DBMS LAB TEST 2

DIVYASHREE K

1BM19CS054

CSE-4A

QUESTION:-

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)

1. Calculate the FinalIA (average of best two test marks) and update the corresponding

table for all students.

2. Create a view of Final IA marks of all subjects in 4th sem

3. List the USN nos who have scored more than 45 marks in the FinalIA in 4 credits

subjects

4. List the students who scored higher than class average in "DBMS" and lower than

class average in "TFCS"

5. List the names of the students in each class who have scored highest in each subject

PROGRAM CODE:-

```sql
CREATE DATABASE COLLEGE;

use college;

CREATE TABLE STUDENT (

USN VARCHAR(10) PRIMARY KEY,

SNAME VARCHAR(25),

ADDRESS VARCHAR(25),

PHONE INTEGER,

GENDER CHAR(1));

CREATE TABLE SEMSEC(

SSID VARCHAR(5) PRIMARY KEY,

SEM INTEGER,

SEC CHAR(1));

CREATE TABLE CLASS(

USN VARCHAR(10),

SSID VARCHAR(5),PRIMARY KEY(USN,SSID),

FOREIGN KEY(USN) REFERENCES STUDENT(USN) ON DELETE CASCADE ON UPDATE

CASCADE,

FOREIGN KEY(SSID) REFERENCES SEMSEC(SSID) ON DELETE CASCADE ON UPDATE CASCADE

);

CREATE TABLE SUBJECT(
```

```sql
SUBCODE VARCHAR(8) PRIMARY KEY,

TITLE VARCHAR(20),

SEM INTEGER,

CREDITS INTEGER);

CREATE TABLE IAMARKS(

USN VARCHAR(10),

SUBCODE VARCHAR(8),

SSID VARCHAR(5),

TEST1 INTEGER,

TEST2 INTEGER,

TEST3 INTEGER,

FINALIA INTEGER,

PRIMARY KEY(SUBCODE,USN,SSID),

FOREIGN KEY(USN) REFERENCES STUDENT(USN),

FOREIGN KEY(SUBCODE) REFERENCES SUBJECT(SUBCODE),

FOREIGN KEY(SSID) REFERENCES SEMSEC(SSID));

INSERT INTO STUDENT VALUES ('1BI13CS020','ANAND','BELAGAVI', 1233423,'M');

INSERT INTO STUDENT VALUES ('1BI13CS062','BABIITHA','BENGALURU',43123,'F');

INSERT INTO STUDENT VALUES ('1BI15CS101','CHETHAN','BENGALURU', 534234,'M');

INSERT INTO STUDENT VALUES ('1BI13CS066','DIVYA','MANGALURU',534432,'F');

INSERT INTO STUDENT VALUES ('1BI14CS010','EESHA','BENGALURU', 345456,'F');
```

INSERT INTO STUDENT VALUES
('1BI14CS032','GANESH','BENGALURU',574532,'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 CLASS VALUES ('1BI13CS020','CSE8A');

INSERT INTO CLASS VALUES ('1BI13CS062','CSE8A');

INSERT INTO CLASS VALUES ('1BI13CS066','CSE8B');

INSERT INTO CLASS VALUES ('1BI15CS101','CSE8C');

INSERT INTO CLASS VALUES ('1BI14CS025','CSE7A');

INSERT INTO CLASS VALUES ('1BI14CS032','CSE7A');

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
IAMARKS (USN, SUBCODE, SSID, TEST1, TEST2, TEST3) VALUES

('1BI15CS101','10CS81','CSE8C', 15, 16, 18);

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

('1BI15CS101','10CS82','CSE8C', 12, 45, 14);

```sql
INSERT INTO IAMARKS (USN, SUBCODE, SSID, TEST1, TEST2, TEST3) VALUES
('1BI15CS101','10CS83','CSE8C', 19, 15, 20);

INSERT INTO IAMARKS (USN, SUBCODE, SSID, TEST1, TEST2, TEST3) VALUES
('1BI15CS101','10CS84','CSE8C', 45, 16, 19);

INSERT INTO IAMARKS (USN, SUBCODE, SSID, TEST1, TEST2, TEST3) VALUES
('1BI15CS101','10CS85','CSE8C', 15, 15, 12);

-- query 1
UPDATE IAMARKS
set finalia=
case
when test1>=test3 and test2>=test3 then (test1 + test2)/2
when test2>=test1 and test3>=test1 then(test2 + test3)/2
when test1>=test2 and test3>=test2 then (test1 + test3)/2
end;


-- query 2
create view IAMARKS as
select A.finalia, A.usn, A.subcode, B.title
from iamarks A, subject B
where A.subcode = B.subcode and B.sem = 4;
select * from IAMARKS;


-- query 3
```

select usn

from iamarks I, subject S

where I.subcode = S.subcode and I.finalia>45 and S.sem = 4;

-- query 4

select usn

from iamarks A, subject B

where B.title = 'DBMS' and finalia>(select avg(finalia)

                                  from iamarks I, subject S

                                  where S.title = 'DBMS');

select usn

from iamarks A, subject B

where B.title = 'TFCS' and finalia<(select avg(finalia)

                                  from iamarks I, subject S

                                  where S.title = 'TFCS');

-- query 5

select s.sname from student s,subject b, class c, iamarks i

where s.usn=c.usn and i.usn=s.usn and

b.subcode=i.subcode and finalia in (select max(finalia)

from iamarks)

group by c.ssid;

OUTPUT:-

262

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

	USN	SUBCODE	SSID	TEST1	TEST2	TEST3	FINALIA
▶	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
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

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

	finalia	usn	subcode	title

MARKS 25 ×

Output

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294   from iamarks I, subject S

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

	usn

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

	usn
▶	1RN13CS091
	1RN13CS091

usn

sname	max(m.finalia)
AKSHAY	20
SANDHYA	20
SUPRIYA	20
TEESHA	20
ABHAY	20
ASMI	20
BHASKAR	20
AJAY	20
CHITRA	20
JEEVA	20
SANTOSH	20
ISMAIL	20
SAMEERA	20
VINAYAKA	20