Result Grid
Form Editor
student 1
semsec 2
class 3
subject 4
iamarks 5
Result 6
Result 7
STU_TEST1_MARKS_VIEW 8
Result 9
Read Only
Output


Result Grid
Filter Rows:
Export:
Wrap Cell Content:
USN
SNAME
ADDRESS
PHONE
GENDER
CAT
1RN13CS091
TEESHA
BENGALURU
7712312312
F
WEAK
Result Grid
Form Editor
student 1
semsec 2
class 3
subject 4
iamarks 5
Result 6
Result 7
STU_TEST1_MARKS_VIEW 8
Result 9
Read Only
Output