ADVANCED DATABASE MANAGAMENT SYSTEM

SUBMITTED BY,

RONY KURIAN

S2 MCA

ROLL NO: 44

CYCLE 1

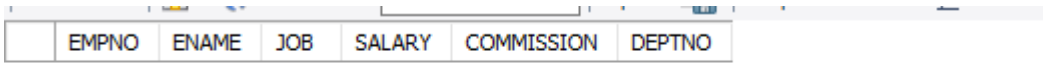
QUESTION SET 1

1. Create an employee table ‘EMP’ with following fields :
empno NUMBER(2)
ename VARCHAR2(25)
job VARCHAR2(12)
salary NUMBER(10,2)
commission NUMBER(7,2)
deptno NUMBER(2)

CODE

```
CREATE TABLE emp
(
EMPNO INT(2),
ENAME VARCHAR(25),
JOB VARCHAR(12),
SALARY INT(10.2),
COMMISSION INT(7.2),
DEPTNO INT(2)
);
select * from emp;
```

output



	EMPNO	ENAME	JOB	SALARY	COMMISSION	DEPTNO

2. Display the structure of ‘EMP

Code

```
DESCRIBE EMP;
```

Output

```
3  14:30:03  DESCRIBE EMP
```

3. Insert the following record into ‘EMP’

EMPNO ENAME JOB SAL COMM DEPTNO

7369 SMITH CLERK 800 20

Code

```
INSERT INTO EMP(EMPNO,ENAME,JOB,SALARY,COMMISSION,DEPTNO)VALUES
(7369,'SMITH','CLERK',800,NULL,20);
```

Output

```
4  14:33:42  INSERT INTO EMP(EMPNO,ENAME,JOB,SALARY,COMMISSION,DEPTNO)VALUES (7369,'...  1 row(s) affected
```

4. Insert the rest of records using substitution variable.

EMPNO ENAME JOB SAL COMM DEPTNO

7499 ALLEN SALESMAN 1600 300 30
7521 WARD SALESMAN 1250 500 30
7566 JONES MANAGER 2975 20
7654 MARTIN SALESMAN 1250 1400 30
7698 BLAKE MANAGER 2850 30
7782 CLARK MANAGER 2450 10
7788 SCOTT ANALYST 3000 20
7839 KING PRESIDENT 5000 10
7844 TURNER SALESMAN 1500 30
7876 ADAMS CLERK 1100 20
7900 JAMES NULL 950 30
7902 FORD ANALYST 3000 20
7934 MILLER CLERK 1300 10

Code

```
INSERT INTO EMP(EMPNO,ENAME,JOB,SALARY,COMMISSION,DEPTNO)VALUES
(7369,'SMITH','CLERK',800,NULL,20);
INSERT INTO EMP(EMPNO,ENAME,JOB,SALARY,COMMISSION,DEPTNO)VALUES
(7499,'ALLEN','SALESMAN',1600,300,30),
(7521,'WARD','SALESMAN',1250,500,30),
(7566,'JONES','MANAGER',2975,NULL,20),
(7654,'MARTIN','SALESMAN',1250,1400,30),
(7698,'BLAKE','MANAGER',2850,NULL,30),
(7782,'CLARK','MANAGER',2450,NULL,10),
(7788,'SCOTT','ANALYST',3000,NULL,20),
(7839,'KING','PRESIDENT',5000,NULL,10),
(7844,'TURNER','SALESMAN',1500,NULL,30),
(7876,'ADAMS','CLERK',1100,NULL,20),
(7900,'JAMES',NULL,950,NULL,30),
(7902,'FORD','ANALYST',3000,NULL,20),
(7934,'MILLER','CLERK',1300,NULL,10);
select * from emp;
```

Output

```
5  14:40:14  INSERT INTO EMP(EMPNO,ENAME,JOB,SALARY,COMMISSION,DEPTNO)VALUES (7499,'...  13 row(s) affected Records
```

5. Insert job as ‘CLERK’ for all ‘NULL’ job types.

Code

```
UPDATE EMP
SET JOB='CLERK' WHERE JOB=NULL;
SELECT * FROM EMP;
```

Output

```
6  14:42:28  UPDATE EMP SET JOB='CLERK' WHERE JOB=NULL  0 row(s) affected Rows ma
```

6.Add a new field ‘date_join’ with following values

date_join
17-DEC-80
20-FEB-81
22-FEB-81
02-APR-81
28-SEP-81
01-MAY-81
09-JUN-81
19-APR-87

```
17-NOV-81
08-SEP-81
23-MAY-87
03-DEC-81
03-DEC-81
23-JAN-82
```

Code

```
ALTER TABLE EMP

ADD DATE_JOIN DATE NOT NULL;

DESCRIBE EMP;

UPDATE EMP

SET DATE_JOIN='1980-12-17' WHERE EMPNO='7369';

UPDATE EMP

SET DATE_JOIN='1981-02-20' WHERE EMPNO='7499';

UPDATE EMP

SET DATE_JOIN='1981-02-22' WHERE EMPNO='7521';

UPDATE EMP

SET DATE_JOIN='1981-04-02' WHERE EMPNO='7566';

UPDATE EMP

SET DATE_JOIN='1981-09-28' WHERE EMPNO='7654';

UPDATE EMP

SET DATE_JOIN='1981-05-01' WHERE EMPNO='7698';

UPDATE EMP

SET DATE_JOIN='1981-06-09' WHERE EMPNO='7782';

UPDATE EMP

SET DATE_JOIN='1987-04-19' WHERE EMPNO='7788';

UPDATE EMP

SET DATE_JOIN='1981-11-17' WHERE EMPNO='7839';

UPDATE EMP

SET DATE_JOIN='1981-09-08' WHERE EMPNO='7844';

UPDATE EMP

SET DATE_JOIN='1987-05-23' WHERE EMPNO='7876';

UPDATE EMP
```

```
SET DATE_JOIN='1981-12-03' WHERE EMPNO='7900';

UPDATE EMP

SET DATE_JOIN='1981-12-03' WHERE EMPNO='7902';

UPDATE EMP

SET DATE_JOIN='1982-01-23' WHERE EMPNO='7934';
```

Output

✓	13	15:10:57	UPDATE EMP SET DATE_JOIN='1980-12-17' WHERE EMPNO='7369'	1 row(s) affected Rows matc
✓	14	15:10:57	UPDATE EMP SET DATE_JOIN='1981-02-20' WHERE EMPNO='7499'	1 row(s) affected Rows matc
✓	15	15:10:57	UPDATE EMP SET DATE_JOIN='1981-02-22' WHERE EMPNO='7521'	1 row(s) affected Rows matc
✓	16	15:10:57	UPDATE EMP SET DATE_JOIN='1981-04-02' WHERE EMPNO='7566'	1 row(s) affected Rows matc
✓	17	15:10:57	UPDATE EMP SET DATE_JOIN='1981-09-28' WHERE EMPNO='7654'	1 row(s) affected Rows matc
✓	18	15:10:57	UPDATE EMP SET DATE_JOIN='1981-05-01' WHERE EMPNO='7698'	1 row(s) affected Rows matc
✓	19	15:10:57	UPDATE EMP SET DATE_JOIN='1981-06-09' WHERE EMPNO='7782'	1 row(s) affected Rows matc
✓	20	15:10:57	UPDATE EMP SET DATE_JOIN='1987-04-19' WHERE EMPNO='7788'	1 row(s) affected Rows matc
✓	21	15:10:57	UPDATE EMP SET DATE_JOIN='1981-11-17' WHERE EMPNO='7839'	1 row(s) affected Rows matc
✓	22	15:10:57	UPDATE EMP SET DATE_JOIN='1981-09-08' WHERE EMPNO='7844'	1 row(s) affected Rows matc
✓	23	15:10:58	UPDATE EMP SET DATE_JOIN='1987-05-23' WHERE EMPNO='7876'	1 row(s) affected Rows matc
✓	24	15:10:58	UPDATE EMP SET DATE_JOIN='1981-12-03' WHERE EMPNO='7900'	1 row(s) affected Rows matc
✓	25	15:10:58	UPDATE EMP SET DATE_JOIN='1981-12-03' WHERE EMPNO='7902'	1 row(s) affected Rows matc
✓	26	15:10:58	UPDATE EMP SET DATE_JOIN='1982-01-23' WHERE EMPNO='7934'	1 row(s) affected Rows matc

7. Display details of all employees

Code

```
SELECT * FROM EMP;
```

Output

EMPNO	ENAME	JOB	SALARY	COMMISSION	DEPTNO	DATE_JOIN
7369	SMITH	CLERK	800	NULL	20	1980-12-17
7499	ALLEN	SALESMAN	1600	300	30	1981-02-20
7521	WARD	SALESMAN	1250	500	30	1981-02-22
7566	JONES	MANAGER	2975	NULL	20	1981-04-02
7654	MARTIN	SALESMAN	1250	1400	30	1981-09-28
7698	BLAKE	MANAGER	2850	NULL	30	1981-05-01
7782	CLARK	MANAGER	2450	NULL	10	1981-06-09
7788	SCOTT	ANALYST	3000	NULL	20	1987-04-19
7839	KING	PRESIDENT	5000	NULL	10	1981-11-17
7844	TURNER	SALESMAN	1500	NULL	30	1981-09-08
7876	ADAMS	CLERK	1100	NULL	20	1987-05-23
7900	JAMES	NULL	950	NULL	30	1981-12-03
7902	FORD	ANALYST	3000	NULL	20	1981-12-03
7934	MILLER	CLERK	1300	NULL	10	1982-01-23

8. Display all the distinct job types in ‘EMP’.

Code

```
66 • SELECT DISTINCT JOB FROM EMP;
```

Result Grid | Filter Rows: | Expor

JOB
CLERK
SALESMAN
MANAGER
ANALYST
PRESIDENT

Output

28 15:19:26 SELECT DISTINCT JOB FROM EMP LIMIT 0, 1000 6 row(s) returned

9. Display names of all employees in dept 20 and 30

```
67 •    SELECT ENAME FROM EMP WHERE DEPTNO IN(20,30);
```

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

ENAME
SMITH
ALLEN
WARD
JONES
MARTIN
BLAKE
SCOTT
TURNER
ADAMS
JAMES
FORD

10.List name and Total of salary i.e sal+commission

Code

SELECT ENAME,SALARY+COMMISSION AS TOTAL_0F_SALARY FROM EMP;

Output

```
62      SET DATE JOIN='1981-12-03' WHERE EMPNO='7902';
```

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

ENAME	TOTAL_0F_SALARY
SMITH	NULL
ALLEN	1900
WARD	1750
JONES	NULL
MARTIN	2650
BLAKE	NULL
CLARK	NULL
SCOTT	NULL
KING	NULL
TURNER	NULL
ADAMS	NULL
JAMES	NULL
FORD	NULL
MILLER	NULL

11.List name and Annual Salary i.e sal*12

Output

```
69 •  SELECT ENAME,SALARY*12 AS ANNUAL_SALARY FROM EMP;
```

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

ENAME	ANNUAL_SALARY
SMITH	9600
ALLEN	19200
WARD	15000
JONES	35700
MARTIN	15000
BLAKE	34200
CLARK	29400
SCOTT	36000
KING	60000
TURNER	18000
ADAMS	13200
JAMES	11400
FORD	36000
MILLER	15600

12.List the employee who joined in the date ‘03-DEC-81’

Output

```
70 •  SELECT ENAME FROM EMP WHERE DATE_JOIN='1981-12-03';
```

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

ENAME
JAMES
FORD

13.Display the total salary of ‘Miller’

Output

```
71    SELECT ENAME,SALARY FROM EMP WHERE ENAME = "MILLER";
```

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

ENAME	SALARY
MILLER	1300

14.Delete the employee ‘Miller’ from’EMP’

Output

```
72 •  DELETE FROM EMP WHERE ENAME='MILLER';
73 •  SELECT * FROM EMP;
```

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

EMPNO	ENAME	JOB	SALARY	COMMISSION	DEPTNO	DATE_JOIN
7369	SMITH	CLERK	800	NULL	20	1980-12-17
7499	ALLEN	SALESMAN	1600	300	30	1981-02-20
7521	WARD	SALESMAN	1250	500	30	1981-02-22
7566	JONES	MANAGER	2975	NULL	20	1981-04-02
7654	MARTIN	SALESMAN	1250	1400	30	1981-09-28
7698	BLAKE	MANAGER	2850	NULL	30	1981-05-01
7782	CLARK	MANAGER	2450	NULL	10	1981-06-09
7788	SCOTT	ANALYST	3000	NULL	20	1987-04-19
7839	KING	PRESIDENT	5000	NULL	10	1981-11-17
7844	TURNER	SALESMAN	1500	NULL	30	1981-09-08
7876	ADAMS	CLERK	1100	NULL	20	1987-05-23
7900	JAMES	NULL	950	NULL	30	1981-12-03
7902	FORD	ANALYST	3000	NULL	20	1981-12-03

15.Display name and deptno of all employees

Output

```
74 •  SELECT ENAME,DEPTNO FROM EMP ;
```

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

ENAME	DEPTNO
SMITH	20
ALLEN	30
WARD	30
JONES	20
MARTIN	30
BLAKE	30
CLARK	10
SCOTT	20
KING	10
TURNER	30
ADAMS	20
JAMES	30
FORD	20

16.Remove the field ‘commission’ fom’EMP’ after updating salary with total salary, i.e sal+commission

Output

```
75 •  ALTER TABLE EMP ADD TOTAL_SALARY INT
76 ⊗  UPDATE EMP SET COMMISSION=0 WHERE COMMISSION IS NULL;
77 •  UPDATE EMP SET TOTAL_SALARY=(SELECT SALARY+COMMISSION AS TOTAL_SALARY);
78 •  SELECT * FROM EMP;
```

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

EMPNO	ENAME	JOB	SALARY	COMMISSION	DEPTNO	DATE_JOIN	TOTAL_SALARY
7369	SMITH	CLERK	800	0	20	1980-12-17	800
7499	ALLEN	SALESMAN	1600	300	30	1981-02-20	1900
7521	WARD	SALESMAN	1250	500	30	1981-02-22	1750
7566	JONES	MANAGER	2975	0	20	1981-04-02	2975
7654	MARTIN	SALESMAN	1250	1400	30	1981-09-28	2650
7698	BLAKE	MANAGER	2850	0	30	1981-05-01	2850
7782	CLARK	MANAGER	2450	0	10	1981-06-09	2450
7788	SCOTT	ANALYST	3000	0	20	1987-04-19	3000
7839	KING	PRESIDENT	5000	0	10	1981-11-17	5000
7844	TURNER	SALESMAN	1500	0	30	1981-09-08	1500
7876	ADAMS	CLERK	1100	0	20	1987-05-23	1100
7900	JAMES	NULL	950	0	30	1981-12-03	950
7902	FORD	ANALYST	3000	0	20	1981-12-03	3000

Result Grid | Form Editor | Field Types | Query Stats

17.Display the name of employees having the same amount of salary **(don't use subqueries**)

Output

```
82 •  SELECT TOTAL_SALARY, GROUP_CONCAT(ENAME ORDER BY DATE_JOIN) AS ENAME
83    FROM EMP
84    GROUP BY TOTAL_SALARY
85    HAVING COUNT(*) > 1;
```

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

TOTAL_SALARY	ENAME
3000	FORD,SCOTT

18. Display the name and employee no as ‘name’ and ‘emp_id’

Output

```
86 •  SELECT EMPNO AS EMP_ID, ENAME AS 'NAME'
```

Result Grid | Filter Rows: | Export: | Wra

EMP_ID	NAME
7369	SMITH
7499	ALLEN
7521	WARD
7566	JONES
7654	MARTIN
7698	BLAKE
7782	CLARK
7788	SCOTT
7839	KING
7844	TURNER
7876	ADAMS
7900	JAMES
7902	FORD

19.Rename table ‘EMP’ to ‘EMPLOYEE

Output

```
ALTER TABLE EMP
RENAME TO EMPLOYEE;
CREATE TABLE EMP_TABLE AS SELECT * FROM EMPLOYEE;
```

20.Create a new table ‘EMP_TAB’ from table ‘EMPLOYEE

Output

```
88 •  ALTER TABLE EMP
89    RENAME TO EMPLOYEE;
90 •  CREATE TABLE EMP_TABLE AS SELECT * FROM EMPLOYEE;
91 •  DESCRIBE EMP_TABLE;
92 •  SELECT * FROM EMP_TABLE;
93
```

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

EMPNO	ENAME	JOB	SALARY	DEPTNO	DATE_JOIN	TOTAL_SALARY
7369	SMITH	CLERK	800	20	1980-12-17	800
7499	ALLEN	SALESMAN	1600	30	1981-02-20	1900
7521	WARD	SALESMAN	1250	30	1981-02-22	1750
7566	JONES	MANAGER	2975	20	1981-04-02	2975
7654	MARTIN	SALESMAN	1250	30	1981-09-28	2650
7698	BLAKE	MANAGER	2850	30	1981-05-01	2850
7782	CLARK	MANAGER	2450	10	1981-06-09	2450
7788	SCOTT	ANALYST	3000	20	1987-04-19	3000
7839	KING	PRESIDENT	5000	10	1981-11-17	5000
7844	TURNER	SALESMAN	1500	30	1981-09-08	1500
7876	ADAMS	CLERK	1100	20	1987-05-23	1100
7900	JAMES	NULL	950	30	1981-12-03	950
7902	FORD	ANALYST	3000	20	1981-12-03	3000

21.List all the details of ‘EMPLOYEE’ and ‘EMP_TAB’

Output

```
SELECT * FROM EMP_TABLE;
SELECT * FROM EMP_TABLE FULL JOIN EMPLOYEE;
```

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

MPNO	ENAME	JOB	SALARY	DEPTNO	DATE_JOIN	TOTAL_SALARY	EMPNO
00	JAMES	NULL	950	30	1981-12-03	950	7369
76	ADAMS	CLERK	1100	20	1987-05-23	1100	7369
44	TURNER	SALESMAN	1500	30	1981-09-08	1500	7369
39	KING	PRESIDENT	5000	10	1981-11-17	5000	7369
38	SCOTT	ANALYST	3000	20	1987-04-19	3000	7369
32	CLARK	MANAGER	2450	10	1981-06-09	2450	7369

22.Delete all records from ‘EMP’

Output

```
94  TRUNCATE TABLE EMPLOYEE;
95  SELECT * FROM EMPLOYEE;
96
97
98
```

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

EMPNO	ENAME	JOB	SALARY	DEPTNO	DATE_JOIN	TOTAL_SALARY

23.Delete the table ‘EMP’

Output

```
96 •    DROP TABLE EMPLOYEE;
97
98
99
100
```

Output

Action Output

#	Time	Action
55	14:25:58	SELECT * FROM EMP_TABLE LIMIT 0, 1000
56	14:28:48	SELECT * FROM EMP_TABLE FULL JOIN EMPLOYEE LIMIT 0, 1000
57	14:36:30	TRUNCATE TABLE EMPLOYEE
58	14:36:31	SELECT * FROM EMPLOYEE LIMIT 0, 1000
59	14:37:11	TRUNCATE TABLE EMPLOYEE
60	14:37:12	SELECT * FROM EMPLOYEE LIMIT 0, 1000
61	14:38:06	DROP TABLE EMPLOYEE

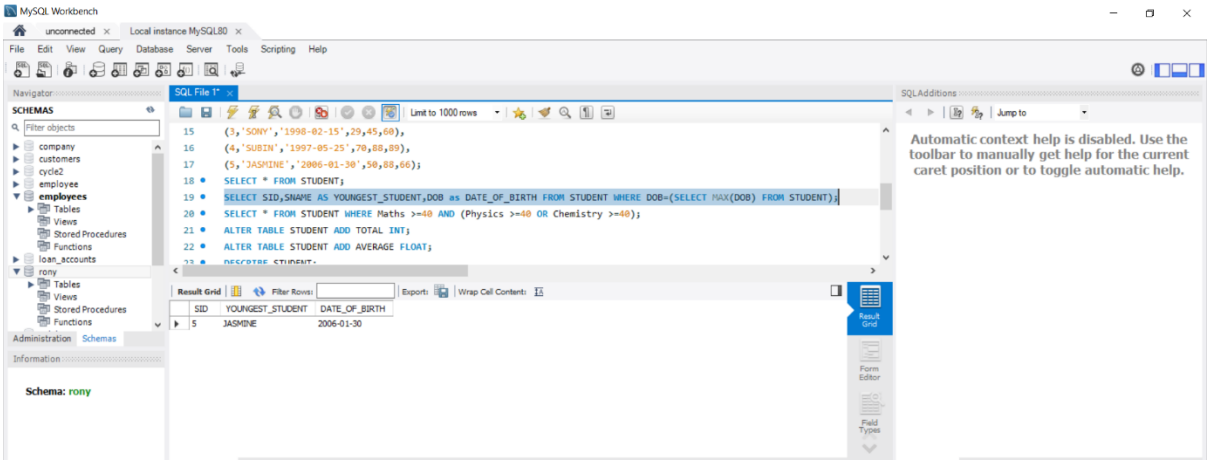
SET 2

1. Display the id and name of youngest student.

CODE

```
SELECT SID,SNAME AS YOUNGEST_STUDENT,DOB as DATE_OF_BIRTH FROM STUDENT
WHERE DOB=(SELECT MAX(DOB) FROM STUDENT);
```

OUTPUT



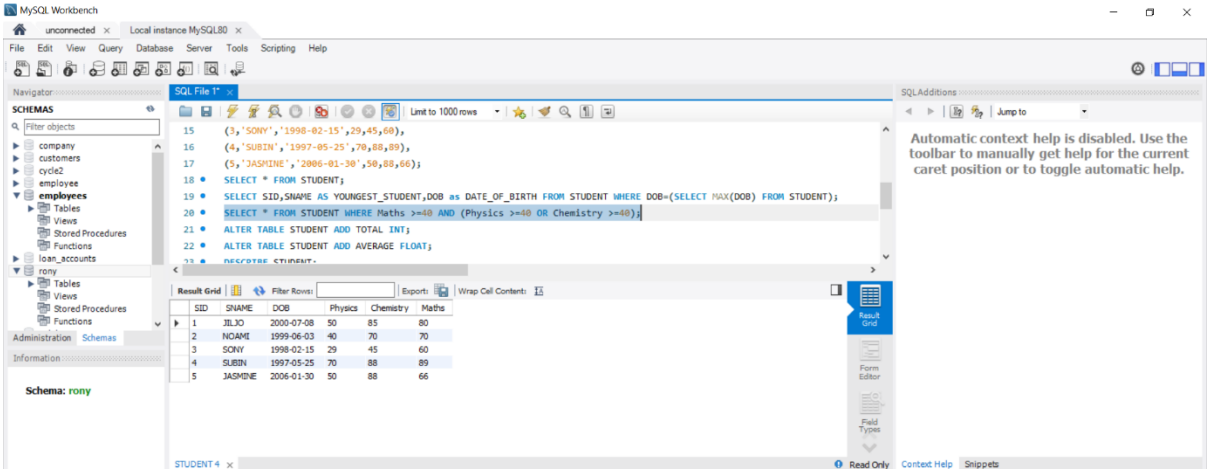
2. Display the details of students who have passed in maths and either in

physics or chemistry.(pass mark = 40 marks and above)

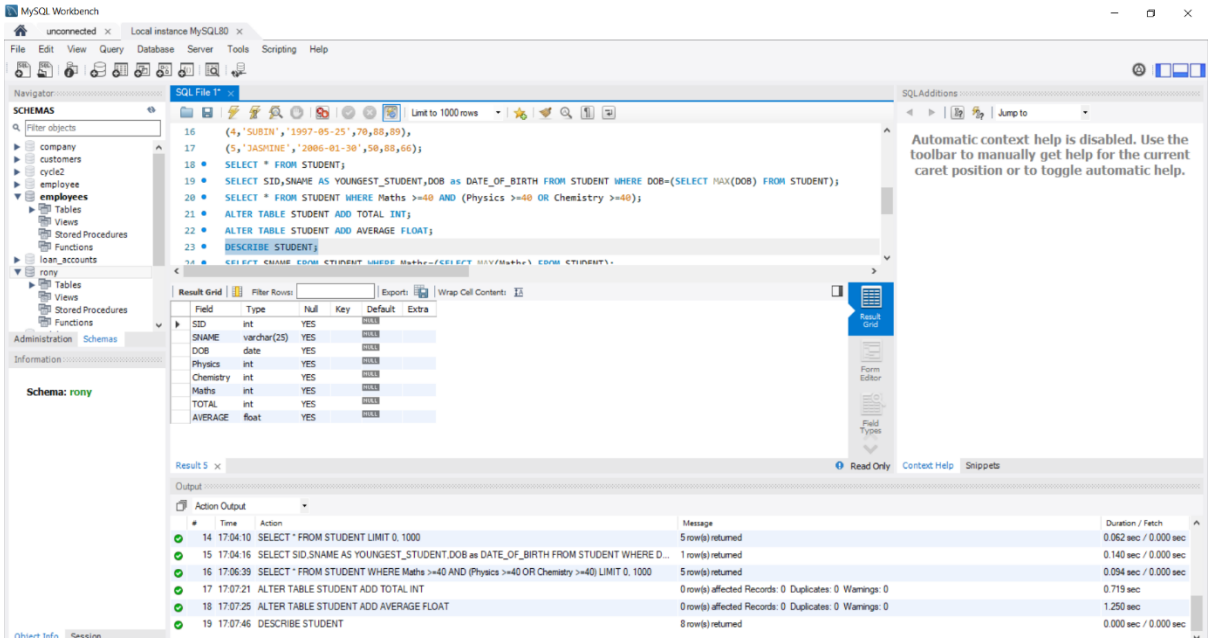
CODE

```
SELECT * FROM STUDENT WHERE Maths >=40 AND (Physics >=40 OR Chemistry >=40);
```

Output:



3.Add two more columns total and average.

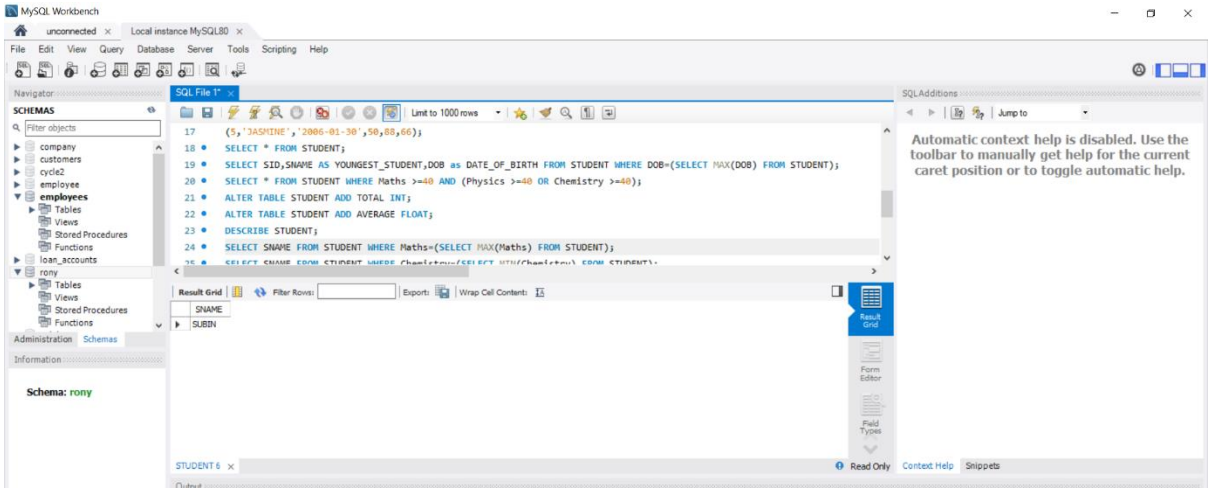


4. Display the name of student who scored highest marks in maths.

Code:

```
SELECT SNAME FROM STUDENT WHERE Maths=(SELECT MAX(Maths) FROM STUDENT);
```

Output:

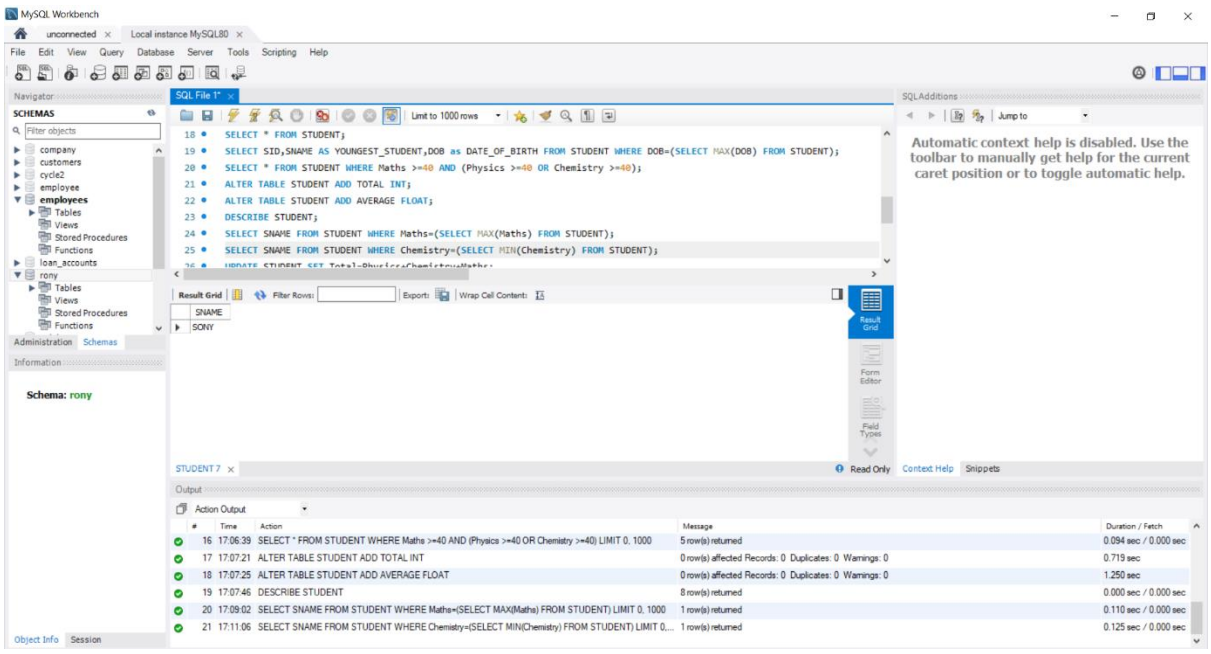


5. Display the name of student who scored least marks in chemistry.

Code:

SELECT SNAME FROM STUDENT WHERE Chemistry=(SELECT MIN(Chemistry) FROM STUDENT);

Output:



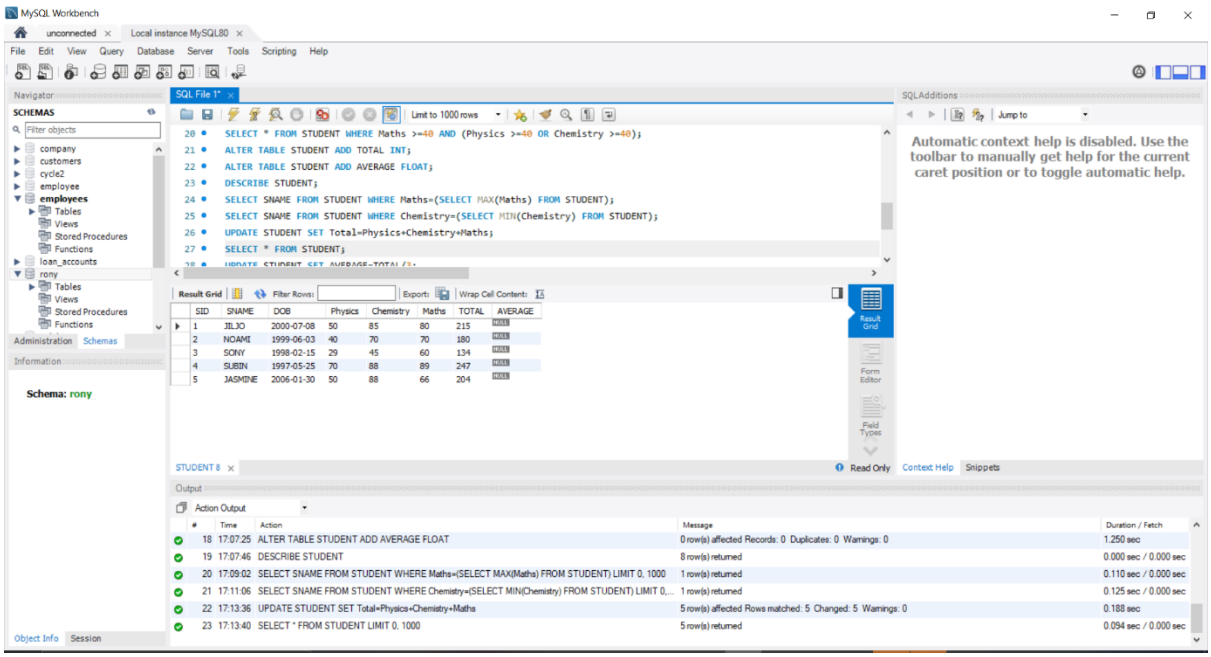
6. Update column total with total marks.

Code:

UPDATE STUDENT SET Total=Physics+Chemistry+Maths;

SELECT * FROM STUDENT;

Output:



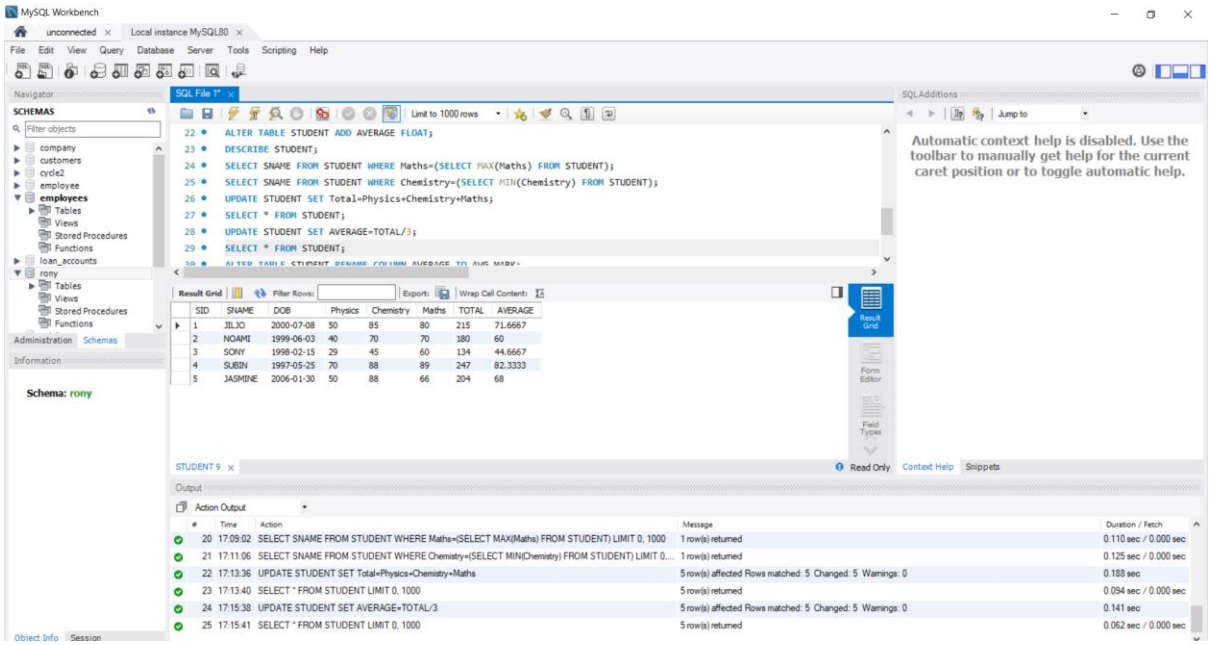
7. Display details of students in order of total merit.

Code:

UPDATE STUDENT SET AVERAGE=TOTAL/3;

SELECT * FROM STUDENT;

Output:



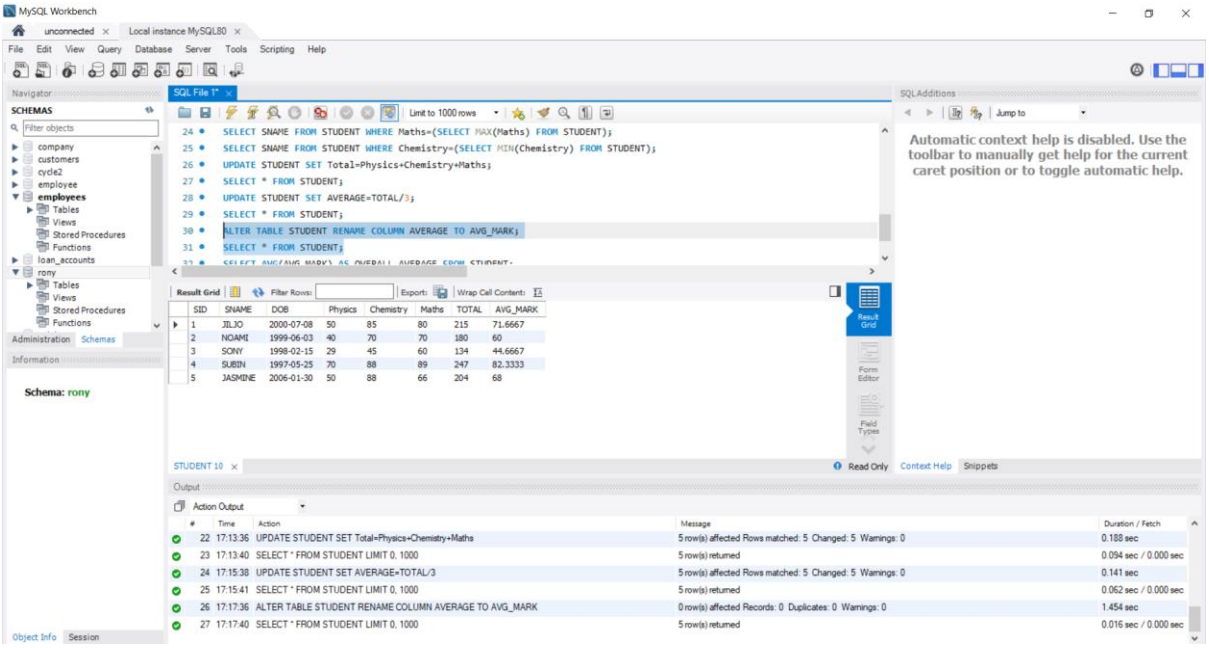
8. Rename the column average with avg_mark

Code:

```
ALTER TABLE STUDENT RENAME COLUMN AVERAGE TO AVG_MARK;

SELECT * FROM STUDENT;
```

Output:

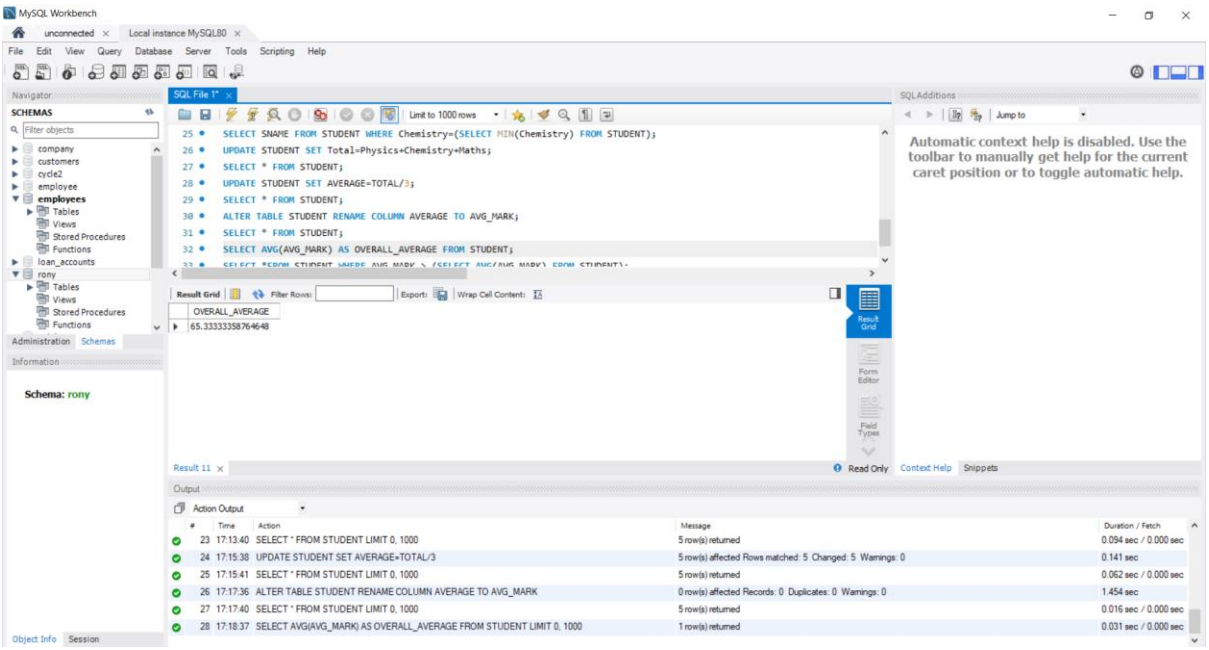


9. Find out the overall average of class.

Code:

```
SELECT AVG(AVG_MARK) AS OVERALL_AVERAGE FROM
STUDENT;
```

Output:

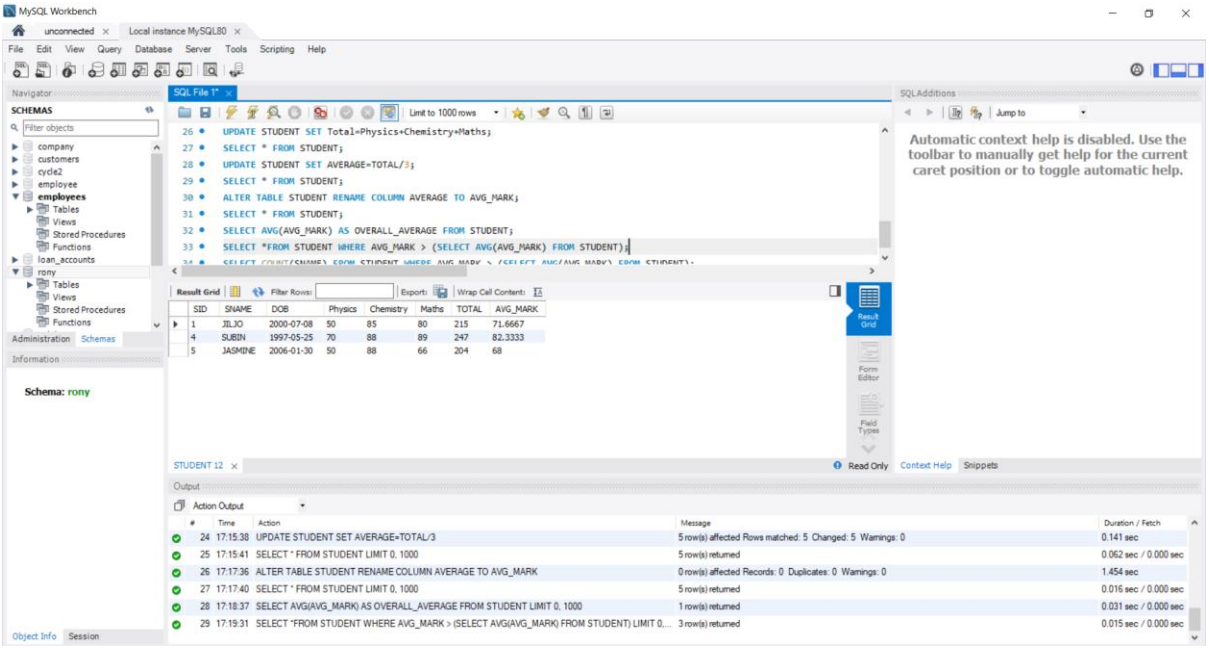


10.Display details of students whose average is greater than overall average.

Code:

SELECT *FROM STUDENT WHERE AVG_MARK > (SELECT AVG(AVG_MARK) FROM STUDENT);

Output:

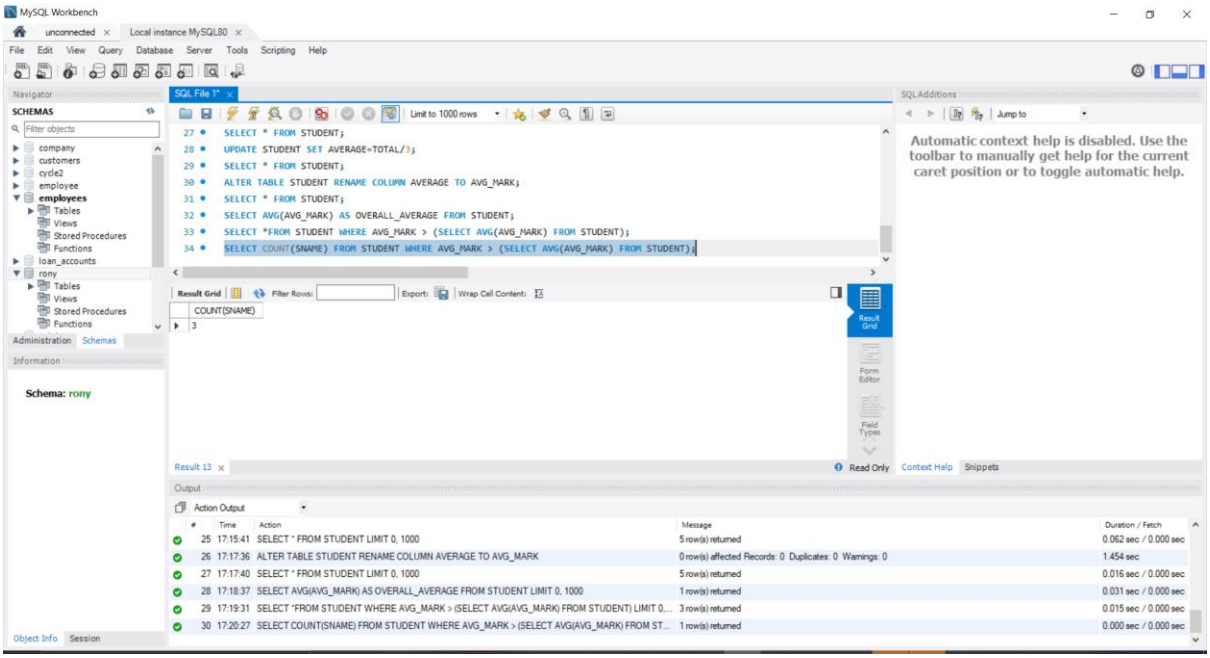


11.Find the total no: of students whose average is greater than overall average.

Code:

SELECT COUNT(SNAME) FROM STUDENT WHERE AVG_MARK > (SELECT AVG(AVG_MARK) FROM STUDENT);

Output:



SET 3

Create the Table LOAN_ACCOUNTS with the structure given below
Field Name Data Type Length
Accno CHAR 4
Cust_name VARCHAR2 15
Loan_Amount NUMBER 7 digits and 2
decimal places
Installments NUMBER
int_rate NUMBER 2 digits and 2
decimal places
Start_date DATE
Interest NUMBER 7 digits and 2
decimal places
Add another column ‘category’ of type varchar2(1) in the Loan Table.

```
2  CREATE TABLE LOAN_ACCOUNTS
3  (
4  ACCNO INT,
5  CUST_NAME  VARCHAR(15),
6  LOAN_AMOUNT DECIMAL(8,2),
7  INSTALLMENTS INT,
8  INT_RATE DECIMAL(4,2),
9  START_DATE DATE,
10 INTEREST DECIMAL(8,2)
11 );
12 ALTER TABLE LOAN_ACCOUNTS
13 ADD COLUMN CATEGORY VARCHAR(1);
```

manually

Context Help

Action Output

#	Time	Action	Message
105	18:51:19	create database LOAN_ACCOUNTS	1 row(s) affected
106	18:55:05	CREATE TABLE LOAN_ACCOUNTS (ACCNO INT, CUST_NAME VARCHAR(15), LOAN_...	0 row(s) affected
107	19:02:17	ALTER TABLE LOAN_ACCOUNTS ADD COLUMN CATEGORY VARCHAR(1)	0 row(s) affected Records: 0

Insert the following details into the table
Accno Cust_nam
e
Loan_Amoun
t
Installment
s
int_rate Start_date Interest
1001 R.K Gupta 300,000.00 36 12.00 July 19,
2009
1002 S.P
Sharma
500,000.00 48 10.00 March 22,
2008
1003 K.P Jain 300,000.00 36 NULL August 3,
2007
1004 M.P

Yadav
800,000.00 60 10.00 June 12,
2008
1005 S.P Sinha 200,000.00 36 12.50 March 1,
2010
1006 P. Sharma 700,000.00 60 12.50 May 6,
2008
1007 K.S Dhall 500,000.00 48 NULL May 3,
2008

```
14 •  INSERT INTO LOAN_ACCOUNTS(ACCNO,CUST_NAME,LOAN_AMOUNT,INSTALLMENTS,INT_RATE
15     (1001,'R.K GUPTA',300000.00,36,12.00,'2009-07-19'),
16     (1002,'S.P SHARMA',500000.00,48,10.00,'2008-03-22'),
17     (1003,'K.P JAIN',300000.00,36,NULL,'2007-08-03'),
18     (1004,'M.P YADAV',800000.00,60,10.00,'2008-06-12'),
19     (1005,'S.P SINHA',200000.00,36,12.50,'2010-03-01'),
20     (1006,'P SHARMA',700000.00,60,12.50,'2008-05-06'),
21     (1007,'K.S DHALL',500000.00,48,NULL,'2008-05-03');
```

manually

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

ACCNO	CUST_NAME	LOAN_AMOUNT	INSTALLMENTS	INT_RATE	START_DATE	INTEREST
1001	R.K GUPTA	300000.00	36	12.00	2009-07-19	NULL
1002	S.P SHARMA	500000.00	48	10.00	2008-03-22	NULL
1003	K.P JAIN	300000.00	36	NULL	2007-08-03	NULL
1004	M.P YADAV	800000.00	60	10.00	2008-06-12	NULL
1005	S.P SINHA	200000.00	36	12.50	2010-03-01	NULL
1006	P SHARMA	700000.00	60	12.50	2008-05-06	NULL
1007	K.S DHALL	500000.00	48	NULL	2008-05-03	NULL

Result Grid | Form Editor | Read Only | Context Help

_accounts 1

Action Output

#	Time	Action	Message
111	19:33:35	SELECT *FROM STUDENT WHERE AVG_MARK > (SELECT AVG(AVG_MARK) FROM ST...	3 row(s) returned
112	19:44:09	SELECT * FROM loan_accounts LIMIT 0, 1000	7 row(s) returned

1. 1. Put the interest rate 11.50% for all the loans for which the interest rate is NULL.

   OUTPUT:

```
update loan_accounts set int_rate = 11.50 where int_rate is null;
```

Output

Time	Action
19:44:09	SELECT * FROM loan_accounts LIMIT 0, 1000
19:50:15	update loan_accounts set int_rate = 11.50 where int_rate is null

2. Increase the interest rate by 0.5% for all the Loans for which the Loan amount is more than 400000.

OUTPUT:

```
24 • update loan_accounts set int_rate = int_rate + 0.5 where loan_amount > 4000
25 • SELECT * FROM loan_accounts;
```

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

ACCNO	CUST_NAME	LOAN_AMOUNT	INSTALLMENTS	INT_RATE	START_DATE	INTEREST
1001	R.K GUPTA	300000.00	36	12.00	2009-07-19	NULL
1002	S.P SHARMA	500000.00	48	10.50	2008-03-22	NULL
1003	K.P JAIN	300000.00	36	11.50	2007-08-03	NULL
1004	M.P YADAV	800000.00	60	10.50	2008-06-12	NULL
1005	S.P SINHA	200000.00	36	12.50	2010-03-01	NULL
1006	P SHARMA	700000.00	60	13.00	2008-05-06	NULL
1007	K.S DHALL	500000.00	48	12.00	2008-05-03	NULL

Result Grid | Form Editor

loan_accounts 2 | Read Only

Output

Action Output

#	Time	Action	Message
114	19:54:11	update loan_accounts set int_rate = int_rate + 0.5 where loan_amount > 400000.00	4 row(s) affected R
115	19:54:11	SELECT * FROM loan_accounts LIMIT 0, 1000	7 row(s) returned

3. For each Loan replace Interest with (Loan_amount * Int_rate* installments)/(12*100).

OUTPUT:

```
26 • update loan_accounts set interest = (loan_amount * int_rate* installments)/
27 • SELECT * FROM loan_accounts;
28
```

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

ACCNO	CUST_NAME	LOAN_AMOUNT	INSTALLMENTS	INT_RATE	START_DATE	INTEREST
1001	R.K GUPTA	300000.00	36	12.00	2009-07-19	108000.00
1002	S.P SHARMA	500000.00	48	10.50	2008-03-22	210000.00
1003	K.P JAIN	300000.00	36	11.50	2007-08-03	103500.00
1004	M.P YADAV	800000.00	60	10.50	2008-06-12	420000.00
1005	S.P SINHA	200000.00	36	12.50	2010-03-01	75000.00
1006	P SHARMA	700000.00	60	13.00	2008-05-06	455000.00
1007	K.S DHALL	500000.00	48	12.00	2008-05-03	240000.00

Result Grid | Form Editor | loan_accounts 3 | Read Only

Output

Action Output

#	Time	Action	Message
116	19:57:07	update loan_accounts set interest = (loan_amount * int_rate* installments)/(12*100) where int...	7 row(s) affected
117	19:57:07	SELECT * FROM loan_accounts LIMIT 0, 1000	7 row(s) returned

4. Delete the records of all the Loans whose start date is before 2008.

OUTPUT:

```
28 • DELETE FROM loan_accounts WHERE start_date < '2008-01-01';
29 • SELECT * FROM loan_accounts;
```

Output

Action Output

#	Time	Action
117	19:57:07	SELECT * FROM loan_accounts LIMIT 0, 1000
118	19:59:00	DELETE FROM loan_accounts WHERE start_date < '2008-01-01'

5. Delete the records of all the Loans whose name starts with ‘K’

OUTPUT:

```
30 •  delete FROM loan_accounts where cust_name like 'K%';
```

Output

Action Output

#	Time	Action	Message
119	20:00:32	SELECT * FROM loan_accounts LIMIT 0, 1000	6 row(s) returned
120	20:00:46	delete FROM loan_accounts where cust_name like 'K%'	1 row(s) affected

6. Display the details of all the Loans with less than 40 installments.

OUTPUT:

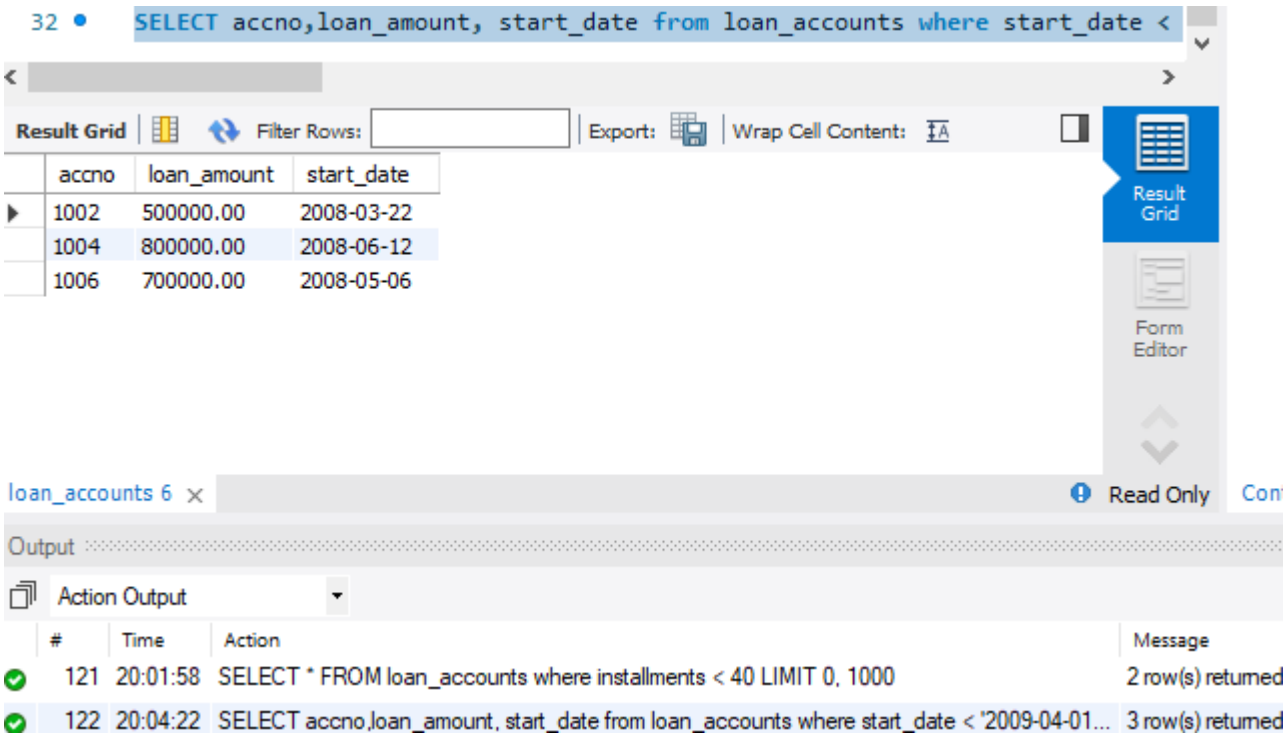
```
31 •  SELECT * FROM loan_accounts where installments < 40;
```

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

ACCNO	CUST_NAME	LOAN_AMOUNT	INSTALLMENTS	INT_RATE	START_DATE	INTEREST
1001	R.K GUPTA	300000.00	36	12.00	2009-07-19	108000.00
1005	S.P SINHA	200000.00	36	12.50	2010-03-01	75000.00

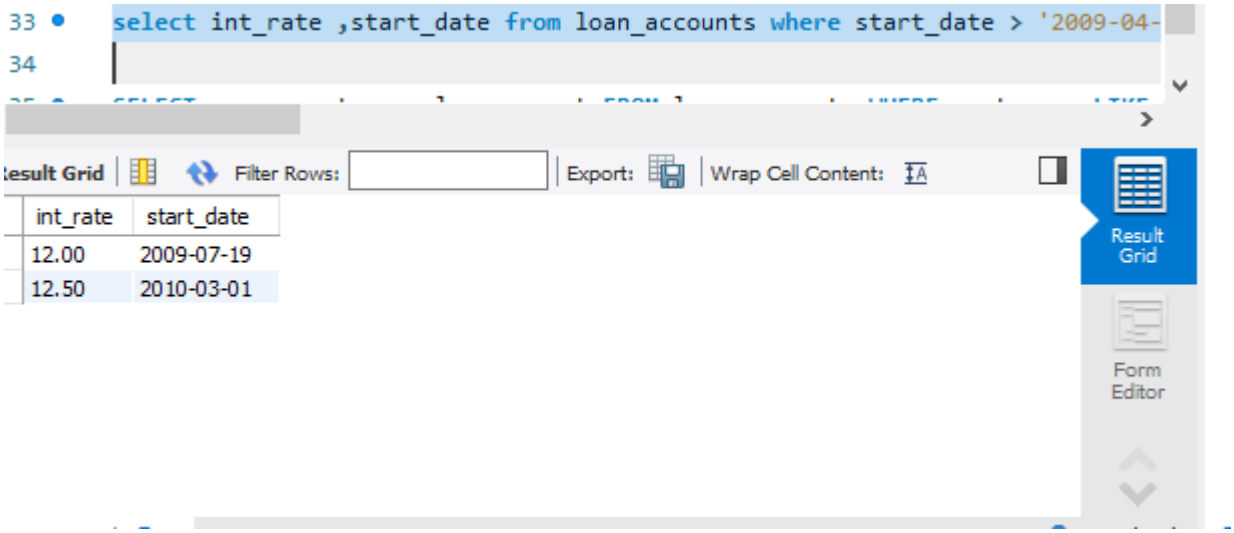
7. Display the Accno and Loan_amount of all the loans started before 01-04-2009.

OUTPUT:



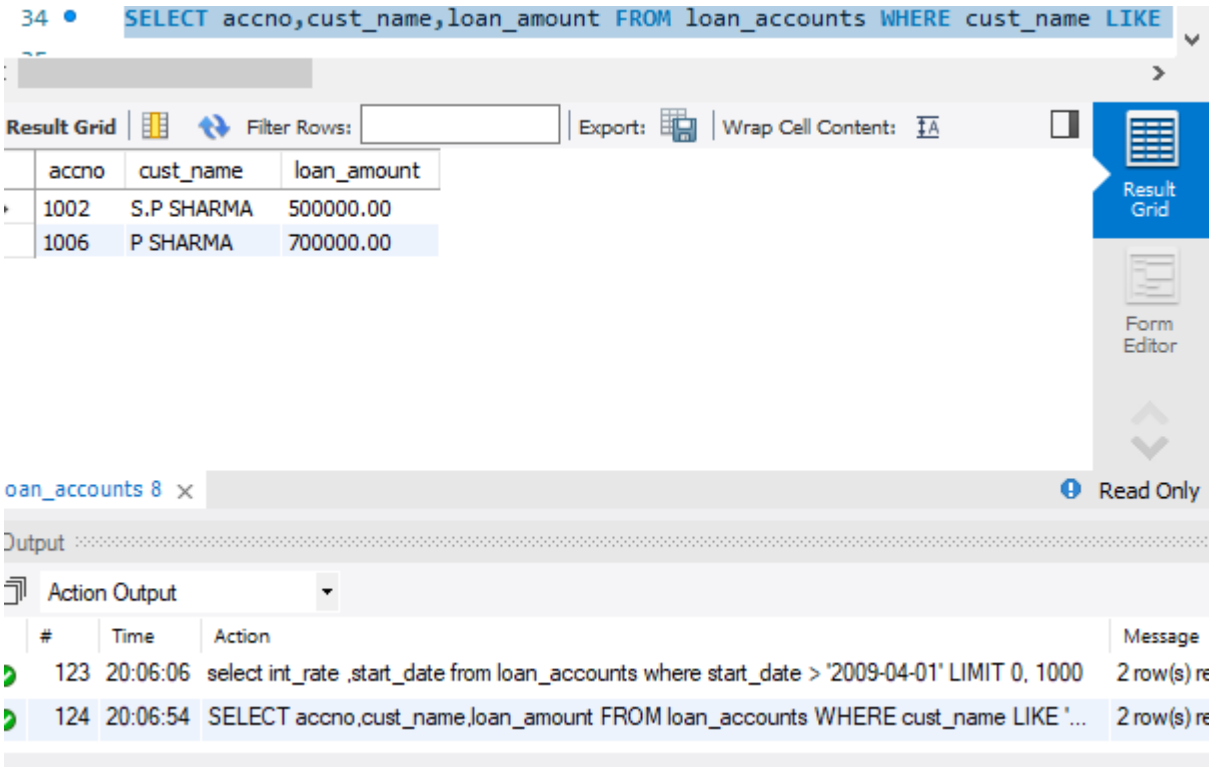
8. Display the int_rate of all Loans started after 01-04-2009.

OUTPUT:



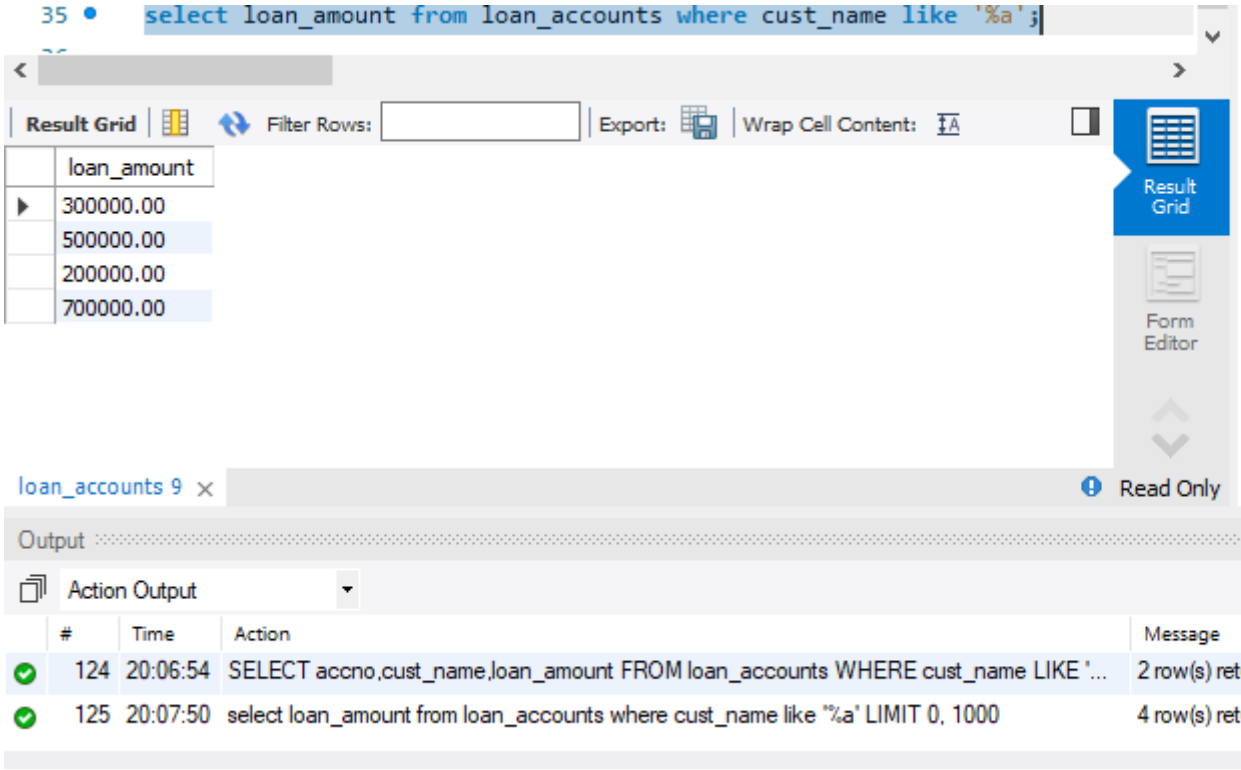
9. Display the Accno, cust_name and Loan amount for all the Loans for which the cust_name ends with‘Sharma’.

OUTPUT:



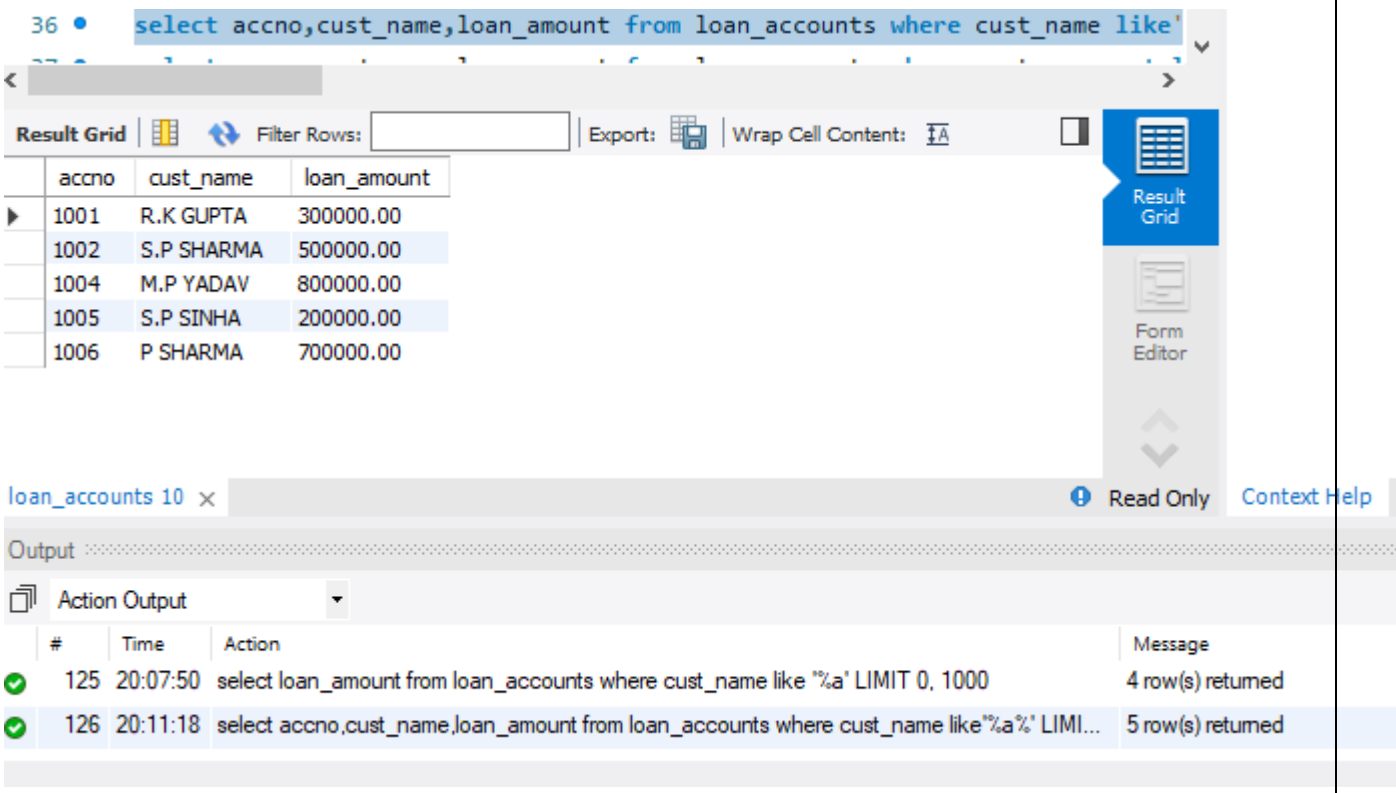
10.Loan_Amount of all the Loans for which the Cust_name ends with ‘a’.

OUTPUT:



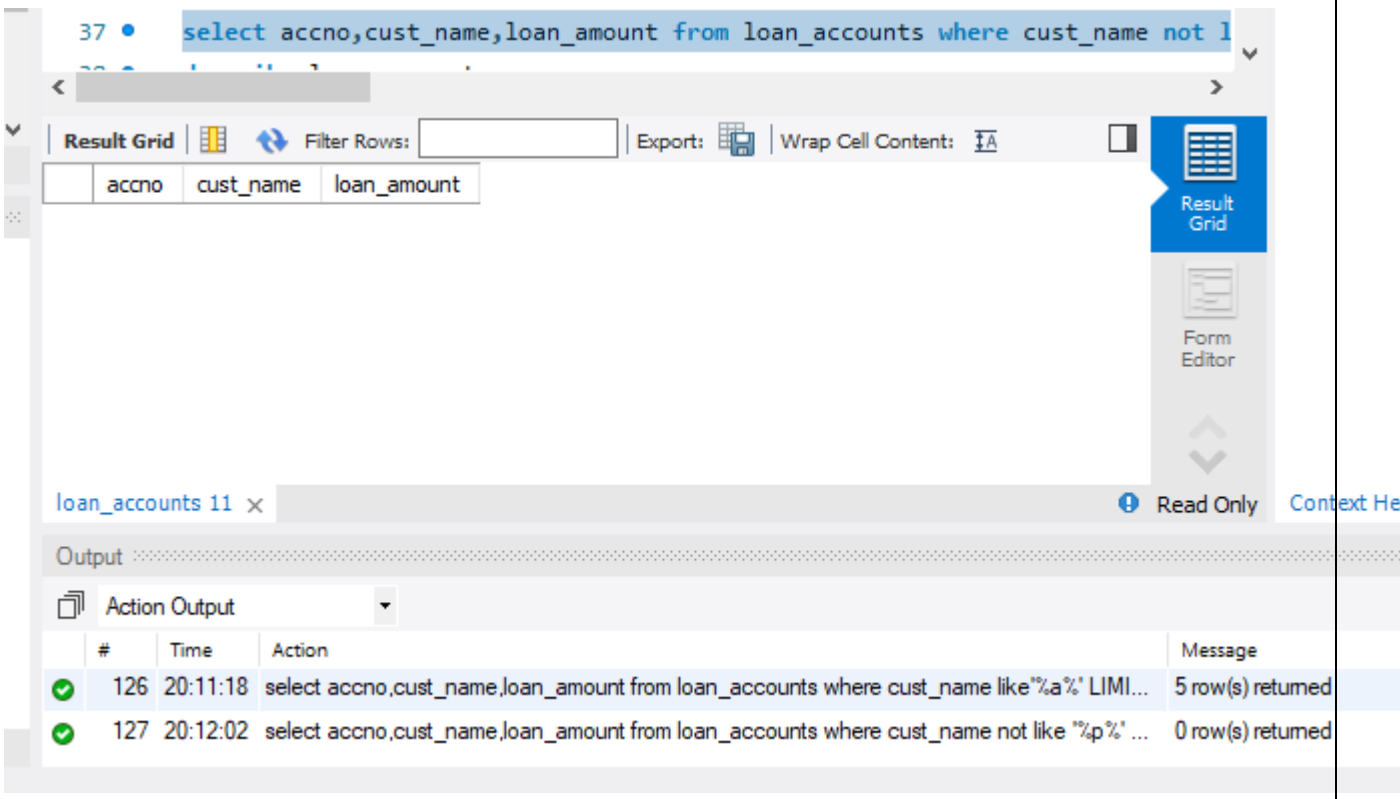
11.Display the Accno, Cust_name and Loan_Amount for the Loans for which the Cust_name contains ‘a’.

OUTPUT:



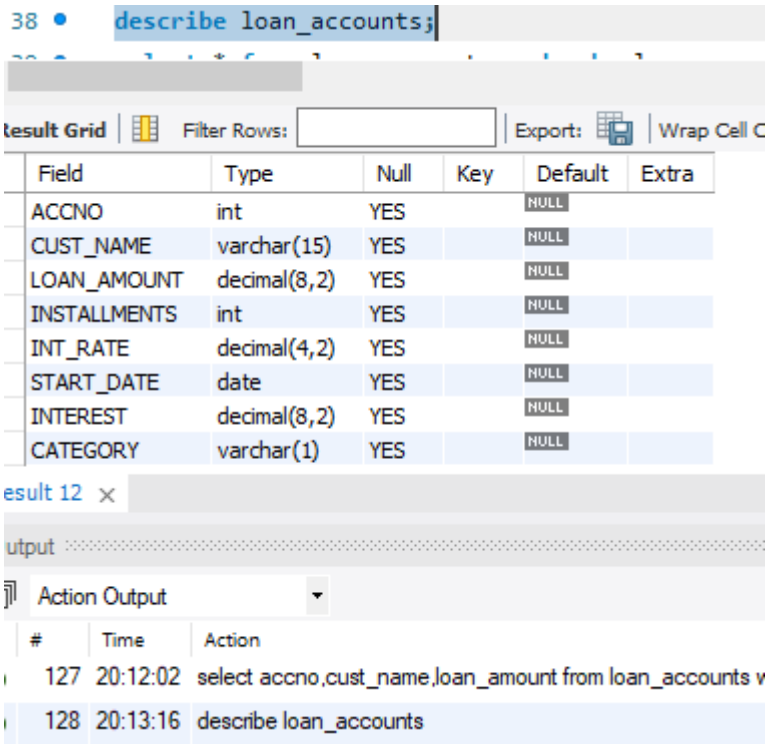
12.Dsiplay the Accno, Cust_name and Loan_Amount for all the Loans foR which the Cust_name does not contain ‘P’.

OUTPUT:



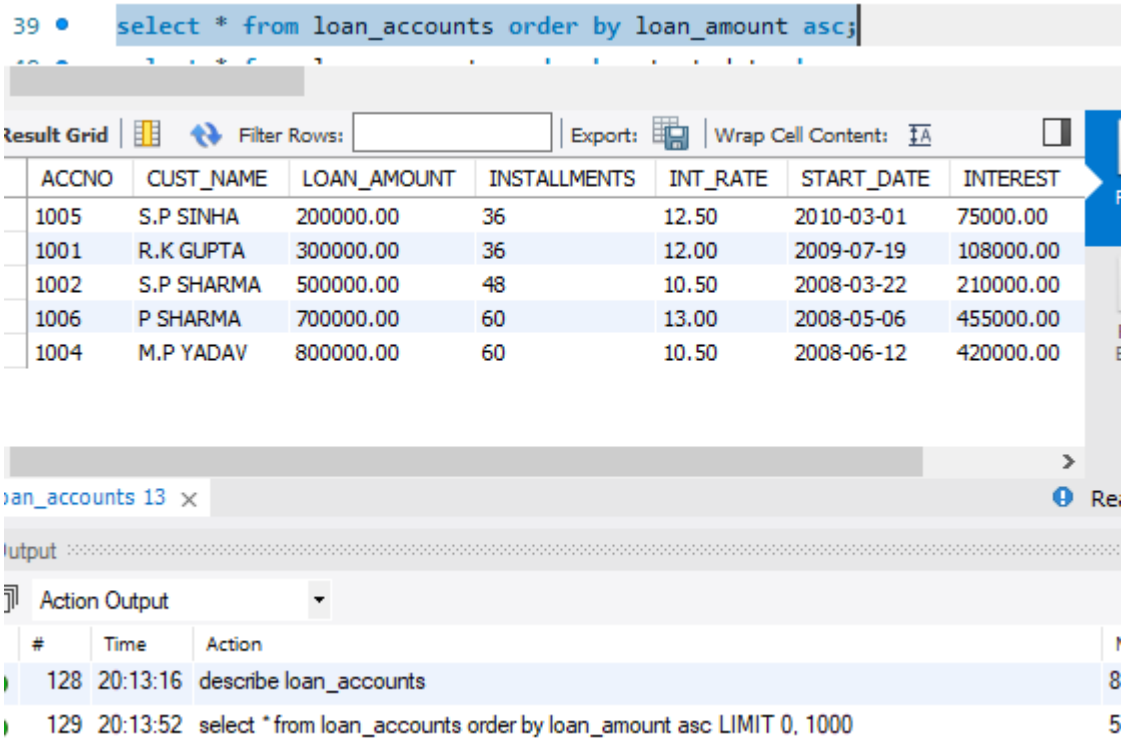
13.Display the structure of table LOAN_ACCOUNTS so that you can verify that the table is created as required.

OUTPUT:



14.Display the details of all the loans in the ascending order of their Loan_Amount.

OUTPUT:



15.Display the details of all the Loans in the descending order of their Start_date.

OUTPUT:

```
40 •  select * from loan_accounts order by start_date desc;
```

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

ACCNO	CUST_NAME	LOAN_AMOUNT	INSTALLMENTS	INT_RATE	START_DATE	INTEREST
1005	S.P SINHA	200000.00	36	12.50	2010-03-01	75000.00
1001	R.K GUPTA	300000.00	36	12.00	2009-07-19	108000.00
1004	M.P YADAV	800000.00	60	10.50	2008-06-12	420000.00
1006	P SHARMA	700000.00	60	13.00	2008-05-06	455000.00
1002	S.P SHARMA	500000.00	48	10.50	2008-03-22	210000.00

loan_accounts 14 ×

Output

Action Output

#	Time	Action	
129	20:13:52	select * from loan_accounts order by loan_amount asc LIMIT 0, 1000	5
130	20:14:39	select * from loan_accounts order by start_date desc LIMIT 0, 1000	5

16.Display the details of all the Loans in the ascending order of their Loan_amount and within Loan_amount in the descending order of their Start_date.

OUTPUT:

```
41 •  select * from loan_accounts order by loan_amount,start_date desc;
```

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

ACCNO	CUST_NAME	LOAN_AMOUNT	INSTALLMENTS	INT_RATE	START_DATE	INTEREST
1005	S.P SINHA	200000.00	36	12.50	2010-03-01	75000.00
1001	R.K GUPTA	300000.00	36	12.00	2009-07-19	108000.00
1002	S.P SHARMA	500000.00	48	10.50	2008-03-22	210000.00
1006	P SHARMA	700000.00	60	13.00	2008-05-06	455000.00
1004	M.P YADAV	800000.00	60	10.50	2008-06-12	420000.00

Result Grid | Form Editor

an_accounts 16 × | Read Only | Conte

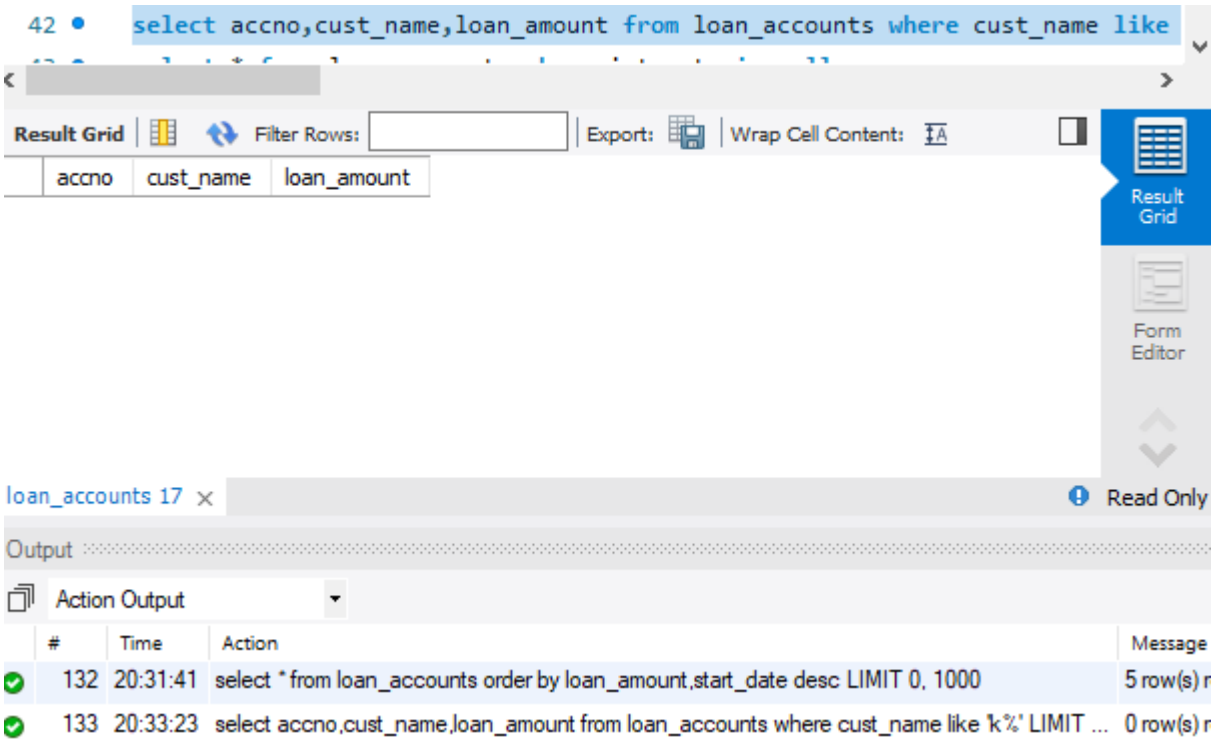
utput

Action Output

#	Time	Action	Message
131	20:17:30	select accno,cust_name,loan_amount from loan_accounts where cust_name like 'k%' LIMIT ...	0 row(s) returned
132	20:31:41	select * from loan_accounts order by loan_amount,start_date desc LIMIT 0, 1000	5 row(s) returned

17.Display the Accno, Cust_name and Loan_Amount of all the Loans for which the Cust_name starts with ‘K’.

OUTPUT:



18.Display the details of all the Loans whose rate of interest in NULL.

OUTPUT:

```
43 •  select * from loan_accounts where int_rate is null;
```

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

ACCNO	CUST_NAME	LOAN_AMOUNT	INSTALLMENTS	INT_RATE	START_DATE	INTEREST

Result Grid | Form Editor

oan_accounts 18 × | Read Only

Output

Action Output

#	Time	Action	Message
133	20:33:23	select accno,cust_name,loan_amount from loan_accounts where cust_name like 'k%' LIMIT ...	0 row(s) retur
134	20:34:54	select * from loan_accounts where int_rate is null LIMIT 0, 1000	0 row(s) retur

19.Display the details of all the loans whose rate of interest is not NULL.

OUTPUT:

```
44 •  select * from loan_accounts where int_rate is not null;
```

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

ACCNO	CUST_NAME	LOAN_AMOUNT	INSTALLMENTS	INT_RATE	START_DATE	INTEREST
1001	R.K GUPTA	300000.00	36	12.00	2009-07-19	108000.00
1002	S.P SHARMA	500000.00	48	10.50	2008-03-22	210000.00
1004	M.P YADAV	800000.00	60	10.50	2008-06-12	420000.00
1005	S.P SINHA	200000.00	36	12.50	2010-03-01	75000.00
1006	P SHARMA	700000.00	60	13.00	2008-05-06	455000.00

loan_accounts 19 ×

Output

Action Output

#	Time	Action
134	20:34:54	select * from loan_accounts where int_rate is null LIMIT 0, 1000
135	20:36:16	select * from loan accounts where int rate is not null LIMIT 0, 1000

20.Display the amounts of various loans from the table Loan_Accounts. A Loan_Amount should appear only once.

OUTPUT:

```
45 •  select distinct loan_amount from loan_accounts ;
```

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

loan_amount
300000.00
500000.00
800000.00
200000.00
700000.00

21.Display the details of all the loans started after 31-12-2008 for which the number of installments are more than 36.

OUTPUT:

```
46 •  SELECT * FROM loan_accounts where (start_date > '2008-12-31' and installmen
```

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

ACCNO	CUST_NAME	LOAN_AMOUNT	INSTALLMENTS	INT_RATE	START_DATE	INTEREST

Result Grid | Form Editor

oan_accounts 21 × | Read Only | Context Help

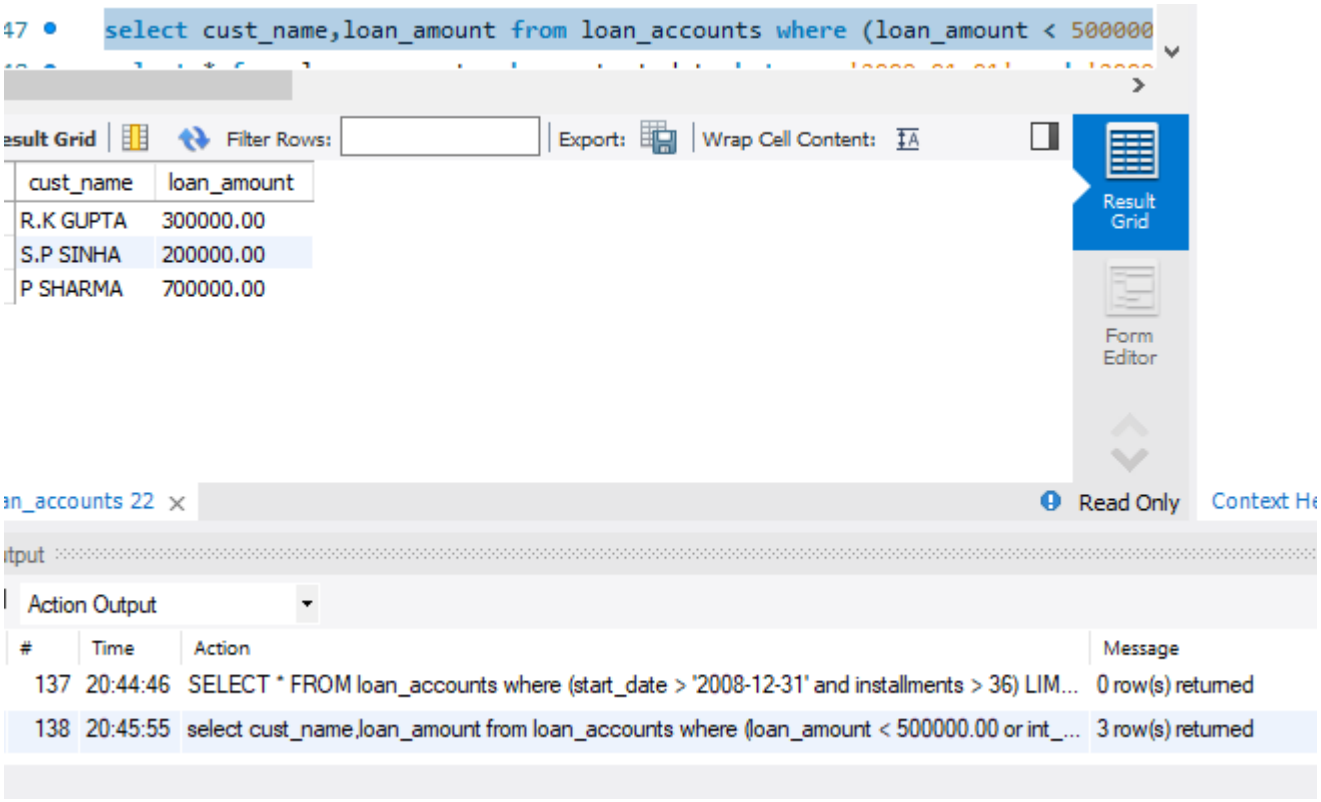
Output

Action Output

#	Time	Action	Message
136	20:39:17	select distinct loan_amount from loan_accounts LIMIT 0, 1000	5 row(s) returned
137	20:44:46	SELECT * FROM loan_accounts where (start_date > '2008-12-31' and installments > 36) LIM...	0 row(s) returned

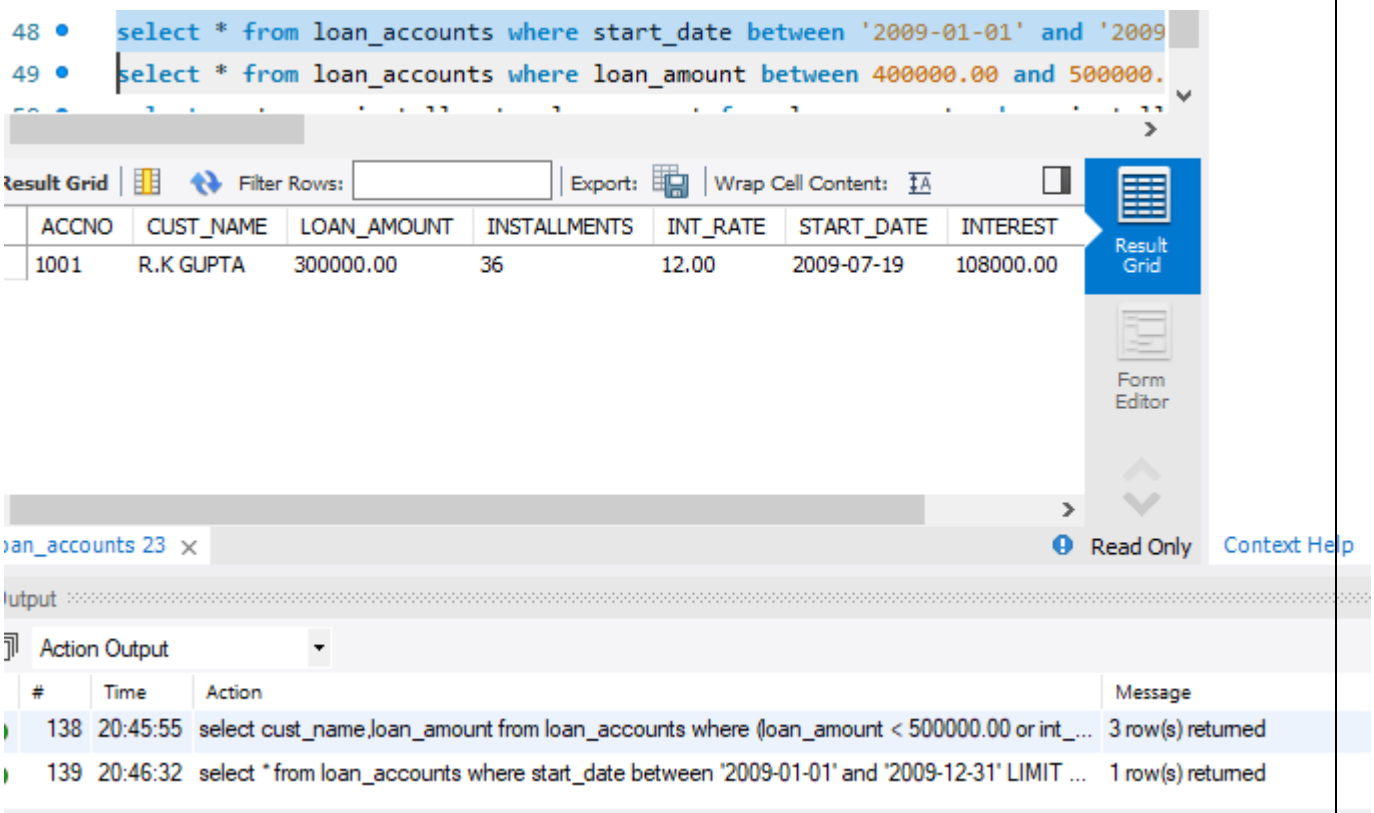
22.Display the Customer_name and Loan_amount for all the Loans for which the Loan amount is less than 500000 or int_rate is more than 12.

OUTPUT:



23.Display the details of all Loans which started in the year 2009.

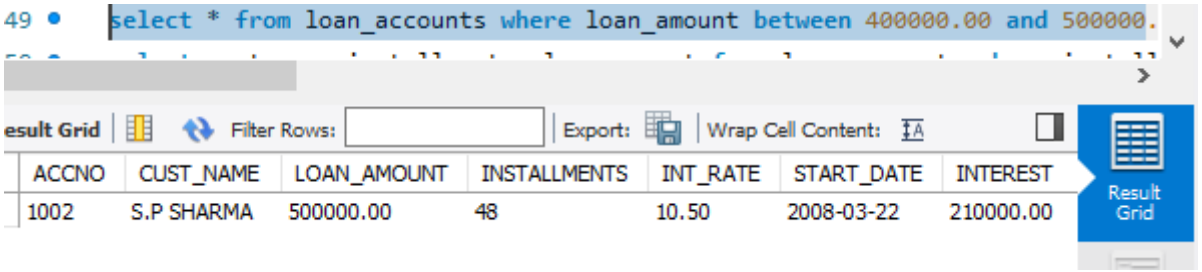
OUTPUT:



24.Display the details of all the Loans whose Loan amount is in the Range

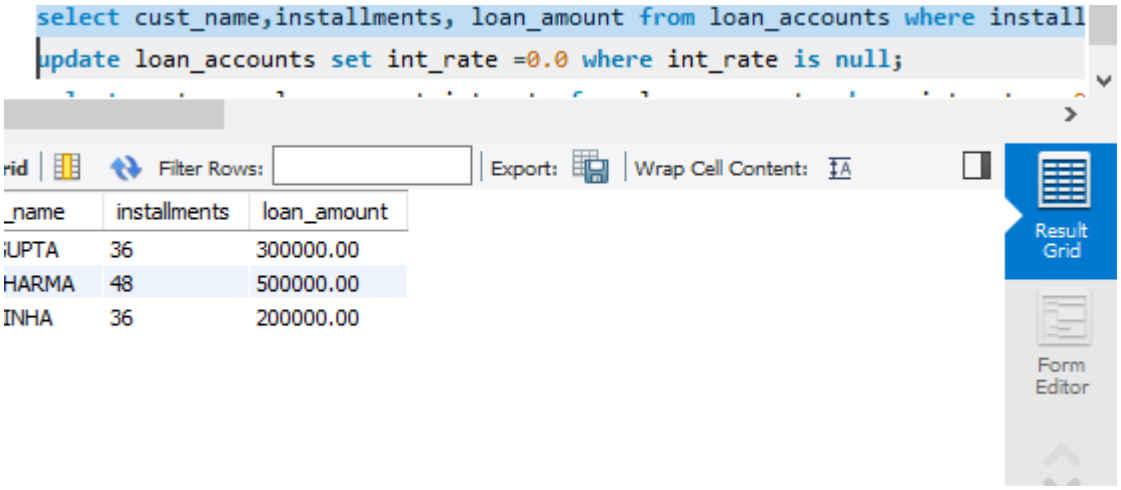
400000 to 500000.

OUTPUT:



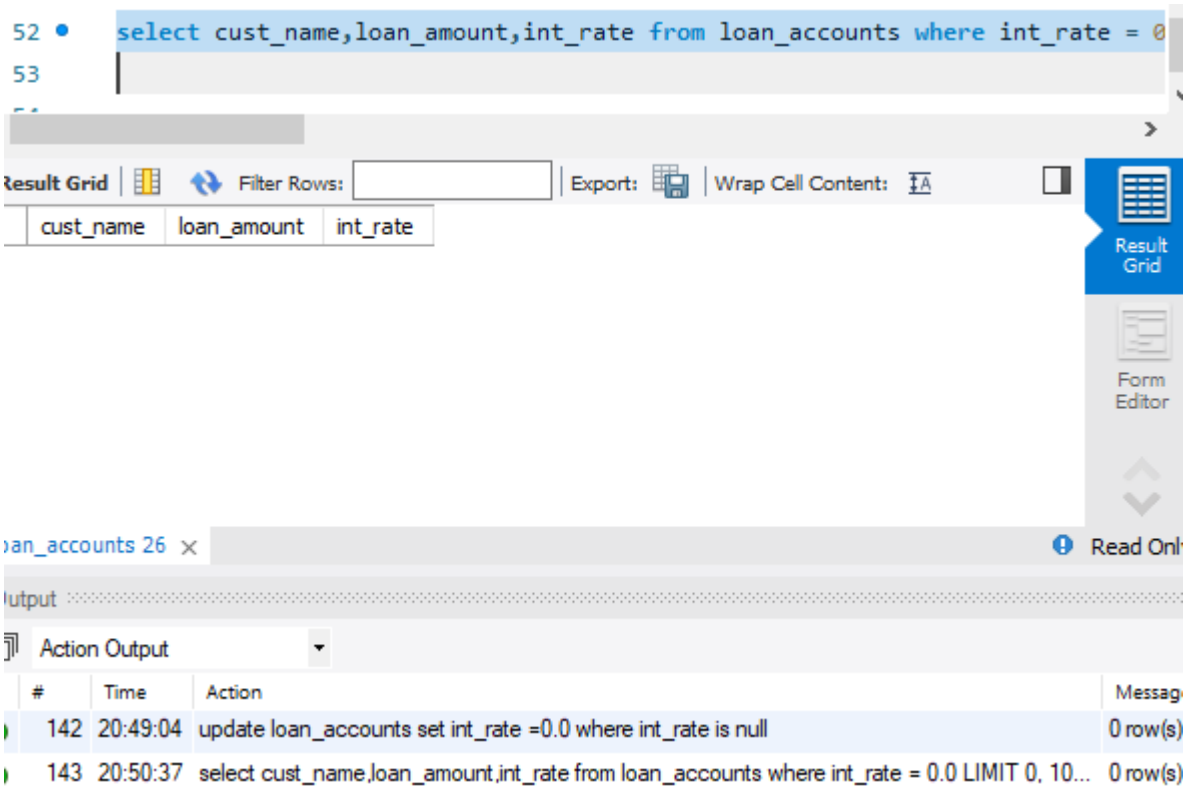
25.Display the Customer_name and Loan_amount of all the Loans for which
the number of installments are 26, 36 and 48.

OUTPUT:

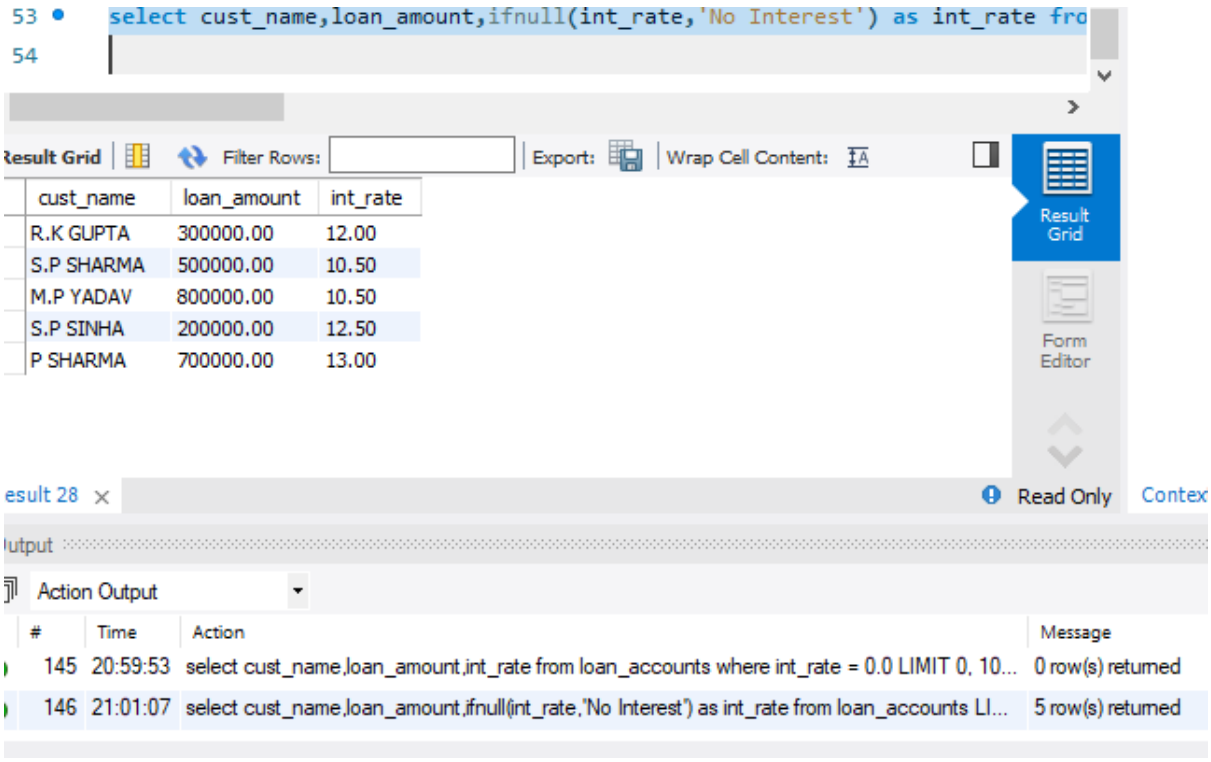


26.Display the customer name, loan_amount and interest rate. If interest rate
is NULL, display it as 0.

OUTPUT:



27.Display the customer name, loan_amount and interest rate. If interest rate
is NULL, display it as “No Interest”



CYCLE 2

Q.SET 1

Create the following tables and execute the queries given below

SAILORS

sid	sname	rating	age
22	Dustin	7	45
29	Brutas	1	33
31	Lubber	8	55
32	Andy	8	25
58	Rusty	10	35
64	Horatio	7	35
71	Zorba	10	16
74	Horatio	9	35
85	Art	3	26
95	Bob	3	64

BOATS

Bid	bname	color
101	Interlake	Blue
102	Interlake	Red
103	Clipper	Green
104	Marine	Red

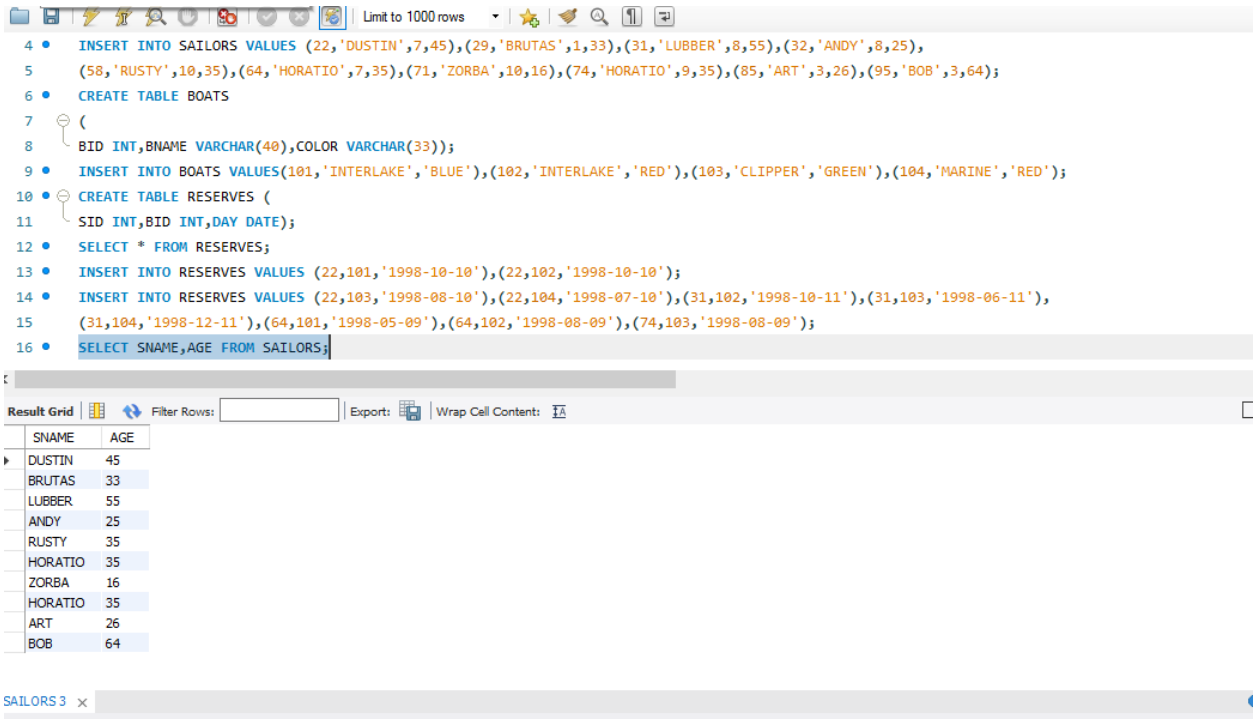
RESERVES

sid	bid	day
22	101	10/10/98
22	102	10/10/98
22	103	10/8/98
22	104	10/7/98
31	102	11/10/98

31	103	11/6/98
31	104	11/12/98
64	101	9/5/98
64	102	9/8/98
74	103	9/8/98

1. Find the names and ages of all sailors

OUTPUT



```
INSERT INTO SAILORS VALUES (22,'DUSTIN',7,45),(29,'BRUTAS',1,33),(31,'LUBBER',8,55),(32,'ANDY',8,25),
(58,'RUSTY',10,35),(64,'HORATIO',7,35),(71,'ZORBA',10,16),(74,'HORATIO',9,35),(85,'ART',3,26),(95,'BOB',3,64);
CREATE TABLE BOATS
(
BID INT,BNAME VARCHAR(40),COLOR VARCHAR(33));
INSERT INTO BOATS VALUES(101,'INTERLAKE','BLUE'),(102,'INTERLAKE','RED'),(103,'CLIPPER','GREEN'),(104,'MARINE','RED');
CREATE TABLE RESERVES (
SID INT,BID INT,DAY DATE);
SELECT * FROM RESERVES;
INSERT INTO RESERVES VALUES (22,101,'1998-10-10'),(22,102,'1998-10-10');
INSERT INTO RESERVES VALUES (22,103,'1998-08-10'),(22,104,'1998-07-10'),(31,102,'1998-10-11'),(31,103,'1998-06-11'),
(31,104,'1998-12-11'),(64,101,'1998-05-09'),(64,102,'1998-08-09'),(74,103,'1998-08-09');
SELECT SNAME,AGE FROM SAILORS;
```

Result Grid

SNAME	AGE
DUSTIN	45
BRUTAS	33
LUBBER	55
ANDY	25
RUSTY	35
HORATIO	35
ZORBA	16
HORATIO	35
ART	26
BOB	64

SAILORS 3

2. Find all information of sailors who have reserved boat number 101.

OUTPUT

```
(58,'RUSTY',10,35),(64,'HORATIO',7,35),(71,'ZORBA',10,16),(74,'HORATIO',9,35),(85,'ART',3,26),(95,'BOB',3,64);
CREATE TABLE BOATS
(
BID INT,BNAME VARCHAR(40),COLOR VARCHAR(33));
INSERT INTO BOATS VALUES(101,'INTERLAKE','BLUE'),(102,'INTERLAKE','RED'),(103,'CLIPPER','GREEN'),(104,'MARINE','RED');
CREATE TABLE RESERVES (
SID INT,BID INT,DAY DATE);
SELECT * FROM RESERVES;
INSERT INTO RESERVES VALUES (22,101,'1998-10-10'),(22,102,'1998-10-10');
INSERT INTO RESERVES VALUES (22,103,'1998-08-10'),(22,104,'1998-07-10'),(31,102,'1998-10-11'),(31,103,'1998-06-11'),
(31,104,'1998-12-11'),(64,101,'1998-05-09'),(64,102,'1998-08-09'),(74,103,'1998-08-09');
SELECT SNAME,AGE FROM SAILORS;
SELECT *FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID AND BID=101;
```

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

SID	SNAME	RATING	AGE	SID	BID	DAY
22	DUSTIN	7	45	22	101	1998-10-10
64	HORATIO	7	35	64	101	1998-05-09

3. Find all sailors with rating above 7.

OUTPUT

```
CREATE TABLE BOATS
(
BID INT,BNAME VARCHAR(40),COLOR VARCHAR(33));
INSERT INTO BOATS VALUES(101,'INTERLAKE','BLUE'),(102,'INTERLAKE','RED'),(103,'CLIPPER','GREEN'),(104,'MARINE','RED');
CREATE TABLE RESERVES (
SID INT,BID INT,DAY DATE);
SELECT * FROM RESERVES;
INSERT INTO RESERVES VALUES (22,101,'1998-10-10'),(22,102,'1998-10-10');
INSERT INTO RESERVES VALUES (22,103,'1998-08-10'),(22,104,'1998-07-10'),(31,102,'1998-10-11'),(31,103,'1998-06-11'),
(31,104,'1998-12-11'),(64,101,'1998-05-09'),(64,102,'1998-08-09'),(74,103,'1998-08-09');
SELECT SNAME,AGE FROM SAILORS;
SELECT *FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID AND BID=101;
SELECT *FROM SAILORS WHERE RATING>7;
```

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

SID	SNAME	RATING	AGE
31	LUBBER	8	55
32	ANDY	8	25
58	RUSTY	10	35
71	ZORBA	10	16
74	HORATIO	9	35

4. Find the names of sailors who have reserved boat no 103.

OUTPUT

```
7   (
8   BID INT,BNAME VARCHAR(40),COLOR VARCHAR(33));
9   INSERT INTO BOATS VALUES(101,'INTERLAKE','BLUE'),(102,'INTERLAKE','RED'),(103,'CLIPPER','GREEN'),(104,'MARINE','RED');
10  CREATE TABLE RESERVES (
11  SID INT,BID INT,DAY DATE);
12  SELECT * FROM RESERVES;
13  INSERT INTO RESERVES VALUES (22,101,'1998-10-10'),(22,102,'1998-10-10');
14  INSERT INTO RESERVES VALUES (22,103,'1998-08-10'),(22,104,'1998-07-10'),(31,102,'1998-10-11'),(31,103,'1998-06-11'),
15  (31,104,'1998-12-11'),(64,101,'1998-05-09'),(64,102,'1998-08-09'),(74,103,'1998-08-09');
16  SELECT SNAME,AGE FROM SAILORS;
17  SELECT *FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID AND BID=101;
18  SELECT *FROM SAILORS WHERE RATING>7;
19  SELECT  SNAME FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID AND BID=103;
```

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

SNAME
DUSTIN
LUBBER
HORATIO

5. Find the names of sailors who have reserved a red boat, and list in the order of age.

OUTPUT

```
8   BID INT,BNAME VARCHAR(40),COLOR VARCHAR(33));
9   INSERT INTO BOATS VALUES(101,'INTERLAKE','BLUE'),(102,'INTERLAKE','RED'),(103,'CLIPPER','GREEN'),(104,'MARINE','RED');
10  CREATE TABLE RESERVES (
11  SID INT,BID INT,DAY DATE);
12  SELECT * FROM RESERVES;
13  INSERT INTO RESERVES VALUES (22,101,'1998-10-10'),(22,102,'1998-10-10');
14  INSERT INTO RESERVES VALUES (22,103,'1998-08-10'),(22,104,'1998-07-10'),(31,102,'1998-10-11'),(31,103,'1998-06-11'),
15  (31,104,'1998-12-11'),(64,101,'1998-05-09'),(64,102,'1998-08-09'),(74,103,'1998-08-09');
16  SELECT SNAME,AGE FROM SAILORS;
17  SELECT *FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID AND BID=101;
18  SELECT *FROM SAILORS WHERE RATING>7;
19  SELECT  SNAME FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID AND BID=103;
20  SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND COLOR='RED';
```

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

SNAME
DUSTIN
LUBBER
HORATIO

6. Find the names of sailors who have reserved either a red or green boat

OUTPUT

```
INSERT INTO BOATS VALUES(101, 'INTERLAKE' , 'BLUE' ),(102, 'INTERLAKE' , 'RED' ),(103, 'CLIPPER' , 'GREEN' ),(104, 'MARINE' , 'RED' );
CREATE TABLE RESERVES (
SID INT,BID INT,DAY DATE);
SELECT * FROM RESERVES;
INSERT INTO RESERVES VALUES (22,101,'1998-10-10'),(22,102,'1998-10-10');
INSERT INTO RESERVES VALUES (22,103,'1998-08-10'),(22,104,'1998-07-10'),(31,102,'1998-10-11'),(31,103,'1998-06-11'),
(31,104,'1998-12-11'),(64,101,'1998-05-09'),(64,102,'1998-08-09'),(74,103,'1998-08-09');
SELECT SNAME,AGE FROM SAILORS;
SELECT *FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID AND BID=101;
SELECT *FROM SAILORS WHERE RATING>7;
SELECT  SNAME FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID AND BID=103;
SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND COLOR='RED';
SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND (COLOR='RED' OR COLOR='GREEN');
```

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

SNAME
DUSTIN
LUBBER
HORATIO

7. Find the colors of boats reserved by “Lubber”.

OUTPUT

```
SELECT * FROM RESERVES;
INSERT INTO RESERVES VALUES (22,101,'1998-10-10'),(22,102,'1998-10-10');
INSERT INTO RESERVES VALUES (22,103,'1998-08-10'),(22,104,'1998-07-10'),(31,102,'1998-10-11'),(31,103,'1998-06-11'),
(31,104,'1998-12-11'),(64,101,'1998-05-09'),(64,102,'1998-08-09'),(74,103,'1998-08-09');
SELECT SNAME,AGE FROM SAILORS;
SELECT *FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID AND BID=101;
SELECT *FROM SAILORS WHERE RATING>7;
SELECT  SNAME FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID AND BID=103;
SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND COLOR='RED';
SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND (COLOR='RED' OR COLOR='GREE

SELECT DISTINCT COLOR FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND SNAME='LUBBER';
```

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

COLOR
RED
GREEN

8. Find the names of sailors who have reserved both red and green boats.

OUTPUT

```
SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND COLOR='RED';
SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND (COLOR='RED' OR COLO

SELECT DISTINCT COLOR FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND SNAME='LUBBER';
SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE COLOR='RED'  AND  SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID
 AND EXISTS( SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS
 WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID
 AND COLOR='GREEN');
SELECT DISTINCT SNAME FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID ;
SELECT SNAME ,RESERVES.SID FROM RESERVES,SAILORS WHERE SAILORS.SID=RESERVES.SID GROUP BY DAY,
```

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

SNAME
DUSTIN
LUBBER
HORATIO

9. Find the names of sailors who have reserved at least one boat.

OUTPUT

```
SELECT  SNAME FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID AND BID=103;
SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND COLOR='RED';
SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND (COLOR='RED' OR COLOR='GRE

SELECT DISTINCT COLOR FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND SNAME='LUBBER';
SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE COLOR='RED'  AND  SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID
 IN( SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS
 WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID
 AND COLOR='GREEN');
SELECT DISTINCT SNAME FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID ;
```

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

SNAME
DUSTIN
LUBBER
HORATIO

10. Find the ids and names of sailors who have reserved two different boats on the same day.

OUTPUT

```
SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND COLOR='RED';
SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND (COLOR='RED' OR COL

SELECT DISTINCT COLOR FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND SNAME='LUBBER';
SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE COLOR='RED'  AND  SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID
 IN( SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS
 WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID
 AND COLOR='GREEN');
SELECT DISTINCT SNAME FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID ;
SELECT SNAME ,RESERVES.SID FROM RESERVES,SAILORS WHERE SAILORS.SID=RESERVES.SID GROUP BY DAY,
 SNAME ,RESERVES.SID HAVING COUNT(DAY)>1 ;
```

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

SNAME	SID
DUSTIN	22

11. Find the name and the age of the youngest sailor.

OUTPUT

```
SELECT  SNAME FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID AND BID=103;
SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND COLOR='RED';
SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND (COLOR='RED' OR

SELECT DISTINCT COLOR FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND SNAME='LUBBER';
SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE COLOR='RED'  AND  SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID
 IN( SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS
 WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID
 AND COLOR='GREEN');
SELECT DISTINCT SNAME FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID ;
SELECT SNAME ,RESERVES.SID FROM RESERVES,SAILORS WHERE SAILORS.SID=RESERVES.SID GROUP BY DAY,
 SNAME ,RESERVES.SID HAVING COUNT(DAY)>1 ;
 SELECT SNAME,AGE FROM SAILORS WHERE AGE  =(SELECT MIN(AGE) FROM SAILORS  ) ;
```

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

SNAME	AGE
ZORBA	16

12. Find the names and ratings of sailor whose rating is better than some sailor called Horatio.

OUTPUT

```
20  SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND COLOR='RED';
21  SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND (COLOR='RED' O
22
23  SELECT DISTINCT COLOR FROM SAILORS,RESERVES,BOATS  WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID AND SNAME='LUBBER'
24  SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS  WHERE COLOR='RED'  AND  SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID
25   IN( SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS
26   WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID
27   AND COLOR='GREEN');
28  SELECT DISTINCT SNAME FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID ;
29  SELECT SNAME ,RESERVES.SID FROM RESERVES,SAILORS WHERE SAILORS.SID=RESERVES.SID GROUP BY DAY,
30   SNAME ,RESERVES.SID HAVING COUNT(DAY)>1 ;
31   SELECT SNAME,AGE FROM SAILORS WHERE AGE  =(SELECT MIN(AGE) FROM SAILORS  ) ;
32   SELECT SNAME FROM SAILORS WHERE RATING > (SELECT MAX(RATING ) FROM SAILORS WHERE SNAME = 'HORATIO');
```

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

SNAME
RUSTY
ZORBA

13. Find the names of sailors who have reserved all boats.

OUTPUT

```
28  SELECT DISTINCT SNAME FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID ;
29  SELECT SNAME ,RESERVES.SID FROM RESERVES,SAILORS WHERE SAILORS.SID=RESERVES.SID GROUP BY DAY,
30   SNAME ,RESERVES.SID HAVING COUNT(DAY)>1 ;
31   SELECT SNAME,AGE FROM SAILORS WHERE AGE  =(SELECT MIN(AGE) FROM SAILORS  ) ;
32   SELECT SNAME FROM SAILORS WHERE RATING > (SELECT MAX(RATING ) FROM SAILORS WHERE SNAME = 'HORATIO');
33  SELECT SNAME FROM (SELECT SNAME,RESERVES.SID,COUNT(BID) AS id FROM RESERVES,SAILORS WHERE
34  SAILORS.SID=RESERVES.SID GROUP BY RESERVES.SID,SNAME) a
35  WHERE id =( SELECT COUNT(BID) FROM BOATS);
36  SELECT COUNT(C.SNAME) FROM (SELECT DISTINCT SNAME FROM SAILORS) C;
37  SELECT AVG(AGE) FROM SAILORS;
```

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

SNAME
DUSTIN

14. Count the number of different sailor names.

OUTPUT

```
25    IN( SELECT DISTINCT SNAME FROM SAILORS,RESERVES,BOATS
26    WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID
27    AND COLOR='GREEN');
28    SELECT DISTINCT SNAME FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID ;
29    SELECT SNAME ,RESERVES.SID FROM RESERVES,SAILORS WHERE SAILORS.SID=RESERVES.SID GROUP BY DAY,
30     SNAME ,RESERVES.SID HAVING COUNT(DAY)>1 ;
31     SELECT SNAME,AGE FROM SAILORS WHERE AGE  =(SELECT MIN(AGE) FROM SAILORS  ) ;
32     SELECT SNAME FROM SAILORS WHERE RATING > (SELECT MAX(RATING ) FROM SAILORS WHERE SNAME = 'HORATIO');
33    SELECT SNAME,SID FROM (SELECT SNAME,RESERVES.SID COUNT(BID) AS id FROM RESERVES,SAILORS WHERE
34    SAILORS.SID=RESERVES.SID GROUP BY RESERVES.SID,SNAME)
35    WHERE id =( SELECT COUNT(BID) FROM BOATS);
36    SELECT COUNT(C.SNAME) FROM (SELECT DISTINCT SNAME FROM SAILORS) C;
```

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

COUNT(C.SNAME)
9

15. Calculate the average age of all sailors.

OUTPUT

```
29    SELECT SNAME ,RESERVES.SID FROM RESERVES,SAILORS WHERE SAILORS.SID=RESERVES.SID GROUP BY DAY,
30     SNAME ,RESERVES.SID HAVING COUNT(DAY)>1 ;
31     SELECT SNAME,AGE FROM SAILORS WHERE AGE  =(SELECT MIN(AGE) FROM SAILORS  ) ;
32     SELECT SNAME FROM SAILORS WHERE RATING > (SELECT MAX(RATING ) FROM SAILORS WHERE SNAME = 'HORATIO
33    SELECT SNAME,SID FROM (SELECT SNAME,RESERVES.SID COUNT(BID) AS id FROM RESERVES,SAILORS WHERE
34    SAILORS.SID=RESERVES.SID GROUP BY RESERVES.SID,SNAME)
35    WHERE id =( SELECT COUNT(BID) FROM BOATS);
36    SELECT COUNT(C.SNAME) FROM (SELECT DISTINCT SNAME FROM SAILORS) C;
37    SELECT AVG(AGE) FROM SAILORS;
```

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

AVG(AGE)
36.9000

16. Find the average age of sailors for each rating level.

OUTPUT

```
26      WHERE SAILORS.SID=RESERVES.SID AND BOATS.BID   = RESERVES.BID
27      AND COLOR='GREEN');
28  •  SELECT DISTINCT SNAME FROM SAILORS,RESERVES  WHERE SAILORS.SID=RESERVES.SID ;
29  •  SELECT SNAME ,RESERVES.SID FROM RESERVES,SAILORS WHERE SAILORS.SID=RESERVES.SID GROUP BY DAY,
30      SNAME ,RESERVES.SID HAVING COUNT(DAY)>1 ;
31  •   SELECT SNAME,AGE FROM SAILORS WHERE AGE  =(SELECT MIN(AGE) FROM SAILORS  ) ;
32  •   SELECT SNAME FROM SAILORS WHERE RATING > (SELECT MAX(RATING ) FROM SAILORS WHERE SNAME = 'HORATIO');
33  SELECT SNAME,SID FROM (SELECT SNAME,RESERVES.SID COUNT(BID) AS id FROM RESERVES,SAILORS WHERE
34  SAILORS.SID=RESERVES.SID GROUP BY RESERVES.SID,SNAME)
35  WHERE id =( SELECT COUNT(BID) FROM BOATS);
36  •  SELECT COUNT(C.SNAME) FROM (SELECT DISTINCT SNAME FROM SAILORS) C;
37  •  SELECT AVG(AGE) FROM SAILORS;
38  •  SELECT RATING,AVG(AGE) FROM SAILORS GROUP BY RATING;
```

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

RATING	AVG(AGE)
7	40.0000
1	33.0000
8	40.0000
10	25.5000
9	35.0000
3	45.0000

17. Find the average age of sailors for each rating level that has at least two sailors.

OUTPUT

```
34      SAILORS.SID=RESERVES.SID GROUP BY RESERVES.SID,SNAME)
35      WHERE id =( SELECT COUNT(BID) FROM BOATS);
36  •  SELECT COUNT(C.SNAME) FROM (SELECT DISTINCT SNAME FROM SAILORS) C;
37  •  SELECT AVG(AGE) FROM SAILORS;
38  •  SELECT RATING,AVG(AGE) FROM SAILORS GROUP BY RATING;
39  •  SELECT A.RATING,B.MEAN FROM
40      (SELECT COUNT(SNAME) AS NUM,RATING FROM SAILORS
41     GROUP BY RATING HAVING COUNT(sname)>1 ) A,
42     (SELECT RATING,AVG(age) AS mean FROM SAILORS  GROUP BY RATING ) B WHERE A.RATING = B.RATING;
43
44
45
```

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

RATING	MEAN
7	40.0000
8	40.0000
10	25.5000
3	45.0000

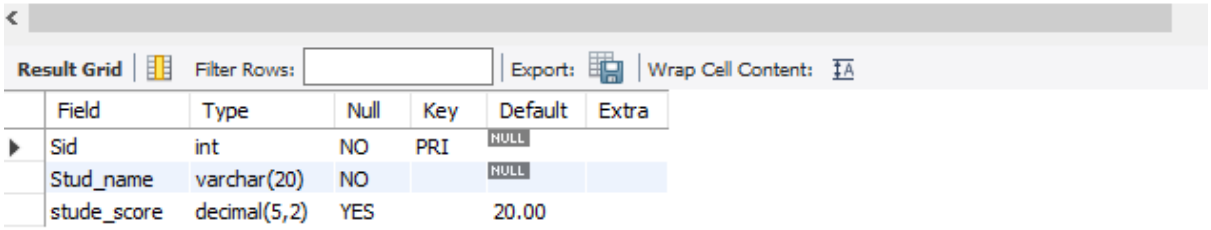
Q.SET 2

1. Create the table STUDENT_INFO with Columns: Sid, Stud_name & stude_score.

    - Insert values into STUDENT_INFO with the following constraints:Sid should be unique, Stud name NOT NULL and stude_score DEFAULT value of 20.

OUTPUT

```
1 • CREATE TABLE STUDENT_INFO(Sid  INT UNIQUE ,Stud_name   VARCHAR(20) NOT NULL,
2         stude_score numeric(5,2) DEFAULT 20);
3
4 •   ALTER TABLE STUDENT_INFO ADD PRIMARY KEY (Sid);
5 •   DESCRIBE STUDENT_INFO;
```



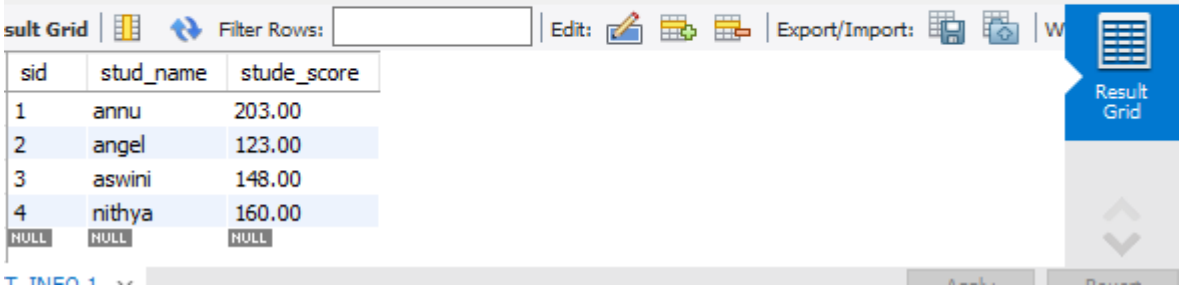
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Field	Type	Null	Key	Default	Extra
Sid	int	NO	PRI	NULL	
Stud_name	varchar(20)	NO		NULL	
stude_score	decimal(5,2)	YES		20.00	

    - Update stude_score by adding a value of 5 to stude_score in the table STUDENT_INFO for the rows satisfying the condition of stude_score >150 (Using CASE)

OUTPUT

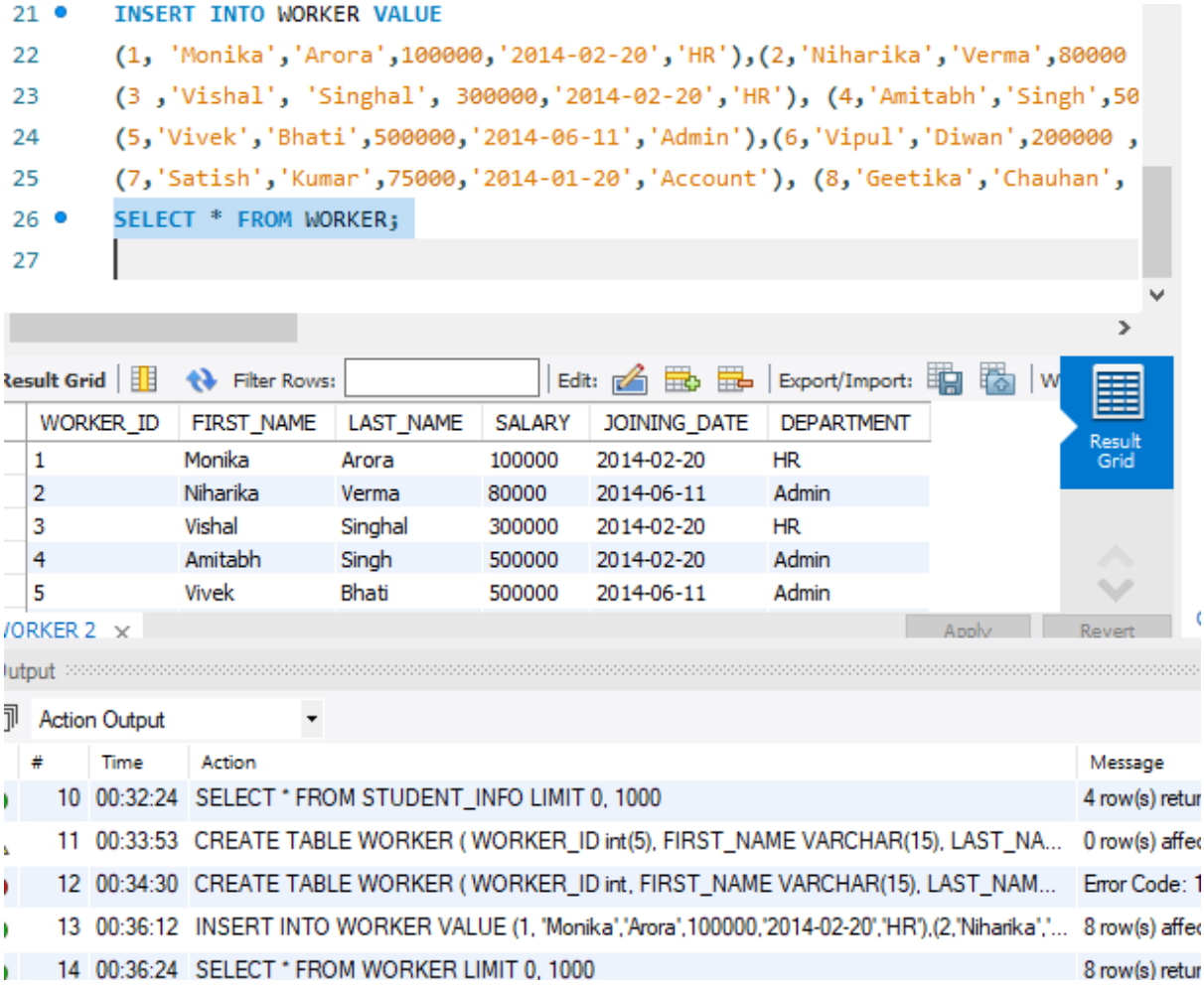
```
0 •   UPDATE STUDENT_INFO SET stude_score = stude_score +5 WHERE  stude_score > 1
1 •   SELECT * FROM STUDENT_INFO;
```



sult Grid | Filter Rows: | Edit: | Export/Import: | W | Result Grid

sid	stud_name	stude_score
1	annu	203.00
2	angel	123.00
3	aswini	148.00
4	nithya	160.00
NULL	NULL	NULL

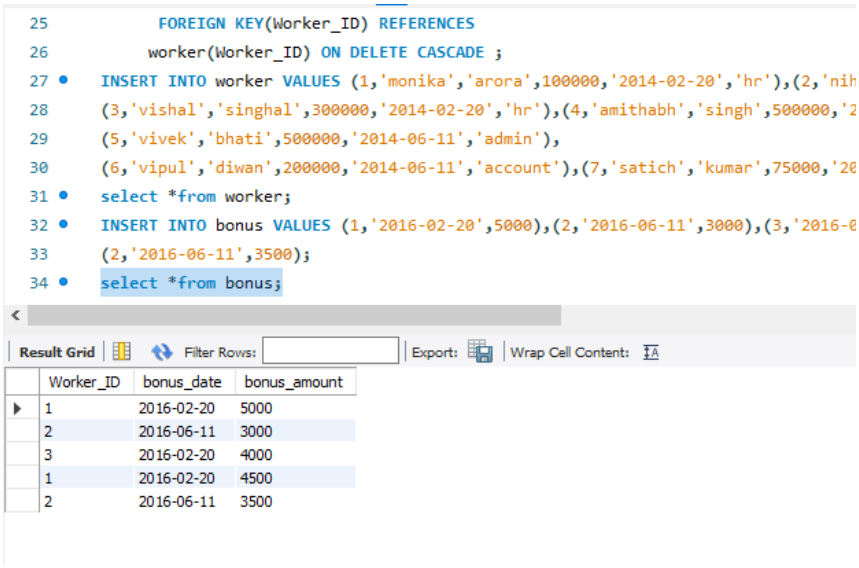
2. Create the tables **worker** and **bonus** with the following fields. The primary key of Worker table is Worker_ID. Set Worker_id as foreign key of bonus on update and delete cascade constraints. Each constraint should be given a name



3. Sample Table – Bonus

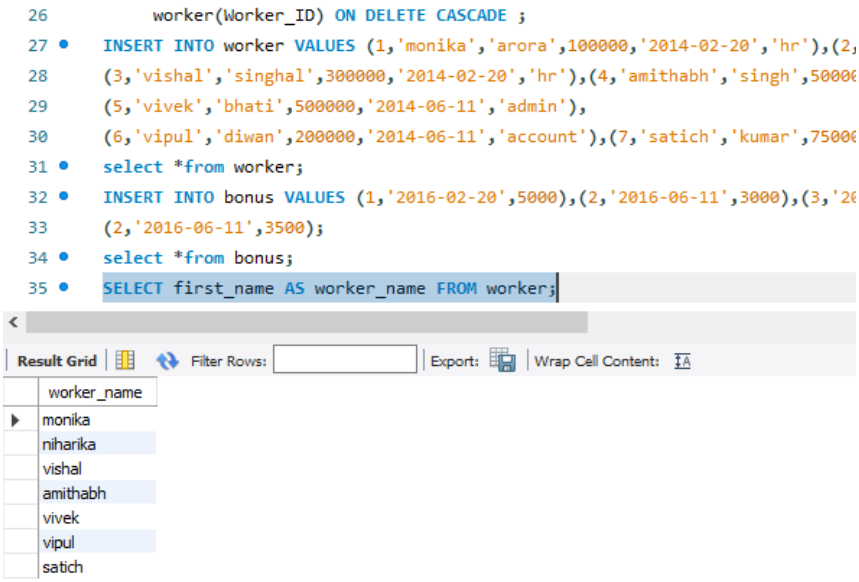
WORKER_ID	BONUS_DATE	BONUS_AMOUNT
1	2016-02-20	5000
2	2016-06-11	3000
3	2016-02-20	4000

1	2016-02-20	4500
2	2016-06-11	3500



4. Write An SQL Query To Fetch "FIRST_NAME" From Worker Table Using The Alias Name As <WORKER_NAME>.

Output



5. Write An SQL Query To Print All Worker Details From The Worker Table Order By FIRST_NAME Ascending

Output

```
27 •  INSERT INTO worker VALUES (1,'monika','arora',100000,'2014-02-20','hr'),(2,
28    (3,'vishal','singhal',300000,'2014-02-20','hr'),(4,'amithabh','singh',50000
29    (5,'vivek','bhati',500000,'2014-06-11','admin'),
30    (6,'vipul','diwan',200000,'2014-06-11','account'),(7,'satich','kumar',75000
31 •  select *from worker;
32 •  INSERT INTO bonus VALUES (1,'2016-02-20',5000),(2,'2016-06-11',3000),(3,'20
33    (2,'2016-06-11',3500);
34 •  select *from bonus;
35 •  SELECT first_name AS worker_name FROM worker;
36 •  SELECT * FROM worker ORDER BY trim(first_name) ASC ;
```

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

Worker_ID	first_name	last_name	salary	joining_date	department
4	amithabh	singh	500000	2014-02-20	admin
1	monika	arora	100000	2014-02-20	hr
2	niharika	verma	80000	2014-06-11	admin
7	satich	kumar	75000	2014-01-20	admin
6	vipul	diwan	200000	2014-06-11	account
3	vishal	singhal	300000	2014-02-20	hr
5	vivek	bhati	500000	2014-06-11	admin
NULL	NULL	NULL	NULL	NULL	NULL

6. Write An SQL Query To Print Details Of Workers Excluding First Names, “Vipul” And “Satish” From Worker Table.

Output

```
28      (3,'vishal','singhal',300000,'2014-02-20','hr'),(4,'amithabh','singh',50000
29      (5,'vivek','bhati',500000,'2014-06-11','admin'),
30      (6,'vipul','diwan',200000,'2014-06-11','account'),(7,'satich','kumar',75000
31 •    select *from worker;
32 •    INSERT INTO bonus VALUES (1,'2016-02-20',5000),(2,'2016-06-11',3000),(3,'20
33      (2,'2016-06-11',3500);
34 •    select *from bonus;
35 •    SELECT first_name AS worker_name FROM worker;
36 •    SELECT * FROM worker ORDER BY trim(first_name) ASC ;
37 •    SELECT * FROM worker WHERE trim(first_name) != 'vipul' AND trim(first_name)
```

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

Worker_ID	first_name	last_name	salary	joining_date	department
1	monika	arora	100000	2014-02-20	hr
2	niharika	verma	80000	2014-06-11	admin
3	vishal	singhal	300000	2014-02-20	hr
4	amithabh	singh	500000	2014-02-20	admin
5	vivek	bhati	500000	2014-06-11	admin
NULL	NULL	NULL	NULL	NULL	NULL

7. Write An SQL Query To Print Details Of Workers With DEPARTMENT Name As “Admin”.

Output

```
29      (5,'vivek','bhati',500000,'2014-06-11','admin'),
30      (6,'vipul','diwan',200000,'2014-06-11','account'),(7,'satich','kumar',75000,'
31 •    select *from worker;
32 •    INSERT INTO bonus VALUES (1,'2016-02-20',5000),(2,'2016-06-11',3000),(3,'2016
33      (2,'2016-06-11',3500);
34 •    select *from bonus;
35 •    SELECT first_name AS worker_name FROM worker;
36 •    SELECT * FROM worker ORDER BY trim(first_name) ASC ;
37 •    SELECT * FROM worker WHERE trim(first_name) != 'vipul' AND trim(first_name)
38 •    select *from worker where department='admin';
```

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

Worker_ID	first_name	last_name	salary	joining_date	department
2	niharika	verma	80000	2014-06-11	admin
4	amithabh	singh	500000	2014-02-20	admin
5	vivek	bhati	500000	2014-06-11	admin
7	satich	kumar	75000	2014-01-20	admin
NULL	NULL	NULL	NULL	NULL	NULL

8. Write An SQL Query To Print Details Of The Workers Whose SALARY Lies Between 100000 And 500000

Output

```
30      (6,'vipul','diwan',200000,'2014-06-11','account'),(7,'satich','kumar',7500
31      select *from worker;
32      INSERT INTO bonus VALUES (1,'2016-02-20',5000),(2,'2016-06-11',3000),(3,'2
33      (2,'2016-06-11',3500);
34      select *from bonus;
35      SELECT first_name AS worker_name FROM worker;
36      SELECT * FROM worker ORDER BY trim(first_name) ASC ;
37      SELECT * FROM worker WHERE trim(first_name) != 'vipul' AND trim(first_name
38      select *from worker where department='admin';
39      SELECT * FROM worker WHERE salary BETWEEN 100000 AND 500000;
```

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

Worker_ID	first_name	last_name	salary	joining_date	department
1	monika	arora	100000	2014-02-20	hr
3	vishal	singhal	300000	2014-02-20	hr
4	amithabh	singh	500000	2014-02-20	admin
5	vivek	bhati	500000	2014-06-11	admin
6	vipul	diwan	200000	2014-06-11	account
NULL	NULL	NULL	NULL	NULL	NULL

9. Write An SQL Query To Fetch "FIRST_NAME" From Worker Table In Upper Case. (upper())

Output

Limit to 1000 rows

```
31      select *from worker;
32      INSERT INTO bonus VALUES (1,'2016-02-20',5000),(2,'2016-06-11',3000
33      (2,'2016-06-11',3500);
34      select *from bonus;
35      SELECT first_name AS worker_name FROM worker;
36      SELECT * FROM worker ORDER BY trim(first_name) ASC ;
37      SELECT * FROM worker WHERE trim(first_name) != 'vipul' AND trim(fir
38      select *from worker where department='admin';
39      SELECT * FROM worker WHERE salary BETWEEN 100000 AND 500000;
40      SELECT upper(first_name) FROM worker;
```

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

upper(first_name)
MONIKA
NIHARIKA
VISHAL
AMITHABH
VIVEK
VIPUL
SATICH

10. Write An SQL Query To Fetch Unique Values Of DEPARTMENT From Worker Table.

Output

```
32 •  INSERT INTO bonus VALUES (1,'2016-02-20',5000),(2,'2016-06-11',3000
33    (2,'2016-06-11',3500);
34 •  select *from bonus;
35 •  SELECT first_name AS worker_name FROM worker;
36 •  SELECT * FROM worker ORDER BY trim(first_name) ASC ;
37 •  SELECT * FROM worker WHERE trim(first_name) != 'vipul' AND trim(fir
38 •  select *from worker where department='admin';
39 •  SELECT * FROM worker WHERE salary BETWEEN 100000 AND 500000;
40 •  SELECT upper(first_name) FROM worker;
41 •  SELECT distinct department FROM worker;
```

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

department
hr
admin
account

11. Write An SQL Query To Print First Three Characters Of FIRST_NAME From Worker Table.(substring())

Output

```
33    (2,'2016-06-11',3500);
34 •  select *from bonus;
35 •  SELECT first_name AS worker_name FROM worker;
36 •  SELECT * FROM worker ORDER BY trim(first_name) ASC ;
37 •  SELECT * FROM worker WHERE trim(first_name) != 'vipul' AND trim(firs
38 •  select *from worker where department='admin';
39 •  SELECT * FROM worker WHERE salary BETWEEN 100000 AND 500000;
40 •  SELECT upper(first_name) FROM worker;
41 •  SELECT distinct department FROM worker;
42 •  SELECT SUBSTR(first_name,  1, 3) AS small FROM worker;
```

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

small
mon
nih
vis
ami
viv
vip
sat

12. Write An SQL Query To Print The FIRST_NAME From Worker Table After Removing White Spaces From The Right Side(RTRIM ( ))

Output

```
34 •  select *from bonus;
35 •  SELECT first_name AS worker_name FROM worker;
36 •  SELECT * FROM worker ORDER BY trim(first_name) ASC ;
37 •  SELECT * FROM worker WHERE trim(first_name) != 'vipul' AND trim(f
38 •  select *from worker where department='admin';
39 •  SELECT * FROM worker WHERE salary BETWEEN 100000 AND 500000;
40 •  SELECT upper(first_name) FROM worker;
41 •  SELECT distinct department FROM worker;
42 •  SELECT SUBSTR(first_name,  1, 3) AS small FROM worker;
43 •  SELECT rtrim(first_name) FROM worker;
```

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

rtrim(first_name)
monika
niharika
vishal
amithabh
vivek
vipul
satich

13. Write An SQL Query To Print The DEPARTMENT From Worker Table After Removing White Spaces From The Left Side. (LTRIM ( ))

Output

```
35 •  SELECT first_name AS worker_name FROM worker;
36 •  SELECT * FROM worker ORDER BY trim(first_name) ASC ;
37 •  SELECT * FROM worker WHERE trim(first_name) != 'vipul' AND trim(firs
38 •  select *from worker where department='admin';
39 •  SELECT * FROM worker WHERE salary BETWEEN 100000 AND 500000;
40 •  SELECT upper(first_name) FROM worker;
41 •  SELECT distinct department FROM worker;
42 •  SELECT SUBSTR(first_name,  1, 3) AS small FROM worker;
43 •  SELECT rtrim(first_name) FROM worker;
44 •  SELECT ltrim(department) FROM worker;
```

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

ltrim(department)
hr
admin
hr
admin
admin
account
admin

14. Write An SQL Query That Fetches The Unique Values Of DEPARTMENT From Worker Table And Prints Its Length.(length())

Output

Limit to 1000 rows

```
36 •  SELECT * FROM worker ORDER BY trim(first_name) ASC ;
37 •  SELECT * FROM worker WHERE trim(first_name) != 'vipul' AND trim
38 •  select *from worker where department='admin';
39 •  SELECT * FROM worker WHERE salary BETWEEN 100000 AND 500000;
40 •  SELECT upper(first_name) FROM worker;
41 •  SELECT distinct department FROM worker;
42 •  SELECT SUBSTR(first_name,  1, 3) AS small FROM worker;
43 •  SELECT rtrim(first_name) FROM worker;
44 •  SELECT ltrim(department) FROM worker;
45 •  SELECT distinct department, LENGTH(department) FROM worker ;
```

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

department	LENGTH(department)
hr	2
admin	5
account	7

15. Write An SQL Query To Print The FIRST_NAME From Worker Table After Replacing ‘a’ With ‘A’.(REPLACE( ))

Output

```
37 • SELECT * FROM worker WHERE trim(first_name) != 'vipul' AND trim(first
38 • select *from worker where department='admin';
39 • SELECT * FROM worker WHERE salary BETWEEN 100000 AND 500000;
40 • SELECT upper(first_name) FROM worker;
41 • SELECT distinct department FROM worker;
42 • SELECT SUBSTR(first_name,  1, 3) AS small FROM worker;
43 • SELECT rtrim(first_name) FROM worker;
44 • SELECT ltrim(department) FROM worker;
45 • SELECT distinct department, LENGTH(department) FROM worker ;
46 • SELECT REPLACE(first_name, 'a', 'A') AS fname FROM worker;
```

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

fname
monikA
nihArikA
vishAl
AmithAbh
vivek
vipul
sAtich

16. Find the First name , last name ,Department, Salary and Bonus of employees whose bonus amount is greater than 4000

Output

```
38 • select *from worker where department='admin';
39 • SELECT * FROM worker WHERE salary BETWEEN 100000 AND 500000;
40 • SELECT upper(first_name) FROM worker;
41 • SELECT distinct department FROM worker;
42 • SELECT SUBSTR(first_name,  1, 3) AS small FROM worker;
43 • SELECT rtrim(first_name) FROM worker;
44 • SELECT ltrim(department) FROM worker;
45 • SELECT distinct department, LENGTH(department) FROM worker ;
46 • SELECT REPLACE(first_name, 'a', 'A') AS fname FROM worker;
47 • SELECT first_name,last_name,department,salary,bonus_amount  FROM worker,b
```

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

first_name	last_name	department	salary	bonus_amount
monika	arora	hr	100000	5000
monika	arora	hr	100000	4500

17. Delete the employee with worker_id=7 from worker and display the details of both tables.

Output

```
40 •  SELECT upper(first_name) FROM worker;
41 •  SELECT distinct department FROM worker;
42 •  SELECT SUBSTR(first_name,  1, 3) AS small FROM worker;
43 •  SELECT rtrim(first_name) FROM worker;
44 •  SELECT ltrim(department) FROM worker;
45 •  SELECT distinct department, LENGTH(department) FROM worker ;
46 •  SELECT REPLACE(first_name, 'a', 'A') AS fname FROM worker;
47 •  SELECT first_name,last_name,department,salary,bonus_amount  FROM w
48 •  DELETE from worker WHERE worker_id=7;
49 •  SELECT * FROM worker;
```

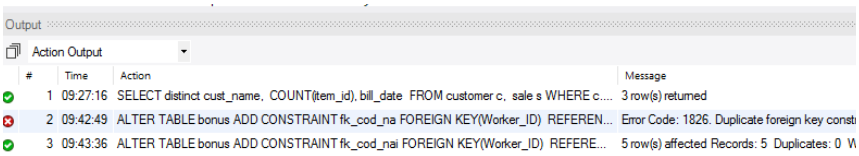
Result Grid | Filter Rows: | Edit: | Export/Import:

Worker_ID	first_name	last_name	salary	joining_date	department
1	monika	arora	100000	2014-02-20	hr
2	niharika	verma	80000	2014-06-11	admin
3	vishal	singhal	300000	2014-02-20	hr
4	amithabh	singh	500000	2014-02-20	admin
5	vivek	bhati	500000	2014-06-11	admin
6	vipul	diwan	200000	2014-06-11	account
NULL	NULL	NULL	NULL	NULL	NULL

18. Drop the foreign key constraint and add a new referential integrity constraint with ‘on update or delete with no action’

Output

```
41    SELECT distinct department FROM worker;
42    SELECT SUBSTR(first_name,  1, 3) AS small FROM worker;
43    SELECT rtrim(first_name) FROM worker;
44    SELECT ltrim(department) FROM worker;
45    SELECT distinct department, LENGTH(department) FROM worker ;
46    SELECT REPLACE(first_name, 'a', 'A') AS fname FROM worker;
47    SELECT first_name,last_name,department,salary,bonus_amount  FR
48    DELETE from worker WHERE worker_id=7;
49    SELECT * FROM worker;
50    ALTER TABLE bonus DROP CONSTRAINT fk_cod_csd;
51    ALTER TABLE bonus ADD CONSTRAINT fk_cod_na FOREIGN KEY(Worker_
52    REFERENCES worker(Worker_ID) ON DELETE no action ;
53
```



19. Delete the employee with worker_id = 8 from worker.

Output

```
47 •  SELECT REPLACE(first_name, 'a', 'A') AS fname FROM worke
48 •  SELECT first_name,last_name,department,salary,bonus_amou
49 •  DELETE from worker WHERE worker_id=7;
50 •  SELECT * FROM worker;
51 •  ALTER TABLE bonus DROP CONSTRAINT fk_cod_csd;
52 •  ALTER TABLE bonus ADD CONSTRAINT fk_cod_na FOREIGN KEY(
53     REFERENCES worker(Worker_ID) ON DELETE no action ;
54 •  DELETE from worker WHERE worker_id=8;
55 •  SELECT * FROM worker;
```

Result Grid | Filter Rows: | Edit: | Export/Imp

Worker_ID	first_name	last_name	salary	joining_date	department
1	monika	arora	100000	2014-02-20	hr
2	niharika	verma	80000	2014-06-11	admin
3	vishal	singhal	300000	2014-02-20	hr
4	amithabh	singh	500000	2014-02-20	admin
5	vivek	bhati	500000	2014-06-11	admin
6	vipul	diwan	200000	2014-06-11	account
NULL	NULL	NULL	NULL	NULL	NULL

Q.SET 3

Create the tables given below and execute the queries:

Customer(Cust id : integer, cust_name: string)

Item(item_id: integer, item_name: string, price: integer)

Sale(bill_no: integer, bill_date: date, cust_id: integer, item_id: integer, qty_sold: integer)

For the above schema, perform the following—

a) Create the tables with the appropriate integrity constraints

Output

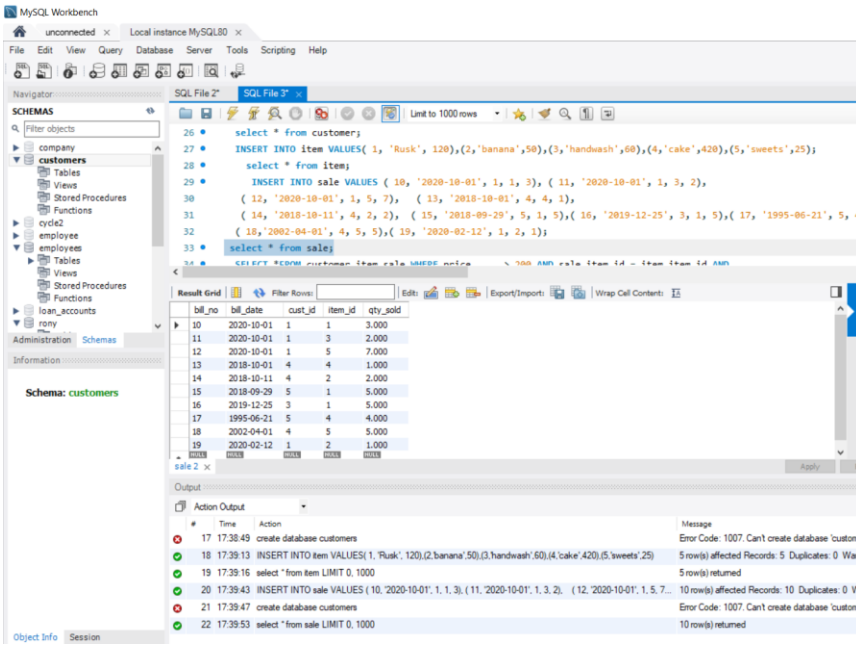
```
2 •  CREATE TABLE CUSTOMER(CUST_ID INT PRIMARY KEY,CUST_NAME VARCHAR(10));
3 •  CREATE TABLE ITEM(ITEM_ID INT PRIMARY KEY,ITEM_NAME VARCHAR(20),PRICE INT);
4 •  CREATE TABLE SALE(BILL_NO INT PRIMARY KEY,BILL_DATE DATE,CUST_ID INT,ITEM_ID
5    CONSTRAINT FK_CUST FOREIGN KEY(CUST_ID) REFERENCES CUSTOMER(CUST_ID),CONSTRAI
6
```

Action Output

#	Time	Action	Message
43	01:28:03	drop database sql2set3	3 row(s) affected
44	01:28:47	create database sql2set3	1 row(s) affected
45	01:29:40	CREATE TABLE CUSTOMER(CUST_ID INT PRIMARY KEY,CUST_NAME VARCHAR(10))	0 row(s) affected
46	01:29:49	CREATE TABLE ITEM(ITEM_ID INT PRIMARY KEY,ITEM_NAME VARCHAR(20),PRICE I...	0 row(s) affected
47	01:29:59	CREATE TABLE SALE(BILL_NO INT PRIMARY KEY,BILL_DATE DATE,CUST_ID INT,ITE...	0 row(s) affected

b) Insert details of 5 customers, 5 items and 10 sales details. There should be one customer 'rekha' who had purchased 3 different products on the same date. And there should be atleast one customer who had purchased 2 different products on the same date in the year '2018'.

Output

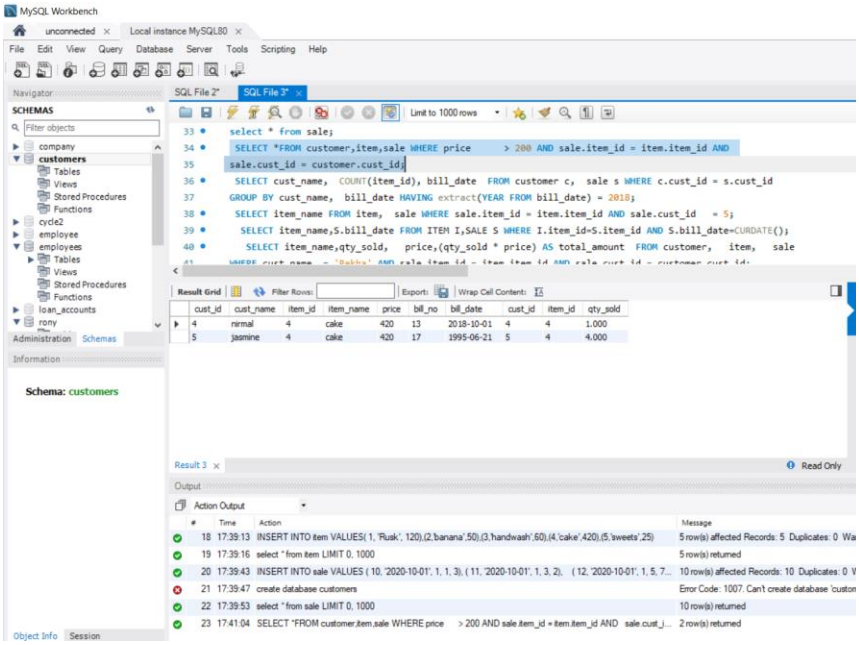


c) List the details of the customer who have bought a product which has a price>200 .

CODE:

```
SELECT *FROM customer,item,sale WHERE
price > 200 AND sale.item_id = item.item_id
AND
 sale.cust_id = customer.cust_id;
```

Output



d) Give a count of how many products have been bought by each customer group by bill date.

Output

```
15 •  SELECT C.CUST_ID,CUST_NAME,SC.COUNT,SC.BILL_DATE FROM CUSTOMER C,
16    (SELECT COUNT(ITEM_ID) AS COUNT,BILL_DATE,CUST_ID FROM SALE GROUP BY B
```

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

CUST_ID	CUST_NAME	COUNT	BILL_DATE
1	Rekha	4	2020-10-01
1	Rekha	1	2020-02-12
3	Renju	1	2018-12-25
4	renjini	1	2018-10-01
4	renjini	1	2018-10-11

Result 6 | Read Only

Output

Action Output

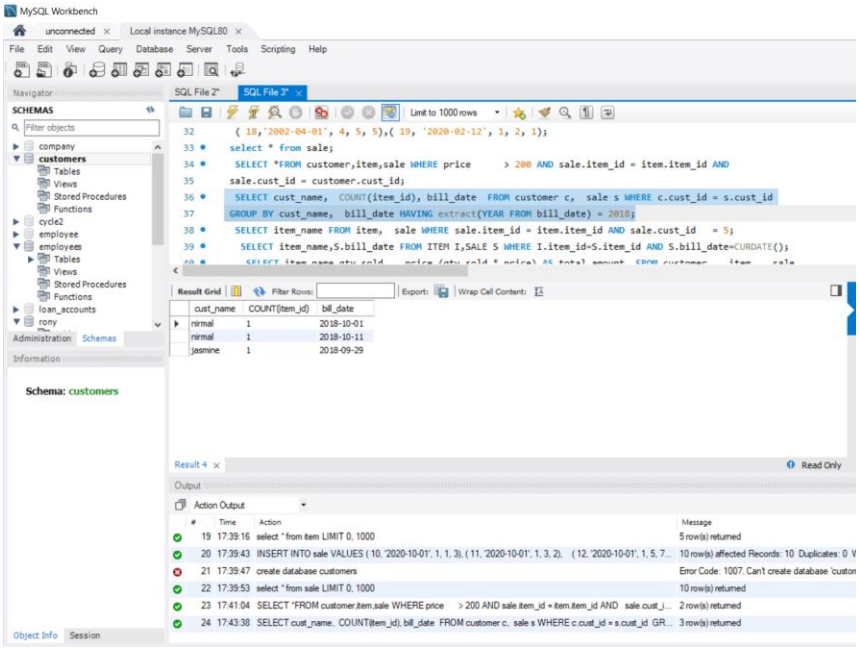
#	Time	Action
57	01:37:28	SELECT * FROM ITEM LIMIT 0, 1000
58	01:38:52	INSERT INTO SALE(BILL_NO,BILL_DATE,CUST_ID,ITEM_ID,QTY_SOLID) VALUES(10,'...
59	01:39:53	SELECT * FROM SALE LIMIT 0, 1000
60	01:42:05	SELECT * FROM CUSTOMER C,ITEM I,SALE S WHERE C.CUST_ID=S.CUST_ID AND I.I...
61	01:43:30	SELECT C.CUST_ID,CUST_NAME,SC.COUNT,SC.BILL_DATE FROM CUSTOMER C, (SE...

e) Give a count of how many products have been bought by each customer group by bill date only for the year 2018.

CODE:

```
SELECT cust_name, COUNT(item_id), bill_date FROM customer c, sale s WHERE c.cust_id = s.cust_id
GROUP BY cust_name, bill_date HAVING extract(YEAR FROM bill_date) = 2018;
```

Output

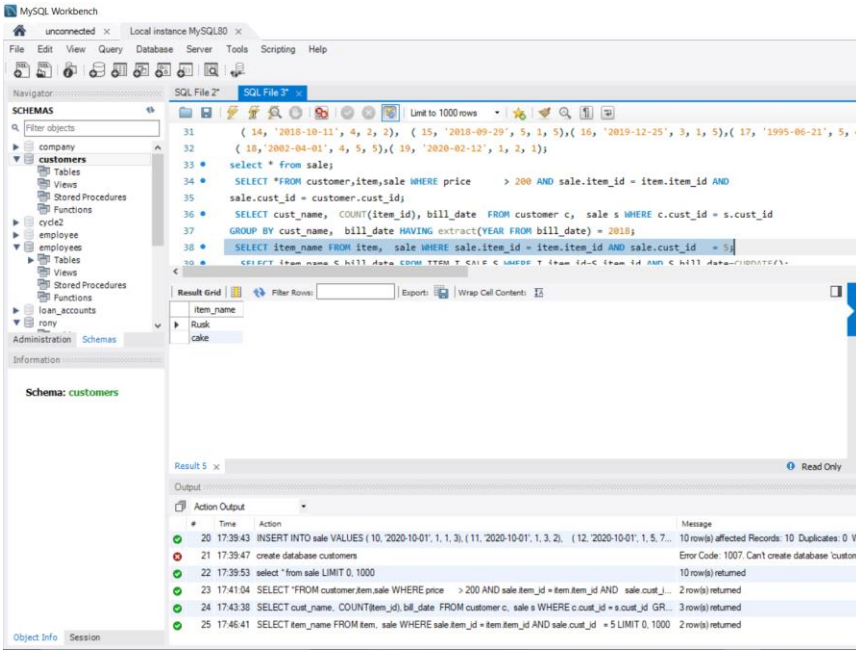


f) Give a list of products bought by a customer having cust_id as 5

CODE:

```
SELECT item_name FROM item, sale WHERE sale.item_id = item.item_id AND sale.cust_id = 5;
```

Output

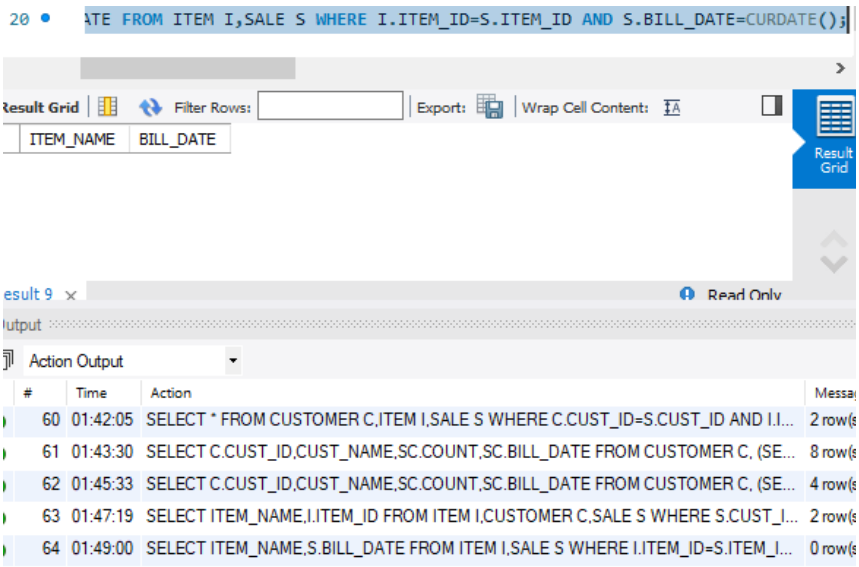


g) List the item details which are sold as of today

CODE;

SELECT item_name,S.bill_date FROM ITEM I,SALE S WHERE I.item_id=S.item_id AND S.bill_date=CURDATE();

Output

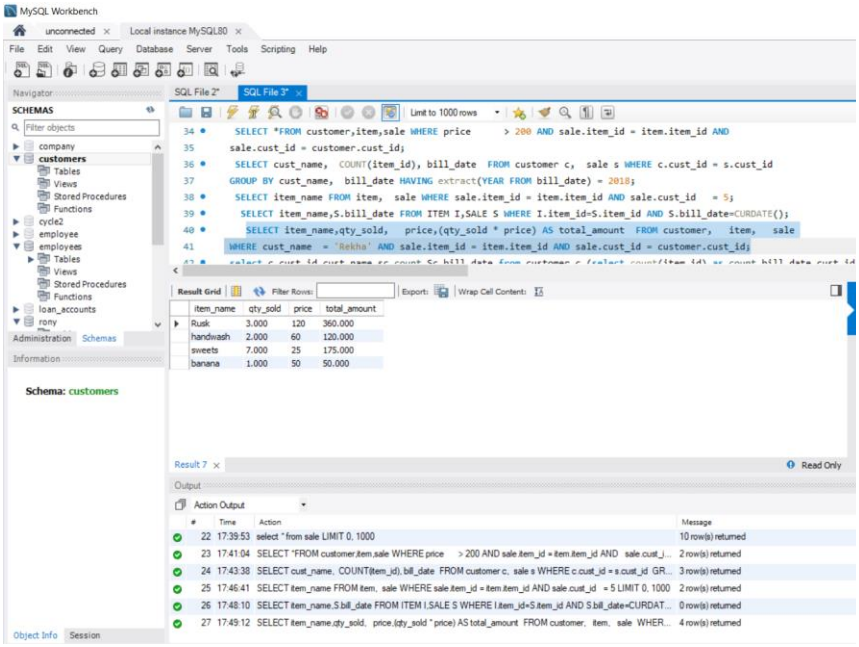


h) Print the bill in a neat format with the quantity sold, price of the item and the final amount of customer ‘rekha’

CODE:

SELECT item_name,qty_sold, price,(qty_sold * price) AS total_amount FROM customer, item, sale WHERE cust_name = 'Rekha' AND sale.item_id = item.item_id AND sale.cust_id = customer.cust_id;

Output


MySQL Workbench
unconnected
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
Navigator
SCHEMAS
Filter objects
company
customers
Tables
Views
Stored Procedures
Functions
cycle2
employee
employees
Tables
Views
Stored Procedures
Functions
loan_accounts
rony
Administration Schemas
Information
Schema: customers
Object Info Session
SQL File 2*
SQL File 3*
Limit to 1000 rows
34 SELECT *FROM customer,item,sale WHERE price > 200 AND sale.item_id = item.item_id AND
35 sale.cust_id = customer.cust_id;
36 SELECT cust_name, COUNT(item_id), bill_date FROM customer c, sale s WHERE c.cust_id = s.cust_id
37 GROUP BY cust_name, bill_date HAVING extract(YEAR FROM bill_date) = 2018;
38 SELECT item_name FROM item, sale WHERE sale.item_id = item.item_id AND sale.cust_id = 5;
39 SELECT item_name,S.bill_date FROM ITEM I,SALE S WHERE I.item_id=S.item_id AND S.bill_date=CURDATE();
40 SELECT item_name,qty_sold, price,(qty_sold * price) AS total_amount FROM customer, item, sale
41 WHERE cust_name = 'Rekha' AND sale.item_id = item.item_id AND sale.cust_id = customer.cust_id;
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
item_name qty_sold price total_amount
Rusk 3.000 120 360.000
handwash 2.000 60 120.000
sweets 7.000 25 175.000
banana 1.000 50 50.000
Result 7
Read Only
Output
Action Output
Time Action Message
22 17:39:53 select * from sale LIMIT 0, 1000 10 row(s) returned
23 17:41:04 SELECT *FROM customer,item,sale WHERE price > 200 AND sale.item_id = item.item_id AND sale.cust_i... 2 row(s) returned
24 17:43:38 SELECT cust_name, COUNT(item_id), bill_date FROM customer c, sale s WHERE c.cust_id = s.cust_id GR... 3 row(s) returned
25 17:46:41 SELECT item_name FROM item, sale WHERE sale.item_id = item.item_id AND sale.cust_id = 5 LIMIT 0, 1000 2 row(s) returned
26 17:48:10 SELECT item_name,S.bill_date FROM ITEM I,SALE S WHERE I.item_id=S.item_id AND S.bill_date=CURDAT... 0 row(s) returned
27 17:49:12 SELECT item_name,qty_sold, price,(qty_sold * price) AS total_amount FROM customer, item, sale WHER... 4 row(s) returned

CYCLE 3

QUESTION SET 3

Create the following tables.

- Primary key, SSN of EMPLOYEE should be created as a sequence starting at 1.
- There should be at least 8 employees and 5 departments
- Check salary range of employees is between 30,000 and 75,000 using check predicate.

EMPLOYEE

Column	Constraint	Data Type	Remarks
SSN	PRIMARY KEY	NUMBER	Employee Number
ENAME	NOT NULL	CHARACTER	Employee Name
DESIG	---	CHARACTER	Designation
DNO	FOREIGN KEY (DEPARTMENT)	NUMBER	Dept. Number
DOJ	---	DATE	Date of Join
SALARY	---	NUMBER	Basic Salary

DEPARTMENT

Column	Constraint	Data Type	Remarks
DNUMBER	PRIMARY KEY	NUMBER	Department Number
DNAME	NOT NULL	CHARACTER	Department Name
LOC	---	CHARACTER	Dept. Location
MGRSSN	FOREIGN KEY (EMPLOYEE)	NUMBER	Dept. Manager Number

PROJECT

Column	Constraint	Data Type	Remarks
PNUMBER	PRIMARY KEY	NUMBER	Project Number
PNAME	NOT NULL	CHARACTER	Project Name
DNUM	FOREIGN KEY (DEPARTMENT)	NUMBER	Dept. Number

WORKS_IN

Column	Constraint	Data Type	Remarks
ESSN	FOREIGN KEY (EMPLOYEE)	NUMBER	Employee Number
PNO	FOREIGN KEY (PROJECT)	NUMBER	Project Number
HOURS	FOREIGN KEY (DEPARTMENT)	NUMBER	Total Hours

1. Retrieve all employees in department 5 whose salary is between Rs 30,000 and Rs 40,000.

Output

```
15 • UPDATE department SET mgrssn=2 WHERE dnumber=1;
16 • UPDATE department SET mgrssn=1 WHERE dnumber=2;
17 • UPDATE department SET mgrssn=3 WHERE dnumber=3;
18 • UPDATE department SET mgrssn=6 WHERE dnumber=4;
19 • UPDATE department SET mgrssn=7 WHERE dnumber=2;
20 • UPDATE department SET mgrssn=4 WHERE dnumber=5;
21 • UPDATE department SET mgrssn=5 WHERE dnumber=5;
22 • insert into Proj(pnumber,pname,dnum)values(11,'Bancs Trsry',3),(12,'Nielesan',5),(13,'World Bnk',1),(14,'Airlines',1),(15,'Amex',4);
23 • insert into Work_in(essn,pno)values(1,14),(4,13),(8,12),(6,15),(2,11),(3,13);
24 • select * from Work_in;
25 • SELECT e.ename FROM employe e LEFT OUTER JOIN department d on d.dnumber=e.dno WHERE e.salary BETWEEN 30000 AND 40000 AND d.dnumber=5;
26
```

Result Grid

ename
Diya
Govind

2. Retrieve a list of employees and the projects they are working on, where the departments and the employees within the department are alphabetically by name.

Output

```
15 • UPDATE department SET mgrssn=2 WHERE dnumber=1;
16 • UPDATE department SET mgrssn=1 WHERE dnumber=2;
17 • UPDATE department SET mgrssn=3 WHERE dnumber=3;
18 • UPDATE department SET mgrssn=6 WHERE dnumber=4;
19 • UPDATE department SET mgrssn=7 WHERE dnumber=2;
20 • UPDATE department SET mgrssn=4 WHERE dnumber=5;
21 • UPDATE department SET mgrssn=5 WHERE dnumber=5;
22 • insert into Proj(pnumber,pname,dnum)values(11,'Bancs Trsry',3),(12,'Nielesan',5),(13,'World Bnk',1),(14,'Airlines',1),(15,'Amex',4);
23 • insert into Work_in(essn,pno)values(1,14),(4,13),(8,12),(6,15),(2,11),(3,13);
24 • select * from Work_in;
25 • SELECT e.ename FROM employe e LEFT OUTER JOIN department d on d.dnumber=e.dno WHERE e.salary BETWEEN 30000 AND 40000 AND d.dnumber=5;
26 • SELECT e.ename,d.dname FROM employe e LEFT OUTER JOIN department d on e.dno=d.dnumber ORDER BY d.dname ASC,e.ename ASC;
27
```

Result Grid

ename	dname
Bhama	Admin
Hima	Finance
Hima	Finance
Abhi	HR
Diya	Production
Govind	Production
Hima	Production
Chriz	Sales

Result 5

3. Retrieve the project number, the project name, and the number of employees who work in each project.

Output

```
UPDATE department SET mgrssn=4 WHERE dnumber=5;
UPDATE department SET mgrssn=5 WHERE dnumber=5;
insert into Proj(pnumber,pname,dnum)values(11,'Bancs Trsry',3),(12,'Nielesan',5),(13,'World Bnk',1),(14,'Airlines',1),(15,'Amex',4);
insert into Work_in(essn,pno)values(1,14),(4,13),(8,12),(6,15),(2,11),(3,13);
select * from Work_in;
SELECT e.ename FROM employe e LEFT OUTER JOIN department d on d.dnumber=e.dno WHERE e.salary BETWEEN 30000 AND 40000 AND d.dnumber=5;
SELECT e.ename,d.dname FROM employe e LEFT OUTER JOIN department d on e.dno=d.dnumber ORDER BY d.dname ASC,e.ename ASC;
SELECT p.pnumber,p.pname,count(e.ssn) FROM Work_in w LEFT OUTER JOIN Proj p on w.pno=p.pnumber LEFT OUTER JOIN employe e on w.essn=e.ssn GROUP BY p.pname,p.pnumber;
```

pnumber	pname	count(e.ssn)
14	Airlines	1
13	World Bnk	2
12	Nielesan	1
15	Amex	1
11	Bancs Trsry	1

4. For the project on which more than two employees work, retrieve the project number, the project name, and the number of employees who work on the project.

Output

```
UPDATE department SET mgrssn=7 WHERE dnumber=2;
UPDATE department SET mgrssn=4 WHERE dnumber=5;
UPDATE department SET mgrssn=5 WHERE dnumber=5;
insert into Proj(pnumber,pname,dnum)values(11,'Bancs Trsry',3),(12,'Nielesan',5),(13,'World Bnk',1),(14,'Airlines',1),(15,'Amex',4);
insert into Work_in(essn,pno)values(1,14),(4,13),(8,12),(6,15),(2,11),(3,13);
select * from Work_in;
SELECT e.ename FROM employe e LEFT OUTER JOIN department d on d.dnumber=e.dno WHERE e.salary BETWEEN 30000 AND 40000 AND d.dnumber=5;
SELECT e.ename,d.dname FROM employe e LEFT OUTER JOIN department d on e.dno=d.dnumber ORDER BY d.dname ASC,e.ename ASC;
SELECT p.pnumber,p.pname,count(e.ssn) FROM Work_in w LEFT OUTER JOIN Proj p on w.pno=p.pnumber LEFT OUTER JOIN employe e on w.essn=e.ssn GROUP BY p.pname,p.pnumber;
SELECT p.pnumber,p.pname,count(e.ssn) FROM Work_in w LEFT OUTER JOIN Proj p on w.pno=p.pnumber LEFT OUTER JOIN employe e on w.essn=e.ssn GROUP BY p.pname,p.pnumber HAVI
```

pnumber	pname	count(e.ssn)

5. For each project, retrieve the project number, the project name, and the number of employees from department 5 who work on the project.

Output

```
UPDATE department SET mgrssn=7 WHERE dnumber=2;
UPDATE department SET mgrssn=4 WHERE dnumber=5;
UPDATE department SET mgrssn=5 WHERE dnumber=5;
insert into Proj(pnumber,pname,dnum)values(11,'Bancs Trsry',3),(12,'Nielesan',5),(13,'World Bnk',1),(14,'Airlines',1),(15,'Amex',4);
insert into Work_in(essn,pno)values(1,14),(4,13),(8,12),(6,15),(2,11),(3,13);
select * from Work_in;
SELECT e.ename FROM employe e LEFT OUTER JOIN department d on d.dnumber=e.dno WHERE e.salary BETWEEN 30000 AND 40000 AND d.dnumber=5;
SELECT e.ename,d.dname FROM employe e LEFT OUTER JOIN department d on e.dno=d.dnumber ORDER BY d.dname ASC,e.ename ASC;
SELECT p.pnumber,p.pname,count(e.ssn) FROM Work_in w LEFT OUTER JOIN Proj p on w.pno=p.pnumber LEFT OUTER JOIN employe e on w.essn=e.ssn GROUP BY p.pname,p.pnumber;
SELECT p.pnumber,p.pname,d.dnumber,count(e.ssn) FROM Proj p LEFT OUTER JOIN department d on d.dnumber=p.dnum LEFT OUTER JOIN employe e on e.dno=p.dnum GROUP BY p.pname,p.pnumb
```

pnumber	pname	dnumber	count(e.ssn)
12	Nielesan	5	3

6. For the departments having more than five employees, display the department id and the number and details of employees earning more than Rs 40,000 per month.

Output

```
21  UPDATE department SET mgrssn=5 WHERE dnumber=5;
22  insert into Proj(pnumber,pname,dnum)values(11,'Bancs Trsry',3),(12,'Nielesan',5),(13,'World Bnk',1),(14,'Airlines',1),(15,'Amex',4);
23  insert into Work_in(essn,pno)values(1,14),(4,13),(8,12),(6,15),(2,11),(3,13);
24  select * from Work_in;
25  SELECT e.ename FROM employe e LEFT OUTER JOIN department d on d.dnumber=e.dno WHERE e.salary BETWEEN 30000 AND 40000 AND d.dnumber=5;
26  SELECT e.ename,d.dname FROM employe e LEFT OUTER JOIN department d on e.dno=d.dnumber ORDER BY d.dname ASC,e.ename ASC;
27  SELECT p.pnumber,p.pname,count(e.ssn) FROM Work_in w LEFT OUTER JOIN Proj p on w.pno=p.pnumber LEFT OUTER JOIN employe e on w.essn=e.ssn GROUP BY p.pname,p.pnumber;
28  SELECT d.dname,d.dnumber,e.ssn,e.ename,e.design,e.doj,e.salary FROM department d,employe e WHERE
29   (SELECT COUNT(*) FROM employe e WHERE e.dno = d.dnumber AND e.salary> 40000) > 4 AND e.dno=d.dnumber GROUP BY d.dname,d.dnumber,e.ssn,e.ename,e.design,e.doj,e.salary;
30
```

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

dname	dnumber	ssn	ename	design	doj	salary

7. Create a synonym for the VIEW created on natural join of emp and dept tables.

Output

8. Use the tables Employee, and Department. Perform the operations as mentioned below:

(a) Display the employee details, departments that the departments are same in both the emp and dept. (Equi-join)

Output

```
22  insert into Proj(pnumber,pname,dnum)values(11,'Bancs Trsry',3),(12,'Nielesan',5),(13,'World Bnk',1),(14,'Airlines',1),(15,'Amex',4);
23  insert into Work_in(essn,pno)values(1,14),(4,13),(8,12),(6,15),(2,11),(3,13);
24  select * from Work_in;
25  SELECT e.ename FROM employe e LEFT OUTER JOIN department d on d.dnumber=e.dno WHERE e.salary BETWEEN 30000 AND 40000 AND d.dnumber=5;
26  SELECT e.ename,d.dname FROM employe e LEFT OUTER JOIN department d on e.dno=d.dnumber ORDER BY d.dname ASC,e.ename ASC;
27  SELECT p.pnumber,p.pname,count(e.ssn) FROM Work_in w LEFT OUTER JOIN Proj p on w.pno=p.pnumber LEFT OUTER JOIN employe e on w.essn=e.ssn GROUP BY p.pname,p.pnumber;
28  create VIEW emp_dept_view as select  * from employe NATURAL JOIN department;
29  CREATE ANY SYNONYM emp_dept for employe_dept_view;
30  select * from emp_dept;
31  Select * From employe e,department d WHERE e.dno=d.dnumber;
```

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

ssn	ename	design	dno	doj	salary	dnumber	dname	loc	mgrssn
1	Abhi	HR	2	2009-07-12	70000	2	HR	Chennai	7
2	Bhama	Admin	1	2008-03-10	75000	1	Admin	Chennai	2
3	Chriz	Sales	3	2011-06-23	35000	3	Sales	Kochi	3
4	Diya	Production	5	2018-09-29	32000	5	Production	Thiruvananthapuram	5
5	Govind	Production	5	1995-06-21	35000	5	Production	Thiruvananthapuram	5
6	Hima	Finance	4	2002-04-01	51000	4	Finance	Delhi	6

(b) Display the employee details, departments that the departments are not same in both the emp and dept. (Non Equi-join)

Output

```
insert into Work_in(essn,pno)values(1,14),(4,13),(8,12),(6,15),(2,11),(3,13);
select * from Work_in;
SELECT e.ename FROM employe e LEFT OUTER JOIN department d on d.dnumber=e.dno WHERE e.salary BETWEEN 30000 AND 40000 AND d.dnumber=5;
SELECT e.ename,d.dname FROM employe e LEFT OUTER JOIN department d on e.dno=d.dnumber ORDER BY d.dname ASC,e.ename ASC;
SELECT p.pnumber,p.pname,count(e.ssn) FROM Work_in w LEFT OUTER JOIN Proj p on w.pno=p.pnumber LEFT OUTER JOIN employe e on w.essn=e.ssn GROUP BY p.pname,p.pnumber;
create VIEW emp_dept_view as select  * from employe NATURAL JOIN department;
CREATE ANY SYNONYM emp_dept for employe_dept_view;
select * from emp_dept;
Select * From employe e,department d WHERE e.dno=d.dnumber;
SELECT * FROM employe e,department d WHERE NOT(e.dno=d.dnumber);
```

ssn	ename	design	dno	doj	salary	dnumber	dname	loc	mgrssn
1	Abhi	HR	2	2009-07-12	70000	5	Production	Thiruvananthapuram	5
1	Abhi	HR	2	2009-07-12	70000	4	Finance	Delhi	6
1	Abhi	HR	2	2009-07-12	70000	3	Sales	Kochi	3
1	Abhi	HR	2	2009-07-12	70000	1	Admin	Chennai	2
2	Bhama	Admin	1	2008-03-10	75000	5	Production	Thiruvananthapuram	5
2	Bhama	Admin	1	2008-03-10	75000	4	Finance	Delhi	6

(c) Perform Left outer join on the emp and dept tables.

Output

```
select * from Work_in;
SELECT e.ename FROM employe e LEFT OUTER JOIN department d on d.dnumber=e.dno WHERE e.salary BETWEEN 30000 AND 40000 AND d.dnumber=5;
SELECT e.ename,d.dname FROM employe e LEFT OUTER JOIN department d on e.dno=d.dnumber ORDER BY d.dname ASC,e.ename ASC;
SELECT p.pnumber,p.pname,count(e.ssn) FROM Work_in w LEFT OUTER JOIN Proj p on w.pno=p.pnumber LEFT OUTER JOIN employe e on w.essn=e.ssn GROUP BY p.pname,p.pn
create VIEW emp_dept_view as select  * from employe NATURAL JOIN department;
CREATE ANY SYNONYM emp_dept for employe_dept_view;
select * from emp_dept;
Select * From employe e,department d WHERE e.dno=d.dnumber;
SELECT * FROM employe e,department d WHERE NOT(e.dno=d.dnumber);
SELECT * FROM employe e LEFT OUTER JOIN department d ON e.dno=d.dnumber;
```

ssn	ename	design	dno	doj	salary	dnumber	dname	loc	mgrssn
1	Abhi	HR	2	2009-07-12	70000	2	HR	Chennai	7
2	Bhama	Admin	1	2008-03-10	75000	1	Admin	Chennai	2
3	Chriz	Sales	3	2011-06-23	35000	3	Sales	Kochi	3
4	Diya	Production	5	2018-09-29	32000	5	Production	Thiruvananthapuram	5
5	Govind	Production	5	1995-06-21	35000	5	Production	Thiruvananthapuram	5
6	Hima	Finance	4	2002-04-01	51000	4	Finance	Delhi	6

(d) Perform Right outer join on the emp and dept tables.

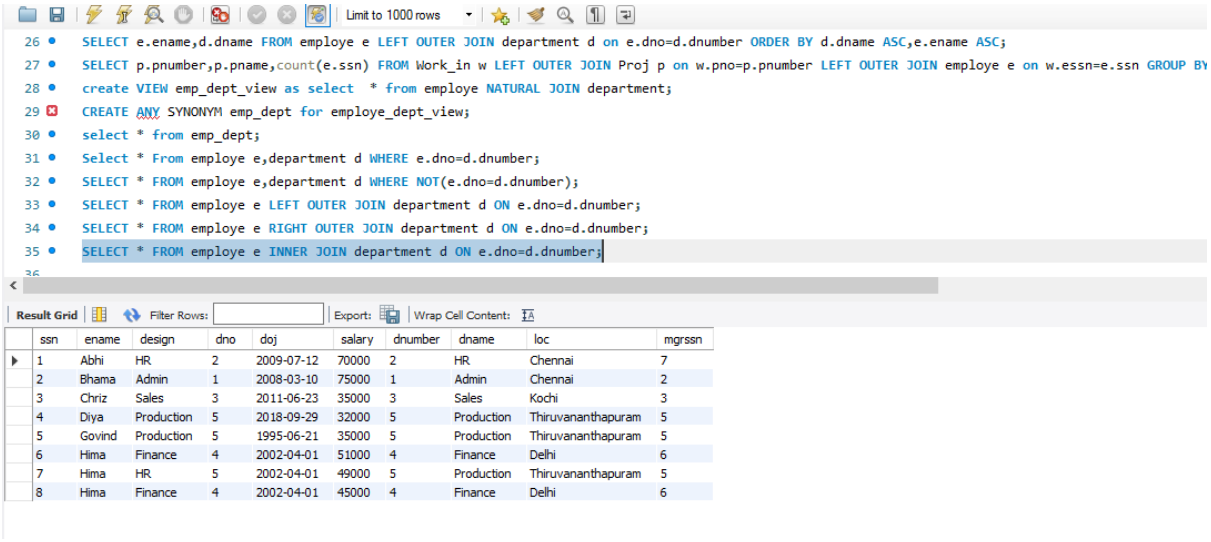
Output

```
SELECT e.ename FROM employe e LEFT OUTER JOIN department d on d.dnumber=e.dno WHERE e.salary BETWEEN 30000 AND 40000 AND d.dnumber=5;
SELECT e.ename,d.dname FROM employe e LEFT OUTER JOIN department d on e.dno=d.dnumber ORDER BY d.dname ASC,e.ename ASC;
SELECT p.pnumber,p.pname,count(e.ssn) FROM Work_in w LEFT OUTER JOIN Proj p on w.pno=p.pnumber LEFT OUTER JOIN employe e on w.essn=e.ssn GROUP BY p.pname,p.pnumber;
create VIEW emp_dept_view as select  * from employe NATURAL JOIN department;
CREATE ANY SYNONYM emp_dept for employe_dept_view;
select * from emp_dept;
Select * From employe e,department d WHERE e.dno=d.dnumber;
SELECT * FROM employe e,department d WHERE NOT(e.dno=d.dnumber);
SELECT * FROM employe e LEFT OUTER JOIN department d ON e.dno=d.dnumber;
SELECT * FROM employe e RIGHT OUTER JOIN department d ON e.dno=d.dnumber;
```

ssn	ename	design	dno	doj	salary	dnumber	dname	loc	mgrssn
2	Bhama	Admin	1	2008-03-10	75000	1	Admin	Chennai	2
1	Abhi	HR	2	2009-07-12	70000	2	HR	Chennai	7
3	Chriz	Sales	3	2011-06-23	35000	3	Sales	Kochi	3
8	Hima	Finance	4	2002-04-01	45000	4	Finance	Delhi	6
6	Hima	Finance	4	2002-04-01	51000	4	Finance	Delhi	6
7	Hima	HR	5	2002-04-01	49000	5	Production	Thiruvananthapuram	5
5	Govind	Production	5	1995-06-21	35000	5	Production	Thiruvananthapuram	5
4	Diya	Production	5	2018-09-29	32000	5	Production	Thiruvananthapuram	5

(e) Perform inner join on the emp and dept tables.

Output



```
26  SELECT e.ename,d.dname FROM employe e LEFT OUTER JOIN department d on e.dno=d.dnumber ORDER BY d.dname ASC,e.ename ASC;
27  SELECT p.pnumber,p.pname,count(e.ssn) FROM Work_in w LEFT OUTER JOIN Proj p on w.pno=p.pnumber LEFT OUTER JOIN employe e on w.essn=e.ssn GROUP BY
28  create VIEW emp_dept_view as select  * from employe NATURAL JOIN department;
29  CREATE ANY SYNONYM emp_dept for employe_dept_view;
30  select * from emp_dept;
31  Select * From employe e,department d WHERE e.dno=d.dnumber;
32  SELECT * FROM employe e,department d WHERE NOT(e.dno=d.dnumber);
33  SELECT * FROM employe e LEFT OUTER JOIN department d ON e.dno=d.dnumber;
34  SELECT * FROM employe e RIGHT OUTER JOIN department d ON e.dno=d.dnumber;
35  SELECT * FROM employe e INNER JOIN department d ON e.dno=d.dnumber;
```

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

ssn	ename	design	dno	doj	salary	dnumber	dname	loc	mgrssn
1	Abhi	HR	2	2009-07-12	70000	2	HR	Chennai	7
2	Bhama	Admin	1	2008-03-10	75000	1	Admin	Chennai	2
3	Chriz	Sales	3	2011-06-23	35000	3	Sales	Kochi	3
4	Diya	Production	5	2018-09-29	32000	5	Production	Thiruvananthapuram	5
5	Govind	Production	5	1995-06-21	35000	5	Production	Thiruvananthapuram	5
6	Hima	Finance	4	2002-04-01	51000	4	Finance	Delhi	6
7	Hima	HR	5	2002-04-01	49000	5	Production	Thiruvananthapuram	5
8	Hima	Finance	4	2002-04-01	45000	4	Finance	Delhi	6

CYCLE 4

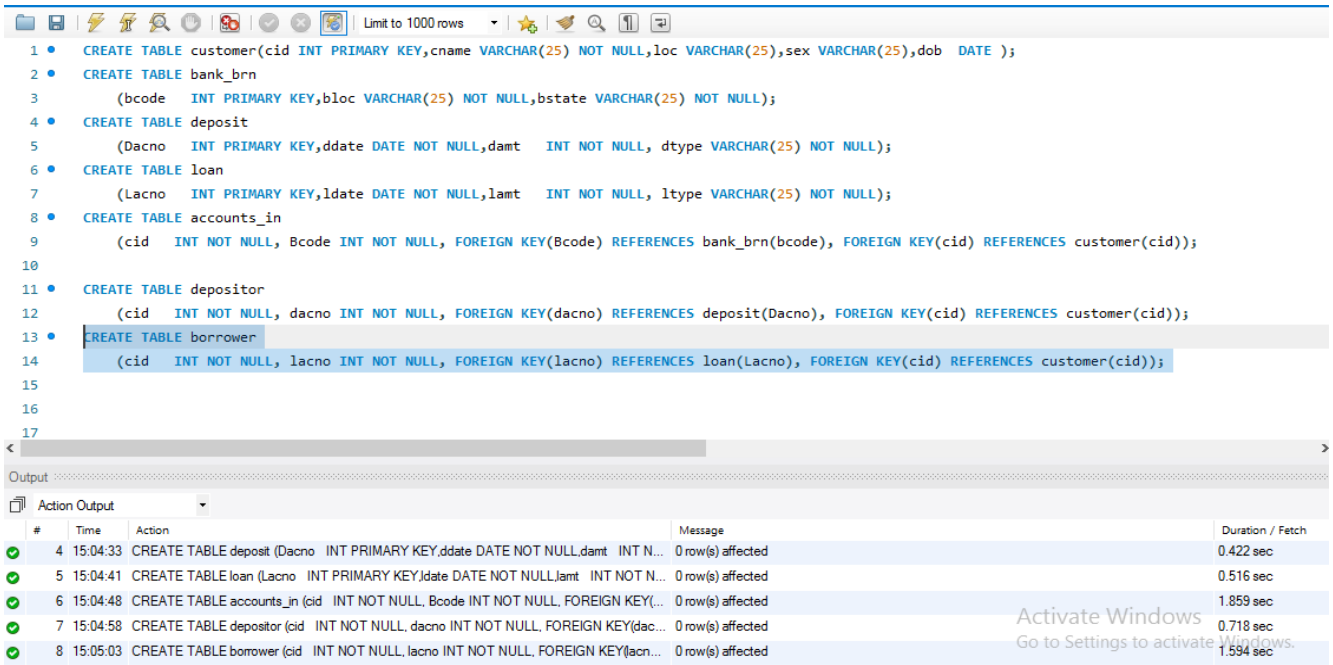
QUESTION SET 6

Consider the database for a banking enterprise. Write the queries for the below questions.

(i) Create the following tables

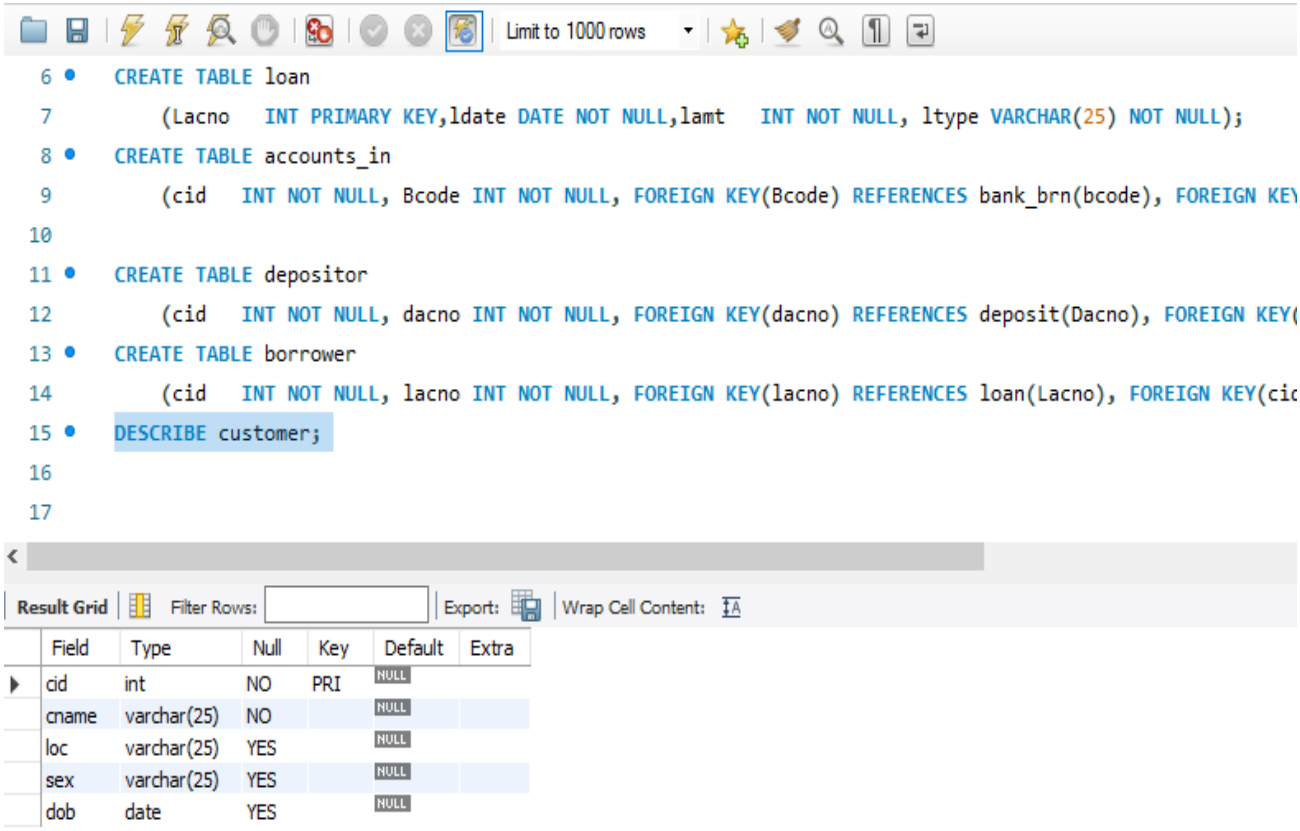
Table	Attributes
customer	cid,cname,loc,sex,dob
Bank_brn	bcode,bloc,bsate
Deposit	Dacno,dtype,ddate,damt
Loan	Lacno,ltype,ldate,lamt
Accounts_in	Bcode,cid
depositor	cid,dacno
borrower	cid,lacno

Output



(ii) Include necessary constraints.

Output



(iii)Tables are created under the database ‘bank’

Output:

```
4  CREATE TABLE deposit
5      (Dacno   INT PRIMARY KEY,ddate DATE NOT NULL,damt   INT NOT NULL, dtype VARCHAR(25) NOT NULL);
6  CREATE TABLE loan
7      (Lacno   INT PRIMARY KEY,ldate DATE NOT NULL,lamt   INT NOT NULL, ltype VARCHAR(25) NOT NULL);
8  CREATE TABLE accounts_in
9      (cid   INT NOT NULL, Bcode INT NOT NULL, FOREIGN KEY(Bcode) REFERENCES bank_brn(bcode), FOREIGN KEY(cid) R
10
11 CREATE TABLE depositor
12     (cid   INT NOT NULL, dacno INT NOT NULL, FOREIGN KEY(dacno) REFERENCES deposit(Dacno), FOREIGN KEY(cid) RE
13 CREATE TABLE borrower
14     (cid   INT NOT NULL, lacno INT NOT NULL, FOREIGN KEY(lacno) REFERENCES loan(Lacno), FOREIGN KEY(cid) REFER
15 DESCRIBE borrower;
```

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

Field	Type	Null	Key	Default	Extra
cid	int	NO	MUL	NULL	
lacno	int	NO	MUL	NULL	

(iv) Display all the tables in bank database

Output;

```
5      (Dacno   INT PRIMARY KEY,ddate DATE NOT NULL,damt   INT NOT NULL, dtype VARCHAR(25) NOT NULL);
6  CREATE TABLE loan
7      (Lacno   INT PRIMARY KEY,ldate DATE NOT NULL,lamt   INT NOT NULL, ltype VARCHAR(25) NOT NULL);
8  CREATE TABLE accounts_in
9      (cid   INT NOT NULL, Bcode INT NOT NULL, FOREIGN KEY(Bcode) REFERENCES bank_brn(bcode), FOREIGN KEY(cid) REFE
10
11 CREATE TABLE depositor
12     (cid   INT NOT NULL, dacno INT NOT NULL, FOREIGN KEY(dacno) REFERENCES deposit(Dacno), FOREIGN KEY(cid) REFER
13 CREATE TABLE borrower
14     (cid   INT NOT NULL, lacno INT NOT NULL, FOREIGN KEY(lacno) REFERENCES loan(Lacno), FOREIGN KEY(cid) REFERENC
15 DESCRIBE bank.borrower;
16 show tables;
17
```

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

Tables_in_bank
accounts_in
bank_brn
borrower
customer
deposit
depositor
loan

(v) Describe the structure of all tables

Output:

```
5          (Dacno   INT PRIMARY KEY,ddate DATE NOT NULL,damt   INT NOT NULL, dtype V
6  •   CREATE TABLE loan
7          (Lacno   INT PRIMARY KEY,ldate DATE NOT NULL,lamt   INT NOT NULL, ltype V
8  •   CREATE TABLE accounts_in
9          (cid   INT NOT NULL, Bcode INT NOT NULL, FOREIGN KEY(Bcode) REFERENCES ba
10
11 •   CREATE TABLE depositor
12         (cid   INT NOT NULL, dacno INT NOT NULL, FOREIGN KEY(dacno) REFERENCES de
13 •   CREATE TABLE borrower
14         (cid   INT NOT NULL, lacno INT NOT NULL, FOREIGN KEY(lacno) REFERENCES lo
15 •   DESCRIBE bank.borrower;
16 •   show tables;
17 •   DESCRIBE loan;
18
```

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

Field	Type	Null	Key	Default	Extra
Lacno	int	NO	PRI	NULL	
ldate	date	NO		NULL	
lamt	int	NO		NULL	
ltype	varchar(25)	NO		NULL	

```
6  CREATE TABLE loan
7      (Lacno   INT PRIMARY KEY,ldate DATE NOT NULL,lamt   INT NOT NUL
8  CREATE TABLE accounts_in
9      (cid   INT NOT NULL, Bcode INT NOT NULL, FOREIGN KEY(Bcode) REF
10
11 CREATE TABLE depositor
12     (cid   INT NOT NULL, dacno INT NOT NULL, FOREIGN KEY(dacno) REF
13 CREATE TABLE borrower
14     (cid   INT NOT NULL, lacno INT NOT NULL, FOREIGN KEY(lacno) REF
15 DESCRIBE bank.borrower;
16 show tables;
17 DESCRIBE loan;
18 DESCRIBE accounts_in;
19
```

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

Field	Type	Null	Key	Default	Extra
cid	int	NO	MUL	NULL	
Bcode	int	NO	MUL	NULL	

(vi) Delete tables.

Output;

```
2  CREATE TABLE bank_brn
3      (bcode   INT PRIMARY KEY,bloc VARCHAR(25) NOT NULL,bstate VARCHAR(25) NOT NULL);
4  CREATE TABLE deposit
5      (Dacno   INT PRIMARY KEY,ddate DATE NOT NULL,damt   INT NOT NULL, dtype VARCHAR(25) NOT NULL);
6  CREATE TABLE loan
7      (Lacno   INT PRIMARY KEY,ldate DATE NOT NULL,lamt   INT NOT NULL, ltype VARCHAR(25) NOT NULL);
8  CREATE TABLE accounts_in
9      (cid   INT NOT NULL, Bcode INT NOT NULL, FOREIGN KEY(Bcode) REFERENCES bank_brn(bcode), FOREIGN KEY(cid
10
11 CREATE TABLE depositor
12     (cid   INT NOT NULL, dacno INT NOT NULL, FOREIGN KEY(dacno) REFERENCES deposit(Dacno), FOREIGN KEY(cid)
13 CREATE TABLE borrower
14     (cid   INT NOT NULL, lacno INT NOT NULL, FOREIGN KEY(lacno) REFERENCES loan(Lacno), FOREIGN KEY(cid) RE
15 DESCRIBE bank.borrower;
16 show tables;
17 DESCRIBE loan;
18 DESCRIBE accounts_in;
19 drop table borrower,depositor,accounts_in,loan,customer;
```

Output

Action Output

#	Time	Action	Message
24	15:51:08	DESCRIBE loan	4 row(s) returned
25	15:51:52	DESCRIBE accounts_in	2 row(s) returned
26	15:54:03	drop table borrower,depositor,account_in,loan,customer	Error Code: 1051. Unknown table 'bank.account_in'
27	15:54:29	drop table borrower,depositor,accounts_in,loan,customer	0 row(s) affected

Q.SET 8

Consider the following database for a banking enterprise.

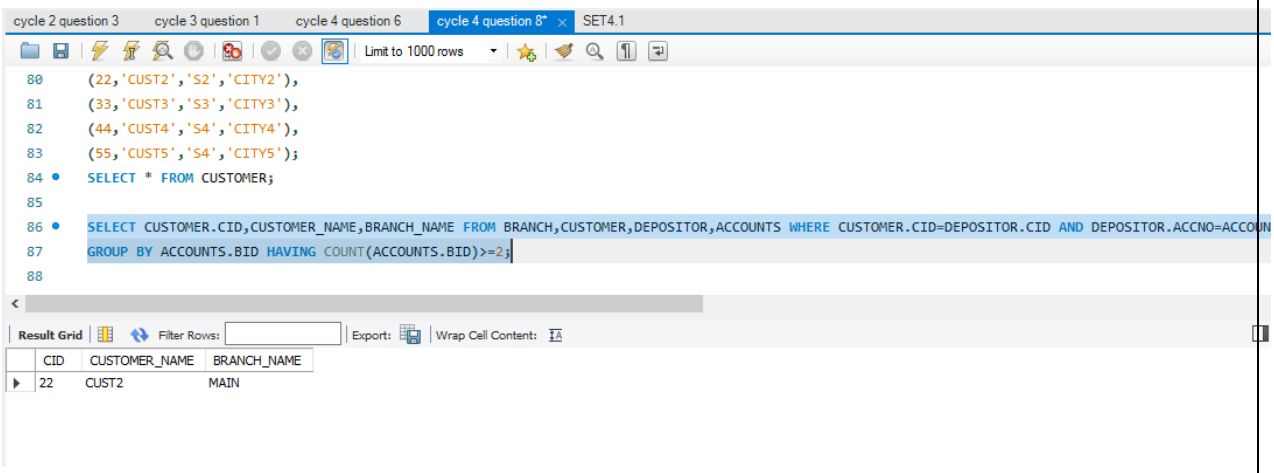
- BRANCH (bid:int, branch-name: String, branch-city: String, assets: int)
- ACCOUNTS (accno: int, bid:int, balance: int)
- DEPOSITOR (cid:int, accno: int)
- CUSTOMER(cid:int, customer-name:String,customer-street:String,customer-city: String)

Set primary key and foreign keys and insert valid records based on questions.

Write SQL queries to

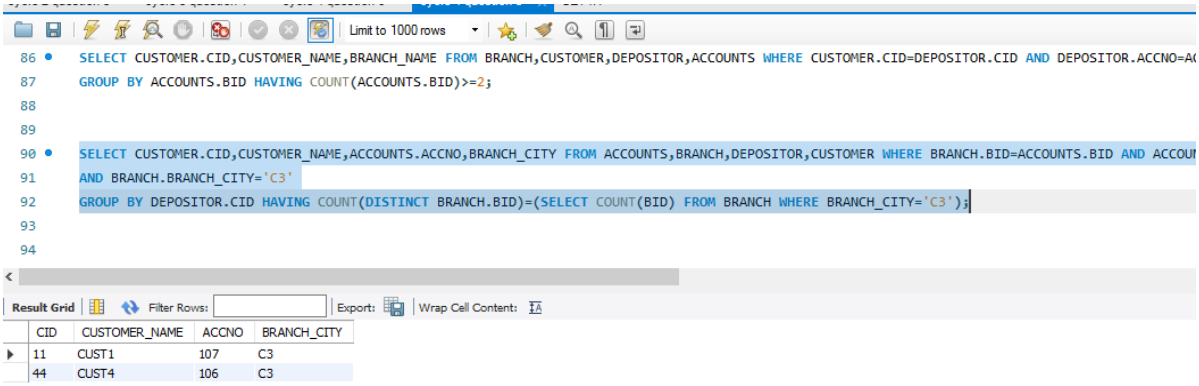
1. Find all the customers who have at least two accounts at the Mainbranch.

Output



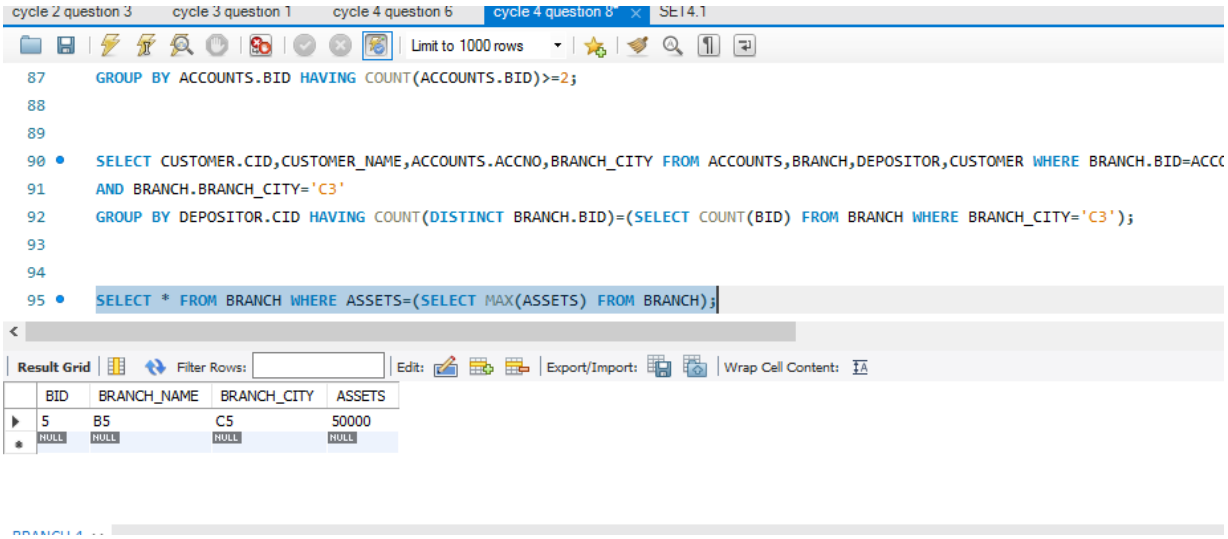
2. Find all the customers who have an account at all the branches located in a specific city.

Output



3. Find the branch with greatest asset.

Output



4. Find the customer with highest balance.

Output