EXPERIMENT NO. 1

AIM

To study various DDL commands – CREATE, ALTER, DROP, TRUNGATE, RENAME

Question

Create the following Tables

Table 1: DEPOSIT

ACTNO VARCHAR2(5) PRIMARY KEY, FIRST LETTER MUST START WITH 'D'

CNAME VARCHAR2(15) FOREIGN KEY REFERENCES CUSTOMER

BNAME VARCHAR2(20) FOREIGN KEY REFERENCES BRANCH

AMOUNT NUMBER (8,2) NOT NULL, CANNOT BE 0

ADATE DATE

Table 2: BRANCH

BNAME VARCHAR2(20) PRIMARY KEY

CITY VARCHAR2(30) NOT NULL , any one of NAGPUR, DELHI, BANGALORE, BOMBAY

Table 3: CUSTOMER

CNAME VARCHAR2(15) PRIMARY KEY

CITY VARCHAR2(20) NOT NULL ,

Table 4: BORROW

LOANNO VARCHAR2(8) PRIMARY KEY / FIRST LETTER MUST START WITH 'L'

CNAME VARCHAR2(15) FOREIGN KEY REFERENCES CUSTOMER

BNAME VARCHAR2(20) FOREIGN KEY REFERENCES BRANCH

AMOUNT NUMBER(8,2) NOT NULL, CANNOT BE 0

INSERTION OF VALUES

1. Inserting values to Branch

VRCE	NAGPUR
AJNI	NAGPUR
KAROLBAGH	DELHI
CHANDNI	DELHI
DHARAMPETH	NAGPUR
MG ROAD	BANGALORE

ANDHERI	BOMBAY
NEHRU PALACE	DELHI
POWAI	BOMBAY

2. Inserting values into Customer table

ANIL	CALCUTTA
SUNIL	DELHI
MEHUL	BARODA
MANDAR	PATNA
MADHURI	NAGPUR
PRAMOD	NAGPUR
SANDIP	SURAT
SHIVANI	BOMBAY
KRANTI	BOMBAY
NAREN	BOMBAY

3. Inserting values into Deposite table

Actno	Cname	Bname	Amount	Adate
D100	ANIL	VRCE	1000.00	1-MAR-95
D101	SUNIL	ANJNI	500.00	4-JAN-96
D102	MEHUL	KAROLBAGH	3500.00	17-NOV-95
D104	MADHURI	CHANDNI	1200.00	17-DEC-95
D105	PRAMOD	MG ROAD	3000.00	27-MAR-96
D106	SANDIP	ANDHERI	2000.00	31-MAR-96
D107	SHIVANI	VIRAR	1000.00	5-SEP-95
D108	KRANTI	NEHRU PLACE	5000.00	2-JUL-95
D109	MINU	POWAI	7000.00	10-AUG-95

4. Inserting values into borrow table

L201	ANIL	VRCE	1000.00
L206	MEHUL	AJNI	5000.00
L311	SUNIL	DHARAMPETH	3000.00
L321	MADHURI	ANDHERI	2000.00
L371	PRAMOD	VIRAR	8000.00
L481	KRANTI	NEHRU PLACE	3000.00

Procedure

CREATE DATABASE BANK;

USE BANK;

CREATE TABLE **BRANCH** (BNAME VARCHAR(20) NOT NULL PRIMARY KEY,CITY VARCHAR (30) NOT NULL);

INSERT INTO BRANCH (BNAME, CITY)

VALUES (AJNI, NAGPUR),

(ANDHERI, BOMBAY),

(CHANDNI, DELHI),

(DHARAMPETH, NAGPUR),

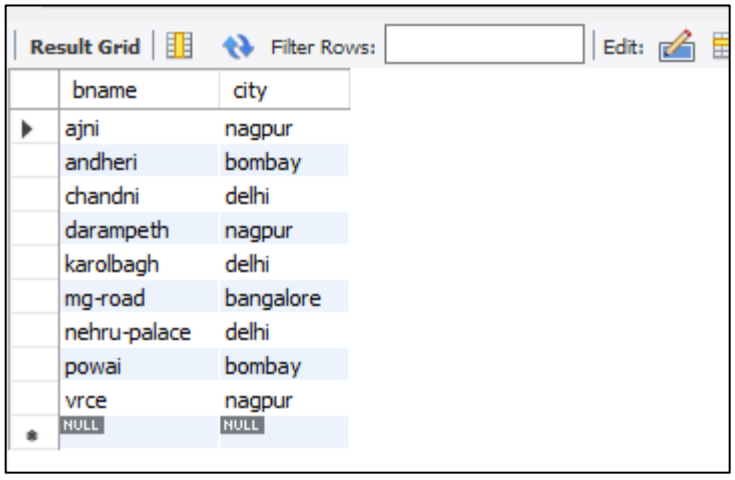
(KAROLBAGH, DELHI),

(MG ROAD, BANGALORE),

(NEHRU PALACE, DELHI),

(POWAI, BOMBAY),

(VRCE, NAGPUR);



bname	city
ajni	nagpur
andheri	bombay
chandni	delhi
darampeth	nagpur
karolbagh	delhi
mg-road	bangalore
nehru-palace	delhi
powai	bombay
vrce	nagpur
NULL	NULL

CREATE TABLE **CUSTOMER(**CNAME VARCHAR(15) PRIMARY KEY ,CITY VARCHAR (20) NOT NULL);

INSERT INTO CUSTOMER VALUES ('ANIL' ,'CALCUTTA');

INSERT INTO CUSTOMER VALUES ('KRANTI' ,'BOMBAY');

INSERT INTO CUSTOMER VALUES ('MEHUL' ,'BARODA');

INSERT INTO CUSTOMER VALUES ('NAREN' ,'BOMBAY');

INSERT INTO CUSTOMER VALUES ('MANDAR' ,'PATNA');

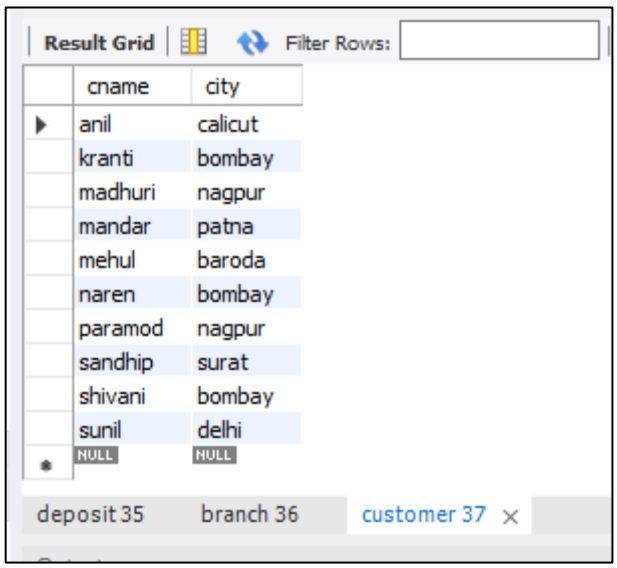
INSERT INTO CUSTOMER VALUES ('MADHURI' ,'NAGPUR');

INSERT INTO CUSTOMER VALUES ('PRAMOD' ,'NAGPUR');

INSERT INTO CUSTOMER VALUES ('SANDIP' ,'SURAT');

INSERT INTO CUSTOMER VALUES ('SHIVANI' ,'BOMBAY');

INSERT INTO CUSTOMER VALUES ('SUNIL' ,'DELHI');



CREATE TABLE DEPOSIT (ACTNO VARCHAR(5) CHECK (ACTNO LIKE 'D%') PRIMARY KEY ,CNAME VARCHAR (15) ,FOREIGN KEY (CNAME) REFERENCES CUSTOMER (CNAME),BNAME VARCHAR(30), FOREIGN KEY (BNAME) REFERENCES BRANCH(BNAME),AMOUNT INT NOT NULL, ADATE DATE);

INSERT INTO `DEPOSIT` (`ACTNO`, `CNAME`, `BNAME`, `AMOUNT`, `ADATE`)

VALUES

('D100', 'ANIL', 'VRCE', 1000, '1995-03-01'),

('D101', 'SUNIL', 'AJNI', 500, '1996-01-04'),

('D102', 'MEHUL', 'KAROLBAGH', 3500, '1995-11-17'),

('D104', 'MADHURI', 'CHANDNI', 1200, '1995-12-17'),

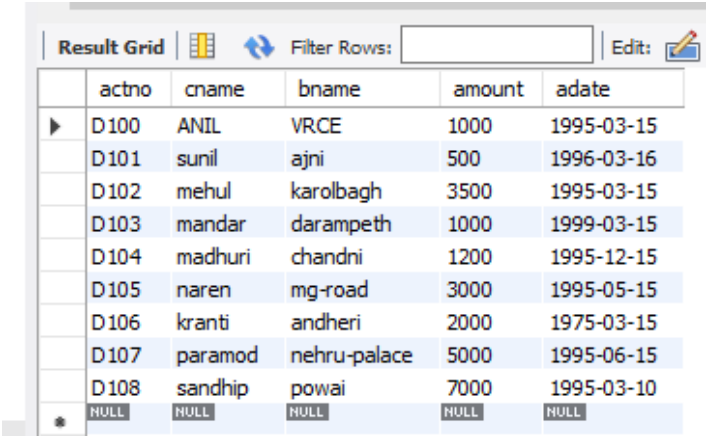
('D105', 'PRAMOD', 'MG ROAD', 3000, '1996-03-27'),

('D106', 'SANDIP ', 'ANDHERI', 2000, '1996-03-31'),

('D107', 'SHIVANI', 'VRCE', 1000, '1995-09-05'),

('D108', 'KRANTI', 'NEHRU PALACE', 5000, '1995-07-02'),

('D109', 'NAREN', 'POWAI', 7000, '1995-08-10');



Result Grid | Filter Rows: | Edit:

actno	cname	bname	amount	adate
D100	ANIL	VRCE	1000	1995-03-15
D101	sunil	ajni	500	1996-03-16
D102	mehul	karolbagh	3500	1995-03-15
D103	mandar	darampeth	1000	1999-03-15
D104	madhuri	chandni	1200	1995-12-15
D105	naren	mg-road	3000	1995-05-15
D106	kranti	andheri	2000	1975-03-15
D107	paramod	nehru-palace	5000	1995-06-15
D108	sandhip	powai	7000	1995-03-10
NULL	NULL	NULL	NULL	NULL

CREATE TABLE BORROW (LOANNO VARCHAR (15) CHECK (LOANNO

LIKE'L%')PRIMARY KEY ,CNAME VARCHAR (15) ,FOREIGN KEY (CNAME)

REFERENCES CUSTOMER (CNAME),BNAME VARCHAR(30), FOREIGN KEY (BNAME)

REFERENCES BRANCH(BNAME),AMOUNT INT NOT NULL);

INSERT INTO `BORROW` (`LOAN_NO`, `CNAME`, `BNAME`, `AMOUNT`) VALUES

('L201', 'ANIL', 'VRCE', 1000),

('L206', 'MEHUL', 'AJNI', 5000),

('L311', 'SUNIL', 'DHARAMPETH', 3000),

('L321', 'MADHURI', 'ANDHERI', 2000),

('L371', 'PRAMOD', 'VRCE', 8000),

('L481', 'KRANTI', 'NEHRU PALACE', 3000);

Result Grid | Filter Rows: | Edit:

LOANNO	CNAME	BNAME	AMOUNT
L201	ANIL	VRCE	1000
L206	MEHUL	AJNI	5000
L311	SUNIL	DHARAMPETH	3000
L321	MADHURI	ANDHERI	2000
L371	PRAMOD	VIRAR	8000
L481	KRANTI	NEHRU PLACE	3000
NULL	NULL	NULL	NULL

a)Questions

1. List all data from table deposite

2. List all data from borrow

3.List all data from customer

4.List all data from branch

5.Give account no and amount of deposite

6.Give customer name and account no of depositors

7.Give name of customers

8.Give name of branches

9.Give name of borrows

10.Give names of customer living in city Nagpur

11.Give names of depositors having amount greater than 4000

12.Give account date of Anil

13.Give name of all branches located in Bombay

14.Give name of borrower having loan number l205

15.Give names of depositors having account at VRCE

16.Give names of all branched located in city Delhi

17.Give name of the customers who opened account date ‘1-12-96’

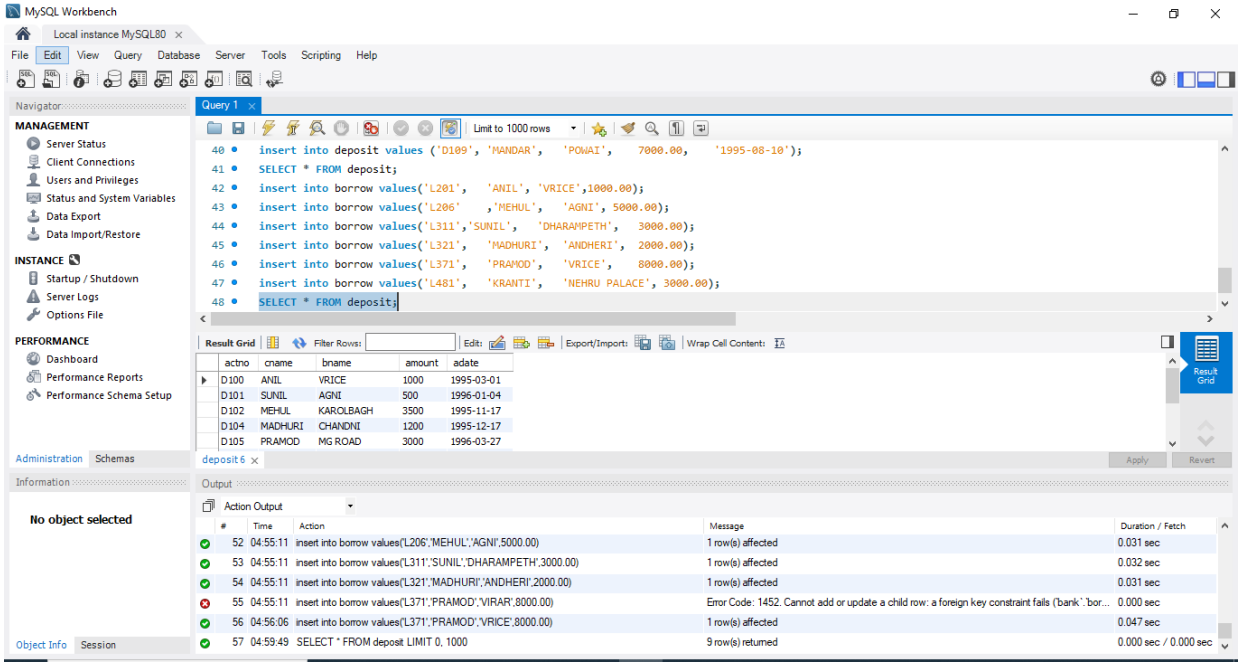
18.Give account no and deposit amount of customers having account opened between dates ‘1-12-96’ and ‘1-5-96’

19.Give name of the city where branch KAROLBAGH is located

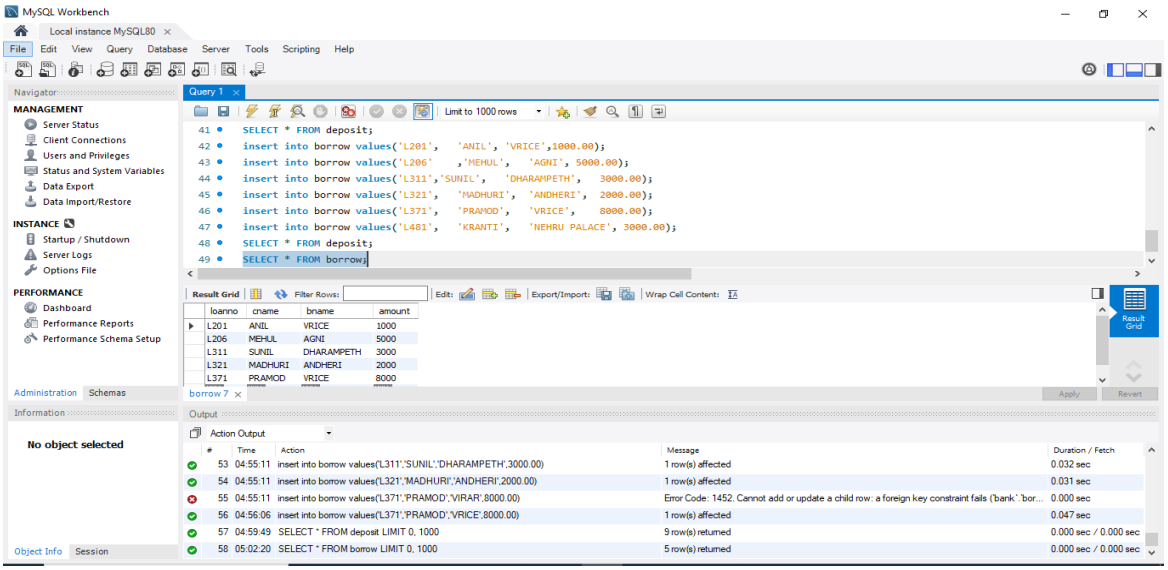
20.Give details of customer ANIL

Procedure

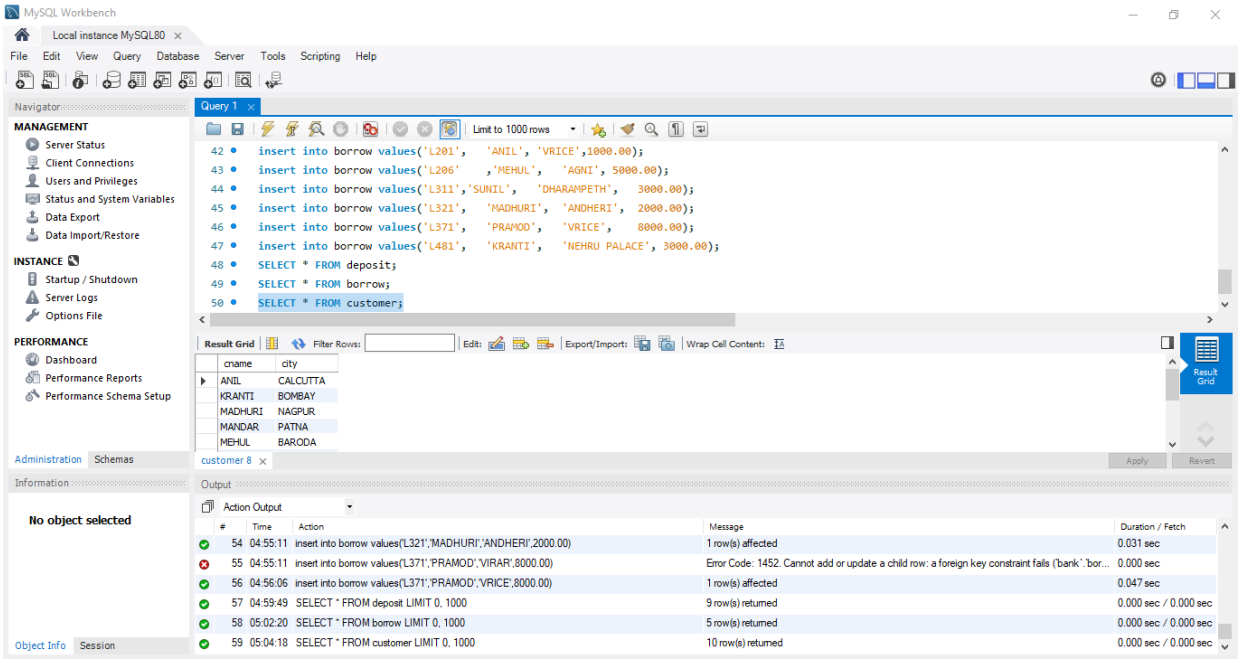
1 List all data from table deposit-



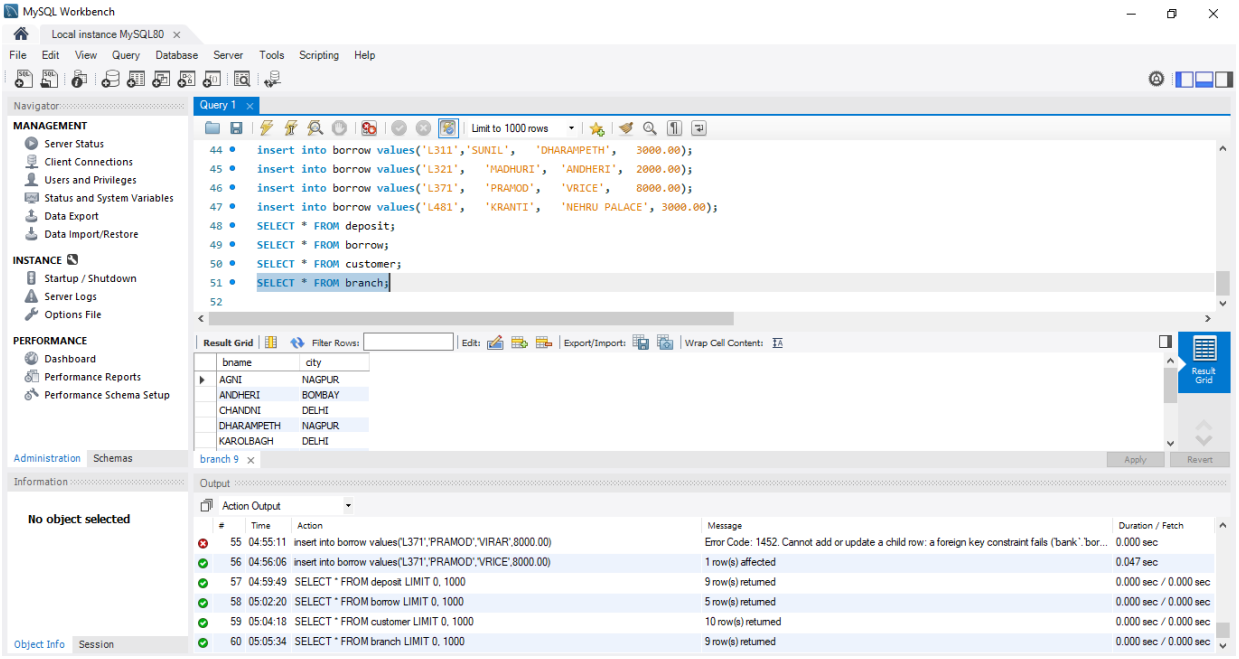
2 List all data from borrow-



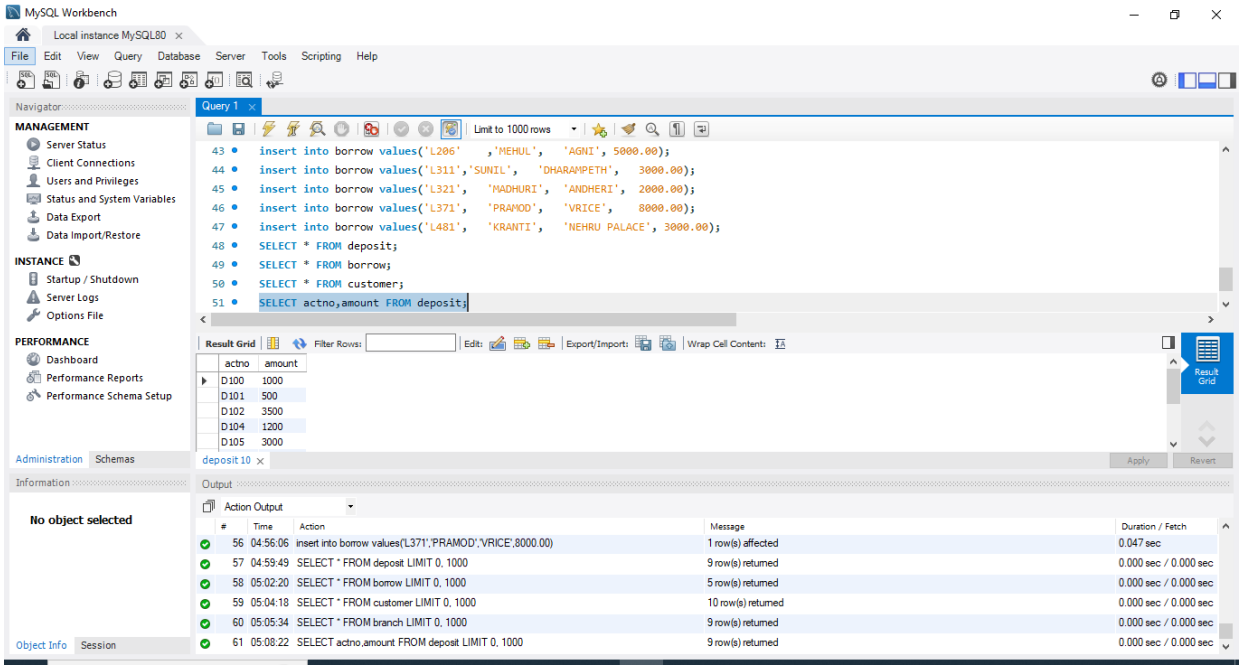
3 List all data from customer



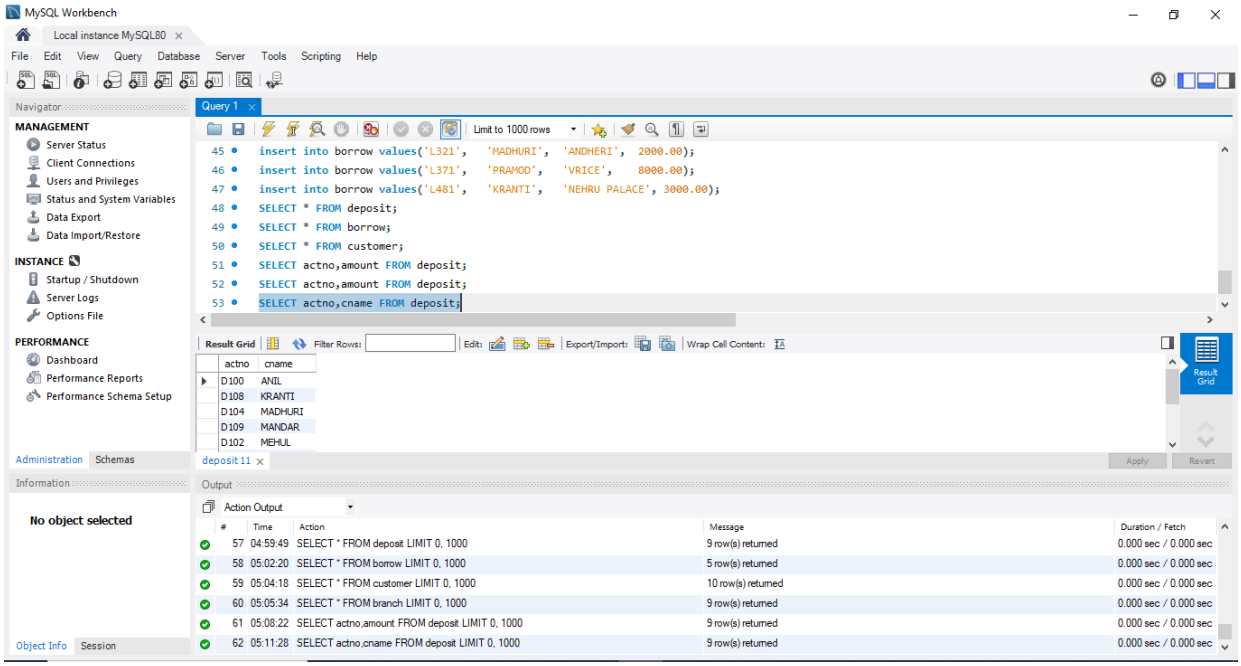
4 List all data from branch



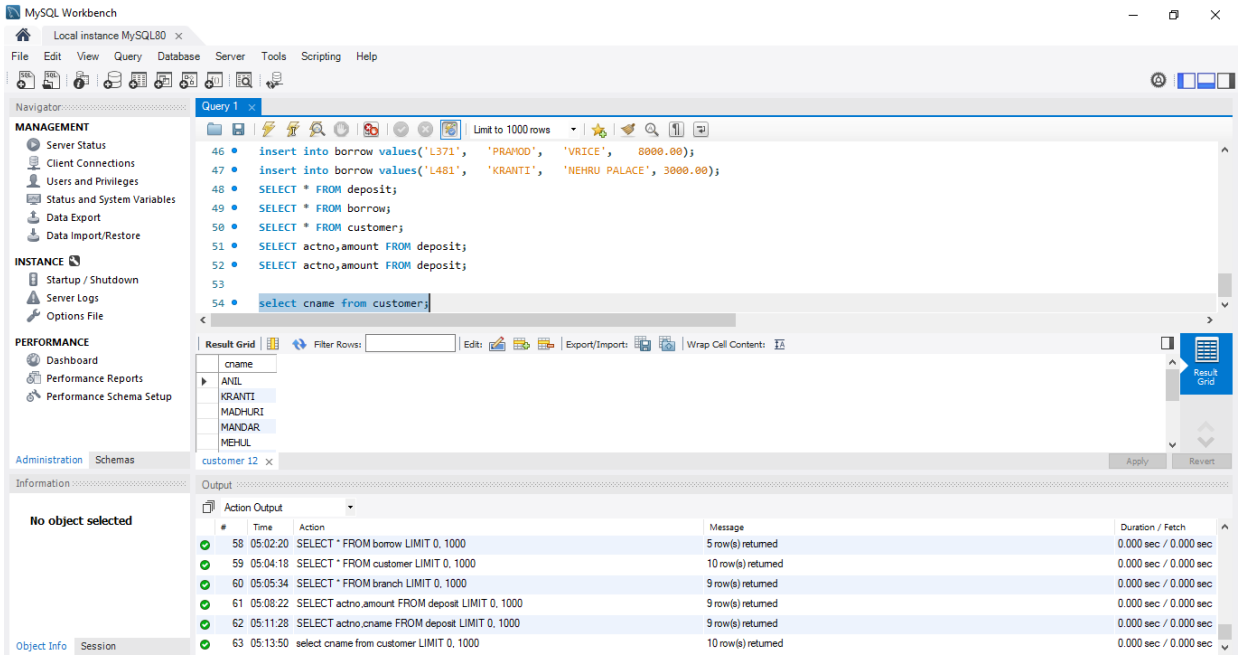
5 Give account no and amount of deposit-



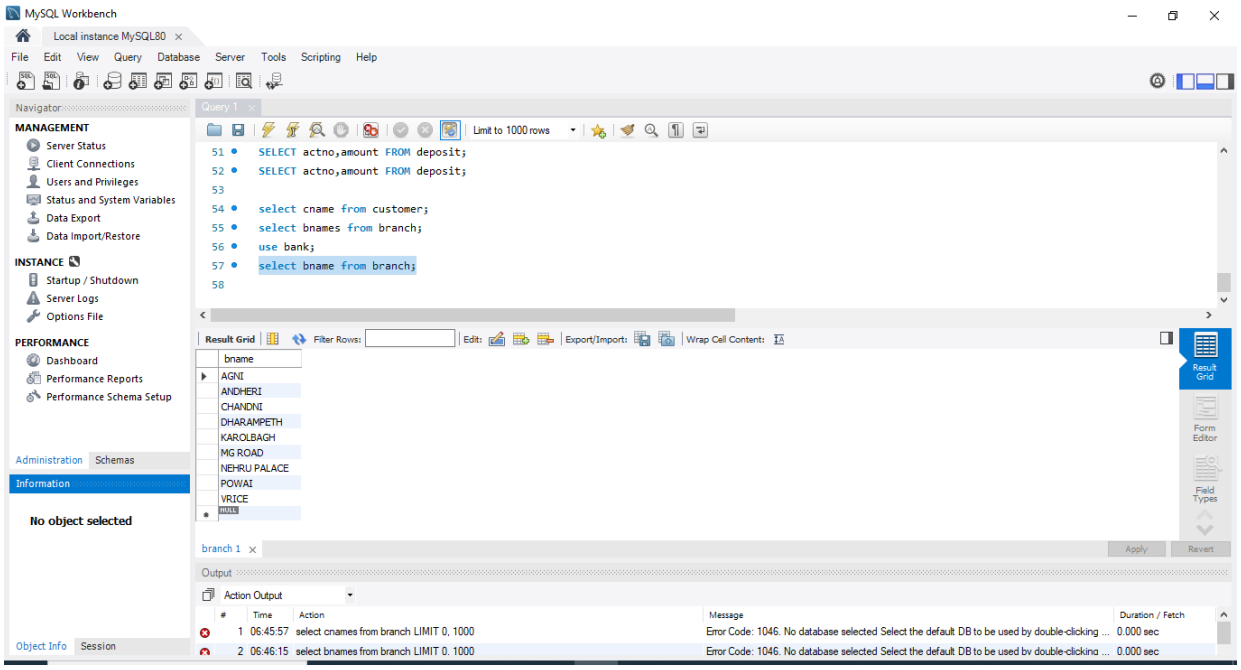
6 Give customer name and account no of depositors



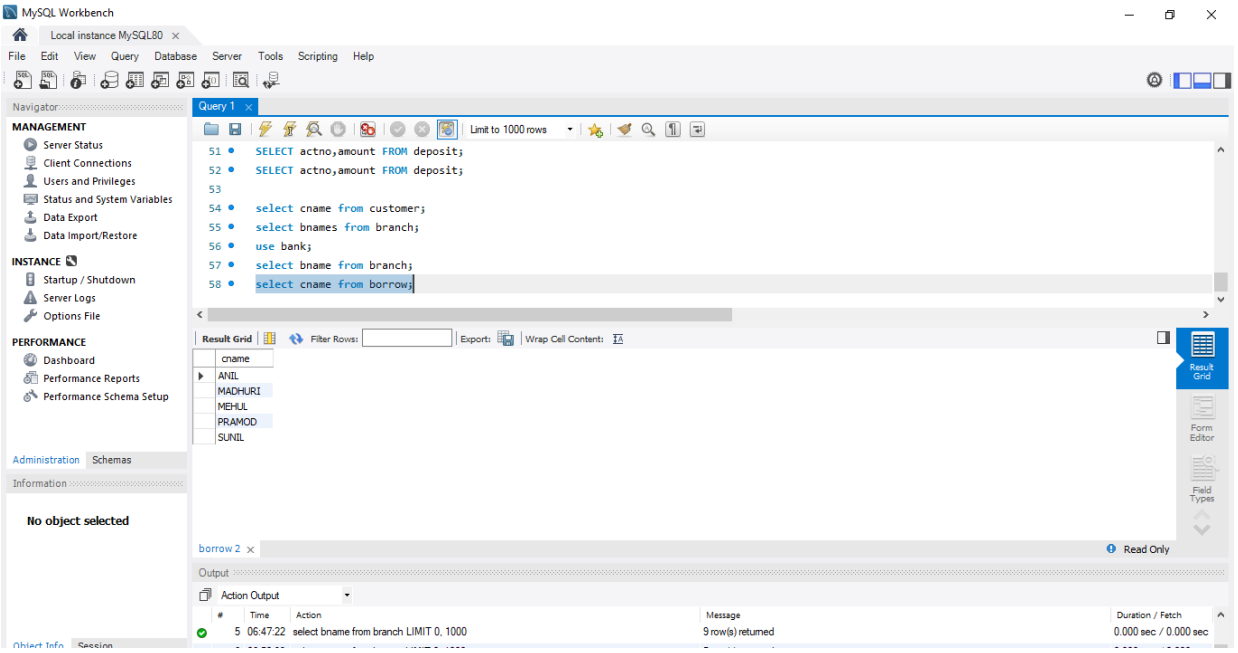
Give name of customers-



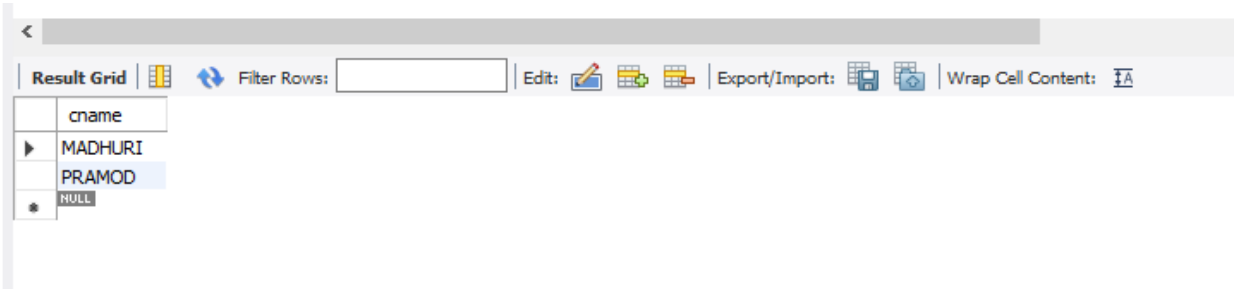
8 Give name of branches-



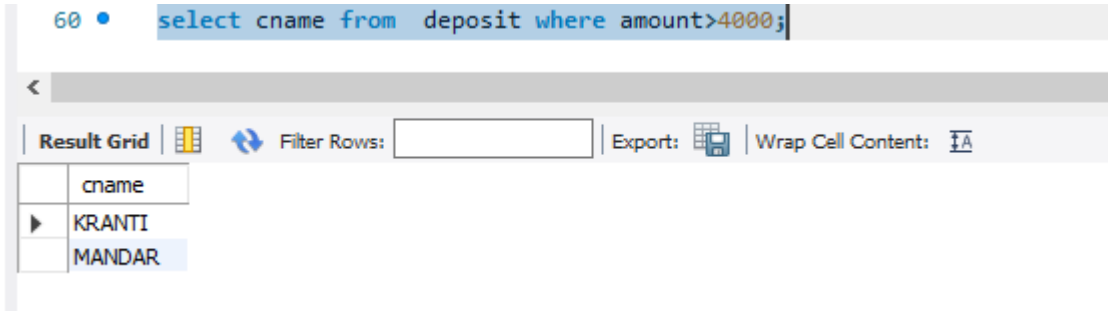
9 Give name of borrows-



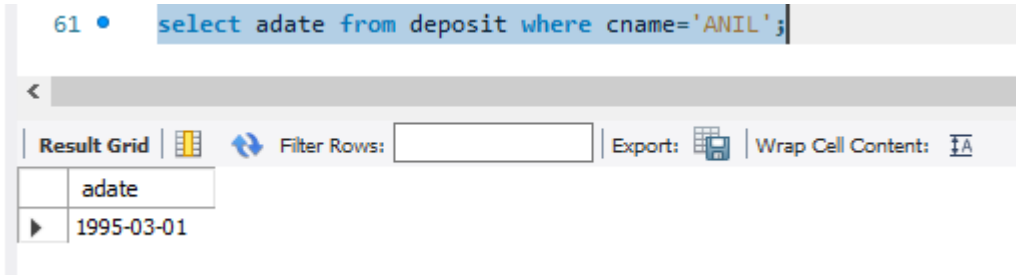
10-Give names of customer living in city Nagpur-



11 - Give names of depositors having amount greater than 4000-



12- Give account date of Anil



13- Give name of all branches located in Bombay

```
62 • select bname from branch where city='BOMBAY';
```

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

bname
ANDHERI
POWAI
NULL

14- Give name of borrower having loan number l205

```
63 • select bname from borrow where loanno='L206';
```

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

bname
AGNI

15- Give names of depositors having account at VRCE

```
64 • select cname from deposit where bname='VRICE';
```

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

cname
ANIL
SHIVANI

16-Give names of all branched located in city Delhi

```
65 • select bname from branch where city='DELHI';
```

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

bname
CHANDNI
KAROLBAGH
NEHRU PALACE
NULL

17- Give name of the customers who opened account date ‘1-12-96’

```
66 •  select cname from deposit where adate='1996-01-04';
```

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

cname
SUNIL

18- Give account no and deposit amount of customers having account opened between dates '1-12-96' and '1-5-96'

```
67 •  select actno,amount from deposit where adate between '1996-12-01' and '1996-05-01';
```

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

actno	amount
NULL	NULL

19- Give name of the city where branch KAROLBAGH is located-

```
68 •  select city from branch where bname='KAROLBAGH';
```

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

city
DELHI

20- Give details of customer ANIL-

```
69 •  select * from deposit where cname='ANIL';
```

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

actno	cname	bname	amount	adate
D100	ANIL	VRICE	1000	1995-03-01
NULL	NULL	NULL	NULL	NULL

b)Questions

1.List total loan

2.List total deposit

3. List total loan taken from KAROLBAGH branch

4. List total deposit of customers having account date later than 1-Jan-96

5.List total deposit of customers living in city NAGPUR

6.List maximum deposit of customer living in Bombay

7.List total deposit of customer having branch in BOMBAY

8.Count total number of branch cities

9.Count total number of customers cities

10.Give branch names and branch wise deposit

11.Give city wise name and branch wise deposit

12.Give the branch wise loan of customer living in NAGPUR

13.Count total number of customers

14.Count total number of depositors branch wise

15.Count total number of depositors branch wise

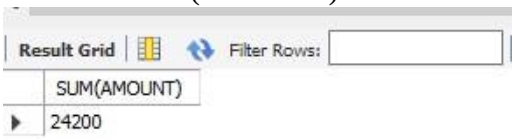
16.Give maximum loan from branch VRCE

17. Give the number of customers who are depositors as well as borrowers

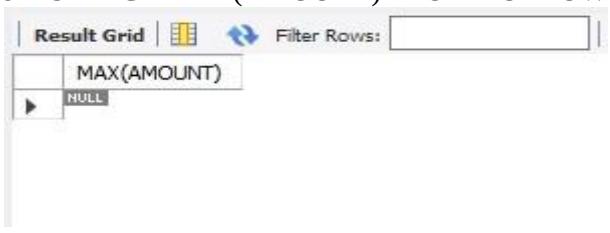
Procedure

1. SELECT SUM(AMOUNT) FROM BORROW;

2. SELECT SUM(AMOUNT) FROM DEPOSIT;



3. SELECT MAX(AMOUNT) FROM BORROW WHERE BNAME ='KAROLBAGH';



4. SELECT SUM(AMOUNT) from deposit where adate>'1995-03-01';

5. SELECT SUM(D1.AMOUNT) FROM DEPOSIT D1 , CUSTOMER C1 WHERE C1.CITY = 'NAGPUR' AND C1.CNAME = D1.CNAME;

Result Grid | Filter Rows:

SUM(D1.AMOUNT)
4200

Result 5 ×

6. SELECT MAX(D1.AMOUNT) FROM DEPOSIT D1 , CUSTOMER C1 WHERE C1.CITY = 'Bombay' AND C1.CNAME = D1.CNAME;

Result Grid | Filter Rows:

MAX(D1.AMOUNT)
1000

Result 6 ×

7. SELECT SUM(AMOUNT) from deposit,BRANCH where city='BOMBAY';

Result Grid | Filter Rows:

SUM(AMOUNT)
48400

Result 7 ×

8. SELECT COUNT(DISTINCT(CITY)) FROM BRANCH ;

Result Grid | Filter Rows:

COUNT(DISTINCT(CITY))
4

Result 8 ×

9. SELECT count(city) from CUSTOMER;

Result Grid | Filter Rows:

count(city)
10

Result 9 ×

10. SELECT BNAME , SUM(AMOUNT) FROM DEPOSIT GROUP BY BNAME;

Result Grid | Filter Rows: | Export:

BNAME	SUM(AMOUNT)
VRCE	1000
ANJNI	500
KAROLBAGH	3500
CHANDNI	1200
MG ROAD	3000
ANDHERI	2000
VIRAR	1000
NEHRU PLACE	5000
POWAI	7000

Result 10 ×

11. SELECT C1.CITY , SUM(D1.AMOUNT) FROM CUSTOMER C1 , DEPOSIT D1 WHERE D1.CNAME = C1.CNAME GROUP BY C1.CITY;

Result Grid | Filter Rows: | Export:

CITY	SUM(D1.AMOUNT)
CALCUTTA	1000
DELHI	500
BARODA	3500
NAGPUR	4200
SURAT	2000
BOMBAY	1000

Result 11 ×

12. SELECT BNAME , SUM(AMOUNT) FROM BORROW

Result Grid | Filter Rows: | Export:

BNAME	SUM(AMOUNT)
VRCE	2000
AJNI	10000
DHARAMPETH	6000
ANDHERI	4000
VIRAR	16000
NEHRU PLACE	6000

Result 12 ×

13. SELECT BORROW,CUSTOMER WHERE city ='NAGPUR' GROUP BY BNAME;

Result Grid | Filter Rows: |

count(cname)
10

Result 13 ×

14. SELECT count(cname) from CUSTOMER;

Result Grid | Filter Rows: | Export:

BNAME	count(*)
VRCE	1
ANJNI	1
KAROLBAGH	1
CHANDNI	1
MG ROAD	1
ANDHERI	1
VIRAR	1

Result 14 ×

15. SELECT BNAME, count(*) from DEPOSIT, CUSTOMER where deposit.CNAME CUSTOMER.CNAME group by BNAME;

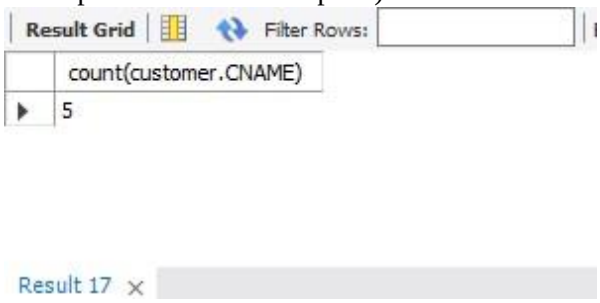
Result Grid | Filter Rows: | Export:

BNAME	count(*)
VRCE	1
ANJNI	1
KAROLBAGH	1
CHANDNI	1
MG ROAD	1
ANDHERI	1
VIRAR	1

Result 15 ×

16. SELECT BNAME, count(*) from DEPOSIT, CUSTOMER where deposit.CNAME = CUSTOMER.CNAME group by BNAME;

17. select count(customer.CNAME) from customer where customer.CNAME IN (select deposit.cname from deposit) and customer.CNAME IN (select borrow.cname from borrow);



EXPERIMENT NO. 2

AIM

To familiarize DDL Commands- ALTER,DROP,TRUNCATE,RENAME

Questions

1.Create a table emp with attributes empno number(4)as primary key, ename char(10),hiredate, salary,commission and insert the following 5 rows of data

101	Ramesh	17-Jan 1980	5000	
102	Ajay	05-Jul 1985	5000	500
103	Ravi	12-Aug 1981	1500	
104	Nikesh	03-Mar 1983	3000	700
105	Ravi	05-jul 1985	3000	

ANSWERS

CREATE TABLE EMP(empno INT PRIMARY KEY,ename VARCHAR(10),hiredate

DATE,salaryINT,commission INT);

INSERT INTO emp(empno,ename,hiredate,salary) VALUES(101,"Ramesh","1980-01-17",5000);

INSERT INTO emp(empno,ename,hiredate,salary,commission)

VALUES(102,"Ajay","1985-07-05",5000,500);

INSERT INTO emp(empno,ename,hiredate,salary) VALUES(103,"Ravi","1981-08-

12",1500);INSERT INTO emp(empno,ename,hiredate,salary,commission)

VALUES(104,"Nikesh","1983-03-03",3000,700);

INSERT INTO emp(empno,ename,hiredate,salary) VALUES(105,"Ravi","1985-07-05",3000);

```
16 •  SELECT * FROM EMP;
17
```

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

empno	ename	hiredate	salary	commission
101	Ramesh	1980-01-17	5000	NULL
102	Ajay	1985-07-05	5000	500
103	Ravi	1981-08-12	1500	NULL
104	Nikesh	1983-03-03	3000	700
105	Ravi	1985-07-05	3000	NULL
NULL	NULL	NULL	NULL	NULL

2.Add check constraint (Salary <=5000)

ALTER TABLE emp ADD CHECK(salary<=5000);

13	09:59:09	ALTER TABLE emp ADD CHECK(salary>=5000)	Error Code: 4025. CONSTRAINT `CONSTRAINT_1` failed for t
14	10:01:48	ALTER TABLE emp ADD CHECK(salary<=5000)	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0

3.Add Check Constraint (length(empno<=3))

ALTER TABLE emp ADD CHECK(length(empno<=3));

```
19 •  ALTER TABLE emp ADD CHECK(length(empno<=3));
20
```

Output

Action Output

#	Time	Action	Message
11	09:50:54	SELECT * FROM EMP LIMIT 0, 1000	5 row(s) returned
12	09:58:55	ALTER TABLE EMP ADD CHECK(salary>=5000)	Error Code: 4025. CONSTRAINT `CONSTRAINT_1` failed for `bank
13	09:59:09	ALTER TABLE emp ADD CHECK(salary>=5000)	Error Code: 4025. CONSTRAINT `CONSTRAINT_1` failed for `bank
14	10:01:48	ALTER TABLE emp ADD CHECK(salary<=5000)	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0
15	10:08:26	ALTER TABLE emp ADD CHECK(length(empno<=3))	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0

4.Modifying the structure of tables

a.Add new columns: sal number(7,2)

```
20 • ALTER TABLE emp ADD COLUMN SAL FLOAT(7,2);
21 • SELECT * FROM emp;
22
```

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

empno	ename	hiredate	salary	commission	SAL
101	Ramesh	1980-01-17	5000	NULL	NULL
102	Ajay	1985-07-05	5000	500	NULL
103	Ravi	1981-08-12	1500	NULL	NULL
104	Nikesh	1983-03-03	3000	700	NULL
105	Ravi	1985-07-05	3000	NULL	NULL
NULL	NULL	NULL	NULL	NULL	NULL

b.Dropping a column from a table: sal

```
22 • ALTER TABLE emp DROP COLUMN SAL;
23 • SELECT * FROM emp;
24
```

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

empno	ename	hiredate	salary	commission
101	Ramesh	1980-01-17	5000	NULL
102	Ajay	1985-07-05	5000	500
103	Ravi	1981-08-12	1500	NULL
104	Nikesh	1983-03-03	3000	700
105	Ravi	1985-07-05	3000	NULL
NULL	NULL	NULL	NULL	NULL

c.Modifying existing column :ename varchar2(15)

```
24 • ALTER TABLE emp MODIFY COLUMN ename VARCHAR(15);
25
```

Output

Action Output

#	Time	Action	Message
17	10:13:19	SELECT * FROM emp LIMIT 0, 1000	5 row(s) returned
18	10:16:46	ALTER TABLE emp DROP COLUMN SAL	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0
19	10:16:56	SELECT * FROM emp LIMIT 0, 1000	5 row(s) returned
20	10:26:40	ALTER TABLE emp MODIFY COLUMN ename VARCHAR(15)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0

d.Renaming the tables: emp to emp

```
25 • ALTER TABLE emp RENAME TO emp1;
26
```

Output

Action Output

#	Time	Action	Message
18	10:16:46	ALTER TABLE emp DROP COLUMN SAL	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0
19	10:16:56	SELECT * FROM emp LIMIT 0, 1000	5 row(s) returned
20	10:26:40	ALTER TABLE emp MODIFY COLUMN ename VARCHAR(15)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0
21	10:29:31	ALTER TABLE emp RENAME TO emp1	0 row(s) affected

e.truncating the tables:emp1

```
26 •  TRUNCATE TABLE emp1;
27 •  SELECT * FROM emp1;
28
```

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

empno	ename	hiredate	salary	commission
NULL	NULL	NULL	NULL	NULL

f.Destroying tables:emp

```
28 •  DROP TABLE emp1;
29
```

Output

Action Output

#	Time	Action	Message
22	10:31:33	TRUNCATE TABLE emp1	0 row(s) affected
23	10:31:43	SELECT * FROM emp LIMIT 0, 1000	Error Code: 1146. Table 'bank.emp' doesn't exist
24	10:31:50	SELECT * FROM emp1 LIMIT 0, 1000	0 row(s) returned
25	10:32:51	DROP TABLE emp1	0 row(s) affected

Experiment No.: 3

Aim To familiarize with set operations

Question-

1. List all the customers who are depositors but not borrowers.
2. List all the customers who are both depositors and borrowers
3. List all the depositors having deposit in all the branches where Sunil is having Account
4. List all the customers living in city NAGPUR and having branch city BOMBAY or DELHI
5. List all the depositors living in city NAGPUR
6. List all the depositors living in the city NAGPUR and having branch in city BOMBAY
7. List the branch cities of Anil and Sunil
8. List the customers having deposit greater than 1000 and loan less than 10000.
9. List the cities of depositors having branch VRCE.
10. List the depositors having amount less than 1000 and living in the same city as Anil
11. List all the cities where branches of Anil and Sunil are locate
12. List the amount for the depositors living in the city where Anil is living

PROCEDURE –

1. SELECT CNAME FROM DEPOSIT WHERE NOT exists (SELECT CNAME FROM BORROW) ;

```
42 •  SELECT CNAME FROM DEPOSIT WHERE NOT exists (SELECT CNAME FROM BORROW) ;
```

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

CNAME

2. SELECT CNAME FROM DEPOSIT UNION (SELECT CNAME FROM BORROW)

```
43 •  SELECT CNAME FROM DEPOSIT UNION (SELECT CNAME FROM BORROW);
```

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

CNAME
ANIL
KRANTI
MADHURI
MANDAR
MEHUL
PRAMOD
SANDIP
SHIVANI
SUNIL

3. SELECT D1.CNAME FROM DEPOSIT D1 WHERE D1.BNAME IN (SELECT D2.BNAME FROM DEPOSIT D2 WHERE D2.CNAME = 'SUNIL');

```
44 • SELECT D1.CNAME FROM DEPOSIT D1 WHERE D1.BNAME IN (SELECT D2.BNAME
45     FROM DEPOSIT D2 WHERE D2.CNAME = 'SUNIL' );
```

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

CNAME
SUNIL

4. SELECT C1.CNAME FROM CUSTOMER C1,DEPOSIT D1, BRANCH B1 WHERE C1.CITY = 'NAGPUR' AND C1.CNAME = D1.CNAME AND D1.BNAME = B1.BNAME AND B1.CITY IN ('BOMBAY','DELHI');

```
46 • SELECT C1.CNAME FROM CUSTOMER C1,DEPOSIT D1, BRANCH B1 WHERE C1.CITY = 'NAGPUR'
```

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

CNAME
MADHURI

5. SELECT Distinct(CUSTOMER.CNAME) from CUSTOMER,DEPOSIT WHERE City='NAGPUR';

```
48 • SELECT Distinct(CUSTOMER.CNAME) from CUSTOMER,DEPOSIT WHERE City='NAGPUR';
```

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

CNAME
PRAMOD
MADHURI

6. SELECT C1.CNAME FROM CUSTOMER C1,DEPOSIT D1, BRANCH B1 WHERE C1.CITY = 'NAGPUR' AND C1.CNAME = D1.CNAME AND D1.BNAME = B1.BNAME AND B1.CITY IN ('BOMBAY');

```
49 • 'NAGPUR' AND C1.CNAME = D1.CNAME AND D1.BNAME = B1.BNAME AND B1.CITY IN ('BOM
```

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

CNAME

7. SELECT B1.CITY FROM DEPOSIT D1, BRANCH B1 WHERE D1.BNAME = B1.BNAME AND D1.CNAME IN ('SUNIL' ,'ANIL');

```
50 •  )EPOSIT D1, BRANCH B1 WHERE D1.BNAME = B1.BNAME AND D1.CNAME IN ('SUNIL' ,'ANIL'
```

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

CITY
NAGPUR
NAGPUR

8. SELECT DISTINCT D1.CNAME FROM deposit D1, borrow B1 WHERE D1.AMOUNT>1000 AND B1.AMOUNT

```
50
51 •  T DISTINCT D1.CNAME FROM deposit D1, borrow B1 WHERE D1.AMOUNT>1000 AND B1.AMOU
```

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

CNAME
MEHUL
MADHURI
PRAMOD
SANDIP
KRANTI
MANDAR

9. SELECT B1.CITY FROM deposit D1, branch B1 WHERE D1.BNAME=B1.BNAME AND B1.BNAME='VRCE';

```
52 •  SELECT B1.CITY FROM deposit D1, branch B1 WHERE D1.BNAME=B1.BNAME AND B1.BNAM
```

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

CITY

10. SELECT D1.CNAME FROM deposit D1, customer C1 WHERE AMOUNT<1000 AND C1.CITY=(C1.CNAME='ANIL');

```
52 •  D1.CNAME FROM deposit D1, customer C1 WHERE AMOUNT<1000 AND C1.CITY=(C1.CNAME
```

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

CNAME
SUNIL
SUNIL
SUNIL
SUNIL
SUNIL
SUNIL
SUNIL
SUNIL
SUNIL

11. ELECT B1.CITY FROM BRANCH B1 WHERE B1.BNAME IN (SELECT D1.BNAME FROM DEPOSIT D1 WHERE D1.CNAME IN ('ANIL','SUNIL'));

```
52 •  B1.BNAME IN (SELECT D1.BNAME FROM DEPOSIT D1 WHERE D1.CNAME IN ('ANIL','SUN
```

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

CITY
NAGPUR
NAGPUR

12. SELECT DISTINCT(D1.CNAME),D1.AMOUNT ,C1.CITY FROM deposit D1, CUSTOMER C1, BRANCH B1 WHERE D1.CNAME=C1.CNAME AND C1.CITY IN(SELECT C2.CITY FROM customer C2 WHERE C2.CNAME='ANIL');

```
50 •  SELECT DISTINCT(D1.CNAME),D1.AMOUNT ,C1.CITY FROM deposit D1, CUSTOMER
```

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

CNAME	AMOUNT	CITY
ANIL	1000	CALCUTTA

EXPERIMENT NO. 4

Aim-

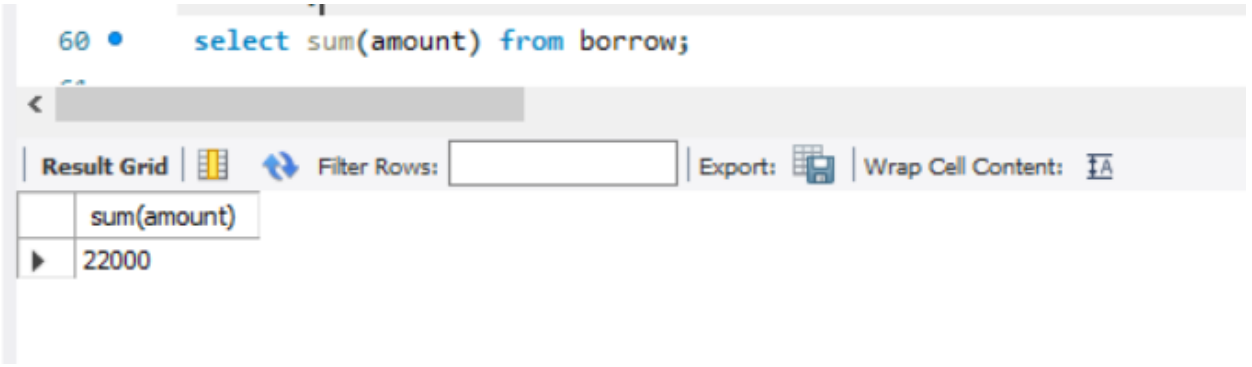
To familiarize with aggregate functions

Questions-

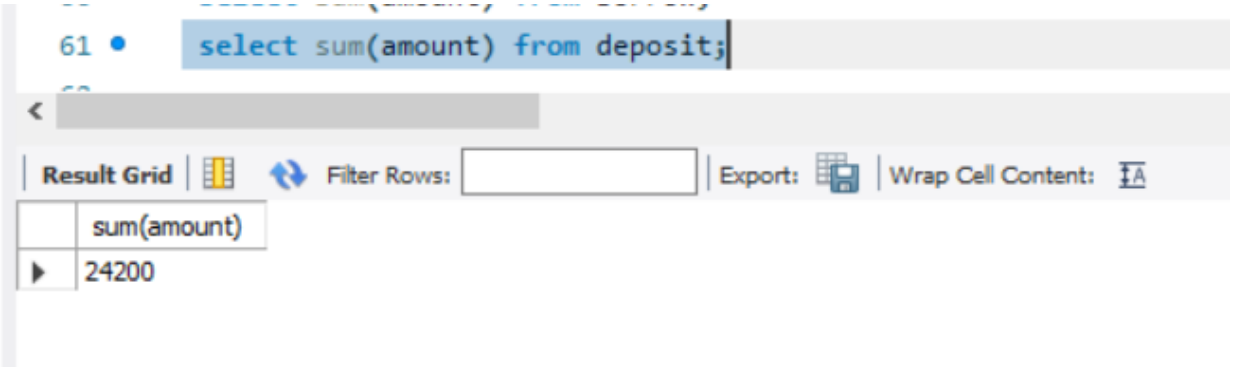
1.List total loan mysql>

SELECT SUM(AMOUNT)

FROM BORROW;

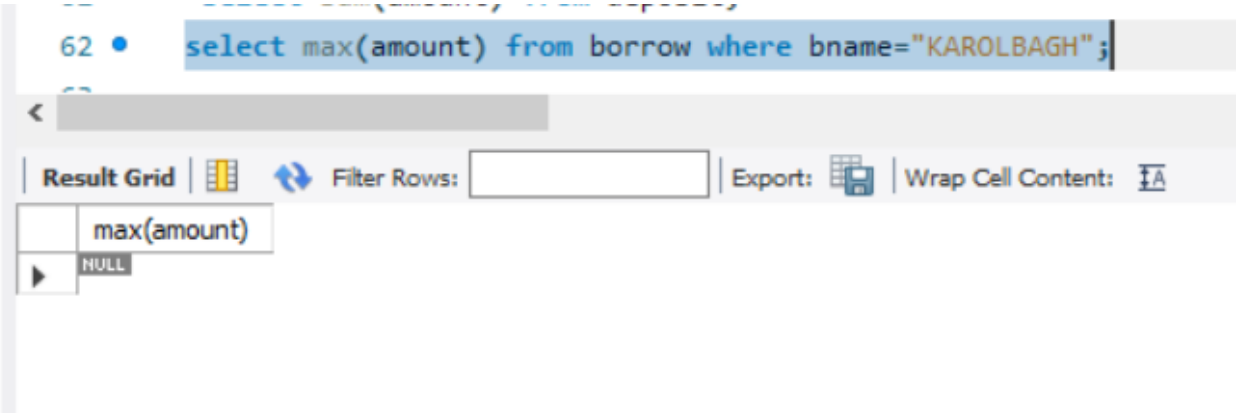


2.List total deposit



3.List total loan taken from KAROLBAGH branch

SELECT MAX(AMOUNT) FROM BORROW WHERE BNAME ='KAROLBAGH';



4.List total deposit of customers having account date later than 1-Jan-96

```
62 •  select sum(amount) from deposit where adate>'1995-03-01';
```

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

sum(amount)
23200

5.List total deposit of customers living in city NAGPUR

```
63 •  select sum(d1.amount) from deposit d1,customer c1 where c1.city="NAGPUR" and
```

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

sum(d1.amount)
4200

6.List maximum deposit of customer living in Bombay

```
64 •  select max(d1.amount) from deposit d1,customer c1 where c1.city="BOMBAY"
```

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

max(d1.amount)
5000

7.List total deposit of customer having branch in BOMBAY

```
65 •  select sum(amount) from deposit,branch where city="BOMBAY";
```

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

sum(amount)
48400

8.Count total number of branch cities

```
66 •  select count(distinct(city)) from branch;
```

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

count(distinct(city))
4

9.Count total number of customers cities

```
67 •  select count(city) from customer;
```

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

count(city)
10

10.Give branch names and branch wise deposit

```
68 •  select bname,sum(amount) from deposit group by bname;
```

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

bname	sum(amount)
AGNI	500
ANDHERI	2000
CHANDNI	1200
KAROLBAGH	3500
MG ROAD	3000
NEHRU PALACE	5000
POWAI	7000
VRICE	2000

11.Give city wise name and branch wise deposit

```
69 •  select c1.city,sum(d1.amount) from customer c1,deposit d1 where
```

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

city	sum(d1.amount)
CALCUTTA	1000
DELHI	500
BARODA	3500
NAGPUR	4200
SURAT	2000
BOMBAY	6000
PATNA	7000

12.Give the branch wise loan of customer living in NAGPUR

```
70 •  select bname,sum(amount) from borrow,customer where city="NAGPUR" grou
```

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

bname	sum(amount)
VRICE	18000
AGNI	10000
DHARAMPETH	6000
ANDHERI	4000
NEHRU PALACE	6000

13.Count total number of customers

```
71 •  select count(cname) from customer;
```

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

count(cname)
10

14.Count total number of depositors branch wise

```
72 •  select bname,count(*) from deposit,customer where deposit.cname=
```

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

bname	count(*)
VRICE	2
AGNI	1
KAROLBAGH	1
CHANDNI	1
MG ROAD	1
ANDHERI	1
NEHRU PALACE	1
POWAI	1

15.Count total number of depositors branch wise

```
72 •  select bname,count(*) from deposit,customer where deposit.cname=
```

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

bname	count(*)
VRICE	2
AGNI	1
KAROLBAGH	1
CHANDNI	1
MG ROAD	1
ANDHERI	1
NEHRU PALACE	1
POWAI	1

16.Give maximum loan from branch VRCE

```
73 •  select max(amount) from borrow where bname="VRCE";
```

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

max(amount)
NULL

17.Give the number of customers who are depositors as well as borrowers

EXPERIMENT NO. 5

AIM

To familiarize with join or cartesian product

Questions

1.Give name of customers having living city BOMBAY and branch city NAGPUR

2.Give names of customers having the same living city as their branch city

3.Give names of customers who are borrowers as well as depositors and having city

NAGPUR.

4.Give names of borrowers having deposit amount greater than 1000 and loan amount

greater

than 2000.

5.Give names of depositors having the same branch as the branch of Sunil

6.Give names of borrowers having loan amount greater than the loan amount of Pramod

7.Give the name of the customer living in the city where branch of depositor Sunil is located.

8.Give branch city and living city of Pramod

9.Give branch city of Sunil and branch city of Anil

10.Give the living city of Anil and the living

city of Sunil

Procedure

1. SELECT D1.CNAME,D1.BNAME,C1.CNAME,C1.CITY,B1.CITY,B1.BNAME FROM DEPOSIT D1,CUSTOMER C1,BRANCH B1 WHERE C1.CITY = 'BOMBAY' AND

B1.CITY = 'NAGPUR' AND D1.CNAME = C1.CNAME AND D1.BNAME = B1.BNAME;

	CNAME	BNAME	CNAME	CITY	CITY	BNAME

2. SELECT distinct(customer.CNAME), BRANCH.CITY FROM BRANCH, customer WHERE BRANCH.city = customer.city;

3. SELECT C1.CNAME FROM CUSTOMER C1,DEPOSIT D1,BORROW B1 WHERE C1.CITY='NAGPUR' AND C1.CNAME=D1.CNAME AND D1.CNAME = B1.CNAME;

4. SELECT BR1.CNAME, BR1.AMOUNT, D1.CNAME, D1.AMOUNT FROM BORROW BR1,DEPOSIT D1 WHERE D1.CNAME = BR1.CNAME AND D1.AMOUNT >

1000 AND BR1.AMOUNT > 2000;

5. SELECT D1.CNAME FROM DEPOSIT D1 WHERE D1.BNAME IN (SELECT D2.BNAME FROM DEPOSIT D2 WHERE D2.CNAME = 'SUNIL');

6. SELECT BR1.CNAME,BR1.AMOUNT FROM BORROW BR1 WHERE BR1.AMOUNT > ALL (SELECT BR2.AMOUNT FROM BORROW BR2 WHERE

BR2.CNAME = 'PRAMOD');

7. SELECT C.CNAME FROM CUSTOMER C WHERE C.CITY IN (SELECT B.CITY FROM BRANCH B WHERE B.BNAME IN (SELECT D.BNAME FROM DEPOSIT D

WHERE D.CNAME='SUNIL'));

8. SELECT B1.CITY , C1.CITY FROM BRANCH B1,CUSTOMER C1, DEPOSIT D1 WHERE C1.CNAME = 'PRAMOD' AND C1.CNAME = D1.CNAME AND D1.BNAME =

B1.BNAME;

9. SELECT B1.CITY FROM DEPOSIT D1, BRANCH B1 WHERE D1.BNAME = B1.BNAME AND D1.CNAME IN ('SUNIL' ,'ANIL');.

10. SELECT C1.CNAME, C1.CITY FROM CUSTOMER C1 WHERE C1.CNAME = 'ANIL' OR C1.CNAME = 'SUN

Output Screenshot

	CNAME	BNAME	CNAME	CITY	CITY	BNAME

	CNAME	CITY
▶	KRANTI	BOMBAY
	MADHURI	NAGPUR
	NAREN	BOMBAY
	PRAMOD	NAGPUR
	SHIVANI	BOMBAY
	SUNIL	DELHI

	CNAME
▶	MADHURI
	PRAMOD

	CNAME	AMOUNT	CNAME	AMOUNT
▶	MEHUL	5000	MEHUL	3500
	PRAMOD	8000	PRAMOD	3000
	KRANTI	3000	KRANTI	5000

	CNAME
▶	SUNIL

	CNAME
*	NULL

	CNAME	AMOUNT

	CITY	CITY
▶	BANGALORE	NAGPUR

	CITY
▶	NAGPUR

	CNAME	CITY
▶	ANIL	CALCUTTA
	SUNIL	DELHI
*	NULL	NULL

EXPERIMENT NO. 6

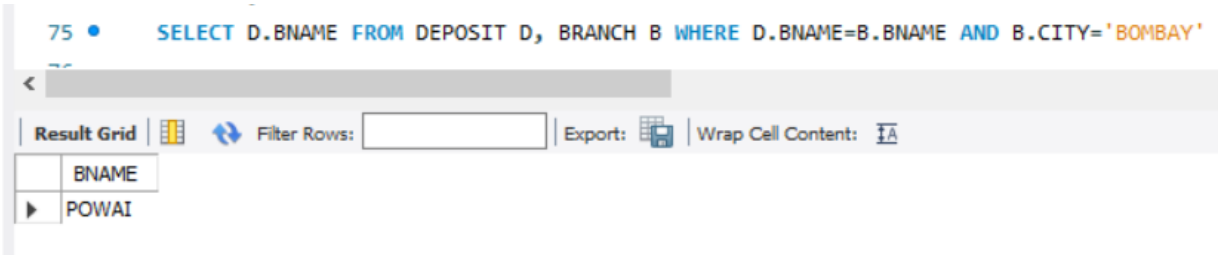
AIM

To familiarize with Group by and Having clause

Questions

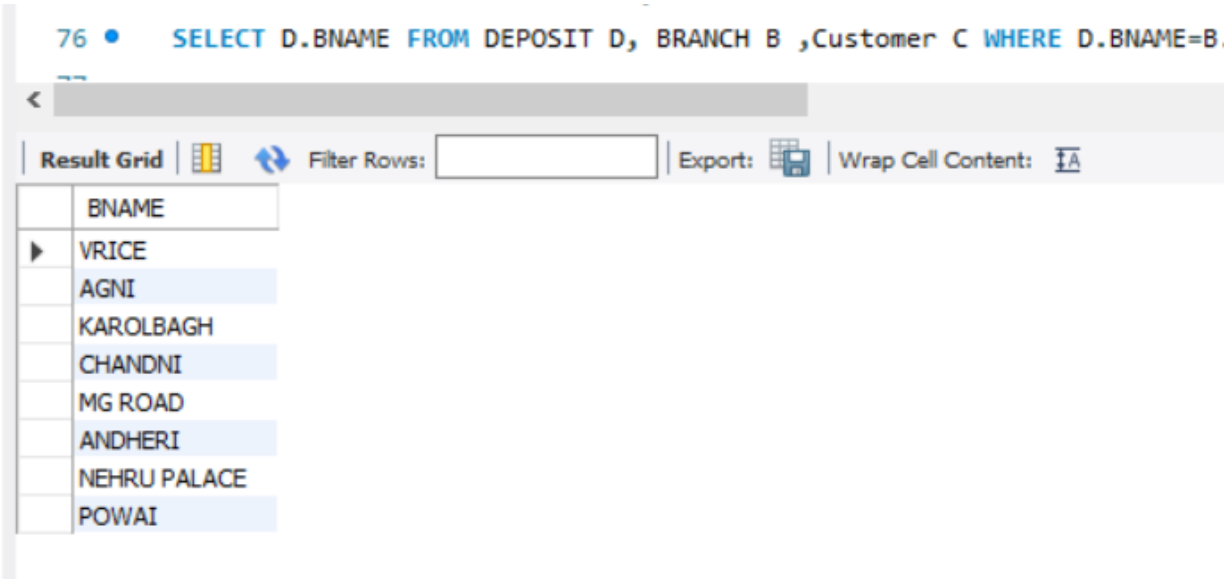
1. List the branches having sum of deposit more than 5000.

```
SELECT D.BNAME FROM DEPOSIT D, BRANCH B WHERE D.BNAME=B.BNAME AND
  B.CITY='BOMBAY' GROUP BY D.BNAME HAVING SUM(D.AMOUNT)>5000;
```



2. List the branches having sum of deposit more than 500 and located in city BOMBAY

```
SELECT D.BNAME FROM DEPOSIT D, BRANCH B ,Customer C WHERE
D.BNAME=B.BNAME and C.city="Bombay" GROUP BY D.BNAME HAVING
SUM(D.AMOUNT)>500 ;
```



3.List the names of customers having deposited in the branches where the average deposit is more than 5000.

select CNAME from deposit where AMOUNT=(select AVG(Amount) from DEPOSIT GROUP BY BNAME having AVG(Amount)>5000);

```
77 •    select CNAME from deposit where AMOUNT=(select AVG(Amount) from D
```

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

CNAME
MANDAR

4.List the names of customers having maximum deposit

SELECT MAX(AMOUNT),CNAME FROM deposit;

```
89 •    SELECT d.bname FROM deposit d, branch b WHERE
90 •    select cname from deposit where amount=(selec
91 •    SELECT MAX(amount),cname FROM deposit;
92 •    SELECT d1.bname FROM deposit d1 GROUP BY d1.b
```

Result Grid | Filter Rows: | Export: | Wr

MAX(amount)	cname
12200	ANIL

5.List the name of branch having highest number of depositors?

SELECT D1.BNAME FROM DEPOSIT D1 GROUP BY
D1.BNAME HAVING count(D1.CNAME) >= ALL (SELECT
count(D2.CNAME) FROM DEPOSIT D2 GROUP BY
D2.BNAME);

```
78 •  SELECT D1.BNAME FROM DEPOSIT D1 GROUP BY D1.BNAME HAVING count(D1.C
```

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

BNAME
VRICE

6.Count the number of depositors living in NAGPUR.

select count(deposit.cname)from deposit,CUSTOMER where CUSTOMER.CITY='nagpur';

```
79 •  select count(deposit.cname)from deposit,CUSTOMER where CUSTOMER.CITY='nagpur';
```

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

count(deposit.cname)
18

7.Give names of customers in VRCE branch having more deposite than any other customer in same branch

Select CNAME from deposit where BNAME='VRCE' and amount=(select max(AMOUNT) from deposit where BNAME='VRCE');

```
80 •  Select CNAME from deposit where BNAME='VRCE' and amount=(select max(AM
```

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

CNAME

8.Give the names of branch where number of depositors is more than 5

SELECT BNAME from deposit GROUP BY BNAME HAVING COUNT(BNAME)>5;

```
81 •  SELECT BNAME from deposit GROUP BY BNAME HAVING COUNT(BNAME)>5;
```

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

BNAME

9.Give the names of cities in which the maximum number of branches are located

select C.CNAME ,count(B.BNAME) from CUSTOMER C inner join Branch B on C.CNAME=B.BNAME group by C.Cname order by count(B.BName) DESC;

```
82 •  (B.BNAME) from CUSTOMER C inner join Branch B on C.CNAME=B.BNAME gr
```

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

CNAME	count(B.BNAME)

10.Count the number of customers living in the city where branch is located

select count(b1.bname) From deposit d1 , borrow b1 , customer c1 Where c1.cname=d1.cname and d1.cname=b1.cname and c1.city in (select city from customer);

```
83 •  rrow b1 , customer c1 Where c1.cname=d1.cname and d1.cname=b1.cnam
```

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

count(b1.bname)
6

EXPERIMENT NO:.7

AIM

To have familiarize with trigger functions

Question

Create a Trigger for employe table it will update another table salary while updating values

OBJECTIVE

To develop and execute a Trigger for After update/Delete/Insert operations on a table

PROCEDURE

step 1: start

step 2: initialize the trigger.

step 3: On update the trigger has to be executed.

step 4: execute the trigger procedure after updation

step 5: carryout the operation on the table to check for trigger execution.

step 6: stop

PROGRAM

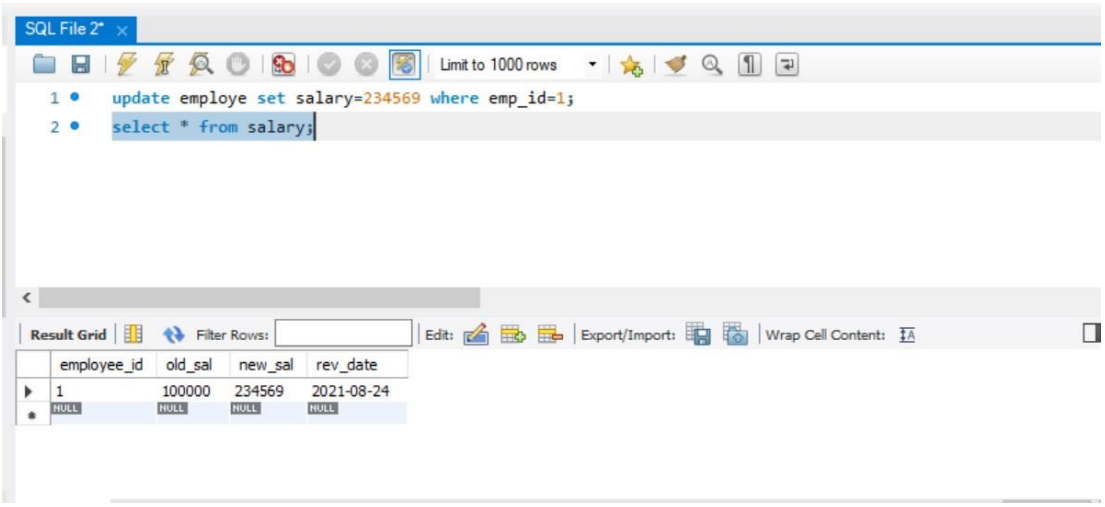
Sql>

```
CREATE TABLE `employe` (
`emp_id` int(11) NOT NULL,
`emp_name` varchar(45) DEFAULT NULL,
`dob` date DEFAULT NULL,
`address` varchar(45) DEFAULT NULL,
`designation` varchar(45) DEFAULT NULL,
`mobile_no` int(11) DEFAULT NULL,
`dept_no` int(11) DEFAULT NULL,
`salary` int(11) DEFAULT NULL,
PRIMARY KEY (`emp_id`)
);
```

Sql>

```
CREATE TABLE `salary` (
 `employee_id` int(11) NOT NULL,
 `old_sal` int(11) DEFAULT NULL,
 `new_sal` int(11) DEFAULT NULL,
 `rev_date` date DEFAULT NULL,
 PRIMARY KEY (`employee_id`)
);
Sql>
CREATE DEFINER=`root`@`localhost` TRIGGER
`employee_db`.`employe_AFTER_UPDATE` AFTER UPDATE ON `employe`
FOR EACH ROW
BEGIN
if(new.salary != old.salary)
then
INSERT INTO salary (employee_id,old_sal,new_sal,rev_date) values
(new.emp_id,old.salary,new.salary,sysdate());
END if;
END
Sql>
update employe set salary=234569 where emp_id=1;
select * from salary;
```

OUTPUT



EXPERIMENT NO. 8

AIM

To have familiarize with trigger functions

Question

Create a Trigger for employe table it will update another table

personal_updations while updating values

OBJECTIVE

To develop and execute a Trigger for Before and After update/Delete/Insert

operations on a table

PROCEDURE

step 1: start

step 2: initialize the trigger.

step 3: On update the trigger has to be executed.

step 4: execute the trigger procedure after updation

step 5: carryout the operation on the table to check for trigger execution.

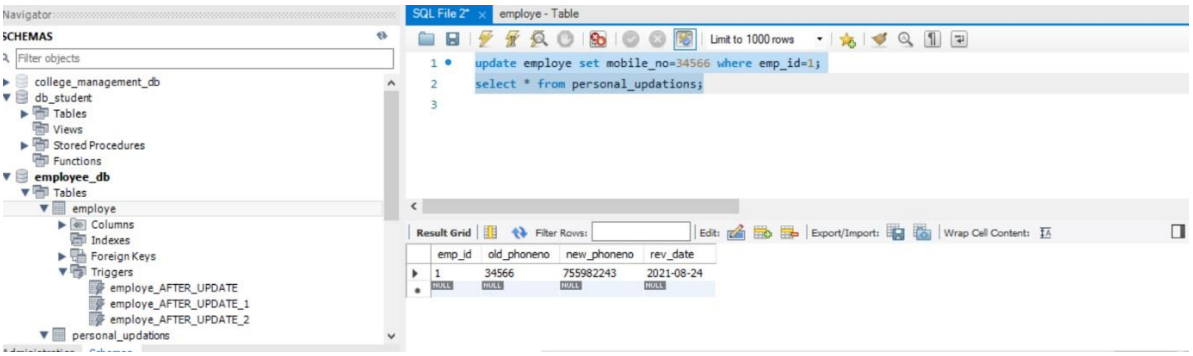
step 6: stop

PROGRAM

```
sql>
 CREATE TABLE `employe` (
 `emp_id` int(11) NOT NULL,
 `emp_name` varchar(45) DEFAULT NULL,
 `dob` date DEFAULT NULL,
 `address` varchar(45) DEFAULT NULL,
 `designation` varchar(45) DEFAULT NULL,
 `mobile_no` int(11) DEFAULT NULL,
 `dept_no` int(11) DEFAULT NULL,
 `salary` int(11) DEFAULT NULL,
 PRIMARY KEY (`emp_id`)
);
Sql>
CREATE TABLE `personal_updations` (
```

```
 `emp_id` int(11) NOT NULL,
 `old_phoneno` int(11) DEFAULT NULL,
 `new_phoneno` int(11) DEFAULT NULL,
 `rev_date` date DEFAULT NULL,
 PRIMARY KEY (`emp_id`)
);
Sql>
CREATE DEFINER=`root`@`localhost` TRIGGER
`employe_AFTER_UPDATE_1` AFTER UPDATE ON `employe` FOR EACH
ROW BEGIN
if(new.mobile_no != old.mobile_no)
then
INSERT INTO personal_updations
(emp_id,old_phoneno,new_phoneno,rev_date) values
(new.emp_id,new.mobile_no,old.mobile_no,sysdate());
END if;
END
sql>
update employe set mobile_no=34566 where emp_id=4 ;
select * from personal_updations;
```

OUTPUT



EXPERIMENT NO. 9

AIM

To have familiarize with trigger functions

Question

Create a Trigger for employe table it will update another table promotions while updating values

OBJECTIVE

To develop and execute a Trigger for Before and After update/Delete/Insert operations on a table

PROCEDURE

step 1: start

step 2: initialize the trigger.

step 3: On update the trigger has to be executed.

step 4: execute the trigger procedure after updation

step 5: carryout the operation on the table to check for trigger execution.

step 6: stop

PROGRAM

```
sql>
 CREATE TABLE `employe` (
 `emp_id` int(11) NOT NULL,
 `emp_name` varchar(45) DEFAULT NULL,
 `dob` date DEFAULT NULL,
 `address` varchar(45) DEFAULT NULL,
 `designation` varchar(45) DEFAULT NULL,
 `mobile_no` int(11) DEFAULT NULL,
 `dept_no` int(11) DEFAULT NULL,
 `salary` int(11) DEFAULT NULL,
 PRIMARY KEY (`emp_id`)
);
Sql>
CREATE TABLE `promotions` (
```

```
 `emp_id` int(11) NOT NULL,
 `old_designation` varchar(11) DEFAULT NULL,
 `new_designation` varchar(11) DEFAULT NULL,
 `rev_date` date DEFAULT NULL,
 PRIMARY KEY (`emp_id`)
);
sql>
CREATE DEFINER=`root`@`localhost` TRIGGER
`employe_AFTER_UPDATE_2` AFTER UPDATE ON `employe` FOR EACH
ROW BEGIN
if(new.designation != old.designation)
then
INSERT INTO promotions (emp_id,old_designation,new_designation,rev_date)
values (new.emp_id,new.designation,old.designation,sysdate());
END if;
END
sql>
update employe set designation='clk' where emp_id=1;
select * from promotions;
```

OUTPUT