

ADVANCED DATABASE MANAGEMENT SYSTEM LAB RECORD

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EXPERIMENT NO. 1

AIM To study various DDL commands - CREATE

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 Deposit 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

OUTPUT

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

```
CREATE TABLE BRANCH (BNAME VARCHAR(20) PRIMARY KEY,CITY VARCHAR(30) CHECK (CITY IN ('NAGPUR','DELHI','BANGALORE','BOMBAY')) NOT NULL);
```

```
CREATE TABLE BORROW (LOANNO VARCHAR(8) CHECK (LOANNO LIKE 'L%') PRIMARY KEY,CNAME VARCHAR(15) REFERENCES CUSTOMER(CNAME) ,BNAME VARCHAR(20) REFERENCES BRANCH(BNAME),AMOUNT FLOAT(8) CHECK (AMOUNT>0) NOT NULL);
```

```
CREATE TABLE DEPOSIT (ACTNO VARCHAR(5) CHECK (ACTNO LIKE 'D%') PRIMARY KEY ,CNAME VARCHAR(15) REFERENCES CUSTOMER(CNAME) ,BNAME VARCHAR(20) REFERENCES BRANCH(BNAME),AMOUNT FLOAT(8) CHECK (AMOUNT>0) NOT NULL, ADATE DATE);
```

```
INSERT INTO CUSTOMER VALUES('ANIL','CALCUTTA');
INSERT INTO CUSTOMER VALUES('SUNIL','DELHI');
INSERT INTO CUSTOMER VALUES('MEHUL','BARODA');
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('KRANTI','BOMBAY');
INSERT INTO CUSTOMER VALUES('NAREN','BOMBAY');
INSERT INTO BRANCH VALUES('VRCE','NAGPUR');
INSERT INTO BRANCH VALUES('AJNI','NAGPUR');
INSERT INTO BRANCH VALUES('KAROLBAGH','DELHI');
INSERT INTO BRANCH VALUES('CHANDNI','DELHI');
INSERT INTO BRANCH VALUES('DHARAMPETH','NAGPUR');
INSERT INTO BRANCH VALUES('MG ROAD','BANGALORE');
INSERT INTO BRANCH VALUES('ANDHERI','BOMBAY');
INSERT INTO BRANCH VALUES('NEHRU PALACE','DELHI');
INSERT INTO BRANCH VALUES('POWAI','BOMBAY');
INSERT INTO DEPOSIT VALUES('D100','ANIL','VRCE',1000.00,'1-MAR-95');
INSERT INTO DEPOSIT VALUES('D101','SUNIL','ANJNI',500.00,'4-JAN-96');
INSERT INTO DEPOSIT VALUES('D102','MEHUL','KAROLBAGH',3500.00,'17-NOV95');
INSERT INTO DEPOSIT VALUES('D104','MADHURI','CHANDNI',1200.00,'17-DEC-95');
INSERT INTO DEPOSIT VALUES('D105','PRAMOD','MG ROAD',3000.00,'27-MAR-96');
INSERT INTO DEPOSIT VALUES('D106','SANDIP','ANDHERI',2000.00,'31-MAR-96');
INSERT INTO DEPOSIT VALUES('D107','SHIVANI','VIRAR',1000.00,'5-SEP-95');
INSERT INTO DEPOSIT VALUES('D108','KRANTI','NEHRU PLACE',5000.00,'2-JUL95');
INSERT INTO DEPOSIT VALUES('D109','MINU','POWAI',7000.00,'10-AUG-95');
INSERT INTO BORROW VALUES('L201','ANIL','VRCE',1000.00);
```

```
INSERT INTO BORROW VALUES('L206','MEHUL','AJNI',5000.00);  
INSERT INTO BORROW VALUES('L311','SUNIL','DHARAMPETH',3000.00);  
INSERT INTO BORROW VALUES('L321','MADHURI','ANDHERI',2000.00);  
INSERT INTO BORROW VALUES('L371','PRAMOD','VIRAR',8000.00);  
INSERT INTO BORROW VALUES('L481','KRANTI','NEHRU PLACE',3000.00);
```

EXPERIMENT NO. 2

AIM To familiarize with selecting data from single table Questions

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
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 branches 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

SQL Commands

SELECT*FROM DEPOSIT;

SELECT*FROM BORROW;

SELECT*FROM CUSTOMER;

SELECT*FROM BRANCH;

SELECT ACTNO,AMOUNT FROM DEPOSIT;

SELECT CNAME,ACTNO FROM DEPOSIT;

SELECT CNAME FROM CUSTOMER;

SELECT BNAME FROM BRANCH;

SELECT CNAME FROM BORROW;

SELECT CNAME FROM CUSTOMER WHERE CITY='NAGPUR';

SELECT CNAME from DEPOSIT where AMOUNT>4000;

SELECT ADATE FROM DEPOSIT where CNAME='ANIL';

SELECT BNAME from BRANCH where CITY='Bombay';

SELECT * from BORROW; SELECT CNAME from BORROW where LOANNO='L205';

SELECT CNAME from DEPOSIT WHERE BNAME='VRCE'; SELECT BNAME from BRANCH WHERE CITY='Delhi';

SELECT CNAME from DEPOSIT WHERE ADATE='1996-12-1';

SELECT ACTNO,AMOUNT from DEPOSIT WHERE ADATE BETWEEN '1996-12-1' AND '1996-05-1';

SELECT CITY from BRANCH WHERE BNAME='KAROLBAGH';

SELECT * from customer join borrow on customer.cname=borrow.cname join deposit on deposit.cname=borrow.cname WHERE customer.cname='ANIL';

```
12 select cname tFROM CUSTOMER where city='NAGPUR';
13
14 create table BRANCH (BNAME varchar(20),CITY varchar(30)NOT NULL);
15 insert into BRANCH (BNAME, CITY) values ('VRCE', 'NAGPUR');
16 insert into BRANCH (BNAME, CITY) values ('AJNI', 'NAGPUR');
17 insert into BRANCH (BNAME, CITY) values ('KAROLBAGH', 'DELHI');
18 insert into BRANCH (BNAME, CITY) values ('CHANDNI', 'DELHI');
19 insert into BRANCH (BNAME, CITY) values ('DHARAMPETH', 'NAGPUR');
20 insert into BRANCH (BNAME, CITY) values ('MG ROAD', 'BANGALORE');
21 insert into BRANCH (BNAME, CITY) values ('ANDHERI', 'BOMBAY');
22 insert into BRANCH (BNAME, CITY) values ('NAHRU PALACE', 'DELHI');
23 insert into BRANCH (BNAME, CITY) values ('POWAI', 'BOMBAY');
24 select * from BRANCH;
25 select BNAME from BRANCH;
26
```

9 rows

BNAME	CITY
VRCE	NAGPUR
AJNI	NAGPUR
KAROLBAGH	DELHI
CHANDNI	DELHI
DHARAMPETH	NAGPUR
MG ROAD	BANGALORE
ANDHERI	BOMBAY
NAHRU PALACE	DELHI
POWAI	BOMBAY

```
1 create table CUSTOMER (cname varchar(15),city varchar(20)NOT NULL,PRIMARY KEY(cname));
2 insert into CUSTOMER (cname, city) values ('ANIL', 'CALCUTTA');
3 insert into CUSTOMER (cname, city) values ('SUNIL', 'DELHI');
4 insert into CUSTOMER (cname, city) values ('MEHUL', 'BARODA');
5 insert into CUSTOMER (cname, city) values ('MANDAR', 'PATNA');
6 insert into CUSTOMER (cname, city) values ('NADHURI', 'NAGPUR');
7 insert into CUSTOMER (cname, city) values ('PRANOD', 'NAGPUR');
8 insert into CUSTOMER (cname, city) values ('SANDIP', 'SURAT');
9 insert into CUSTOMER (cname, city) values ('SHIVANI', 'BOMBAY');
10 insert into CUSTOMER (cname, city) values ('KRANTI', 'BOMBAY');
11 insert into CUSTOMER (cname, city) values ('NAREN', 'BOMBAY');
12 select * from CUSTOMER;
```

10 rows

```
1 create table CUSTOMER (cname varchar(15),city varchar(20)NOT NULL,PRIMARY KEY(cname));
2 insert into CUSTOMER (cname, city) values ('ANIL', 'CALCUTTA');
3 insert into CUSTOMER (cname, city) values ('SUNIL', 'DELHI');
4 insert into CUSTOMER (cname, city) values ('MEHUL', 'BARODA');
5 insert into CUSTOMER (cname, city) values ('HAMDAR', 'PATNA');
6 insert into CUSTOMER (cname, city) values ('HADHURI', 'NAGPUR');
7 insert into CUSTOMER (cname, city) values ('PRANOD', 'NAGPUR');
8 insert into CUSTOMER (cname, city) values ('SANDIP', 'SURAT');
9 insert into CUSTOMER (cname, city) values ('SHIVANI', 'BOMBAY');
10 insert into CUSTOMER (cname, city) values ('KRANTI', 'BOMBAY');
11 insert into CUSTOMER (cname, city) values ('NAREN', 'BOMBAY');
12 select * from CUSTOMER;
```

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

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```
11 insert into CUSTOMER (cname, city) values ('NAREN', 'BOMBAY');
12 select cname from CUSTOMER where city='NAGPUR';
13
14 create table BRANCH (BNAME varchar(20),CITY varchar(30)NOT NULL);
15 insert into BRANCH (BNAME, CITY) values ('VRCE', 'NAGPUR');
16 insert into BRANCH (BNAME, CITY) values ('AJNI', 'NAGPUR');
17 insert into BRANCH (BNAME, CITY) values ('KAROLBAGH', 'DELHI');
18 insert into BRANCH (BNAME, CITY) values ('CHANDNI', 'DELHI');
19 insert into BRANCH (BNAME, CITY) values ('DHARAMPETH', 'NAGPUR');
20 insert into BRANCH (BNAME, CITY) values ('MG ROAD', 'BANGALORE');
21 insert into BRANCH (BNAME, CITY) values ('ANDHERI', 'BOMBAY');
22 insert into BRANCH (BNAME, CITY) values ('NAHRU PALACE', 'DELHI');
23 insert into BRANCH (BNAME, CITY) values ('POWAI', 'BOMBAY');
24 select * from BRANCH;
```

9 rows

BNAME	CITY
VRCE	NAGPUR
AJNI	NAGPUR
KAROLBAGH	DELHI
CHANDNI	DELHI
DHARAMPETH	NAGPUR
MG ROAD	BANGALORE
ANDHERI	BOMBAY
NAHRU PALACE	DELHI
POWAI	BOMBAY

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```
8 insert into CUSTOMER (cname, city) values ('SANDIP', 'BOMBAY');
9 insert into CUSTOMER (cname, city) values ('SHIVANI', 'BOMBAY');
10 insert into CUSTOMER (cname, city) values ('KRANTI', 'BOMBAY');
11 insert into CUSTOMER (cname, city) values ('NAREN', 'BOMBAY');
12 select cname from CUSTOMER;
```

10 rows

cname
ANIL
KRANTI
MADHURI
MANDAR
MEHUL
NAREN
PRAMOD
SANDIP
SHIVANI
SUNIL

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```
12 select cname from CUSTOMER where city='NAGPUR';
13
14 create table BRANCH (BNAME varchar(20),CITY varchar(30)NOT NULL);
15 insert into BRANCH (BNAME, CITY) values ('VRCE', 'NAGPUR');
16 insert into BRANCH (BNAME, CITY) values ('AJNI', 'NAGPUR');
17 insert into BRANCH (BNAME, CITY) values ('KAROLBAGH', 'DELHI');
18 insert into BRANCH (BNAME, CITY) values ('CHANDNI', 'DELHI');
19 insert into BRANCH (BNAME, CITY) values ('DHARAMPETH', 'NAGPUR');
20 insert into BRANCH (BNAME, CITY) values ('MG ROAD', 'BANGALORE');
21 insert into BRANCH (BNAME, CITY) values ('ANDHERI', 'BOMBAY');
22 insert into BRANCH (BNAME, CITY) values ('NAHRU PALACE', 'DELHI');
23 insert into BRANCH (BNAME, CITY) values ('POWAI', 'BOMBAY');
24 select * from BRANCH;
25 select BNAME from BRANCH;
```

9 rows

BNAME
VRCE
AJNI
KAROLBAGH
CHANDNI
DHARAMPETH
MG ROAD
ANDHERI
NAHRU PALACE
POWAI

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Database ▾ Queries ▾ Export ▾ Share snippet Run ▶

```
1 create table CUSTOMER (cname varchar(15),city varchar(20)NOT NULL,PRIMARY KEY(cname));
2 insert into CUSTOMER (cname, city) values ('ANIL', 'CALCUTTA');
3 insert into CUSTOMER (cname, city) values ('SUNIL', 'DELHI');
4 insert into CUSTOMER (cname, city) values ('HEHUL', 'BARODA');
5 insert into CUSTOMER (cname, city) values ('HANDAR', 'PATNA');
6 insert into CUSTOMER (cname, city) values ('MADHURI', 'NAGPUR');
7 insert into CUSTOMER (cname, city) values ('PRAMOD', 'NAGPUR');
8 insert into CUSTOMER (cname, city) values ('SANDIP', 'SURAT');
9 insert into CUSTOMER (cname, city) values ('SHIVANI', 'BOMBAY');
10 insert into CUSTOMER (cname, city) values ('KRANTI', 'BOMBAY');
11 insert into CUSTOMER (cname, city) values ('NAREN', 'BOMBAY');
12 select cname from CUSTOMER where city='NAGPUR';
```

2 rows

cname
MADHURI
PRAMOD

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Go to Settings to activate Windows.

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Database Queries Export Share Snippet RUN

```
12 select cname from CUSTOMER where city='MAGPUR';
13
14 create table BRANCH (BNAME varchar(20),CITY varchar(30)NOT NULL);
15 insert into BRANCH (BNAME, CITY) values ('VRCE', 'MAGPUR');
16 insert into BRANCH (BNAME, CITY) values ('AJNI', 'MAGPUR');
17 insert into BRANCH (BNAME, CITY) values ('KAROLBAGH', 'DELHI');
18 insert into BRANCH (BNAME, CITY) values ('CHANDNI', 'DELHI');
19 insert into BRANCH (BNAME, CITY) values ('DHARAMPETH', 'MAGPUR');
20 insert into BRANCH (BNAME, CITY) values ('MG ROAD', 'BANGALORE');
21 insert into BRANCH (BNAME, CITY) values ('ANDHERI', 'BOMBAY');
22 insert into BRANCH (BNAME, CITY) values ('NAHRU PALACE', 'DELHI');
23 insert into BRANCH (BNAME, CITY) values ('POWAI', 'BOMBAY');
24 select * from BRANCH;
25 select BNAME from BRANCH;
26 select BNAME from BRANCH where CITY='BOMBAY';
```

2 rows

BNAME
ANDHERI
POWAI

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Database Queries Export Share Snippet RUN

```
13
14 create table BRANCH (BNAME varchar(20),CITY varchar(30)NOT NULL);
15 insert into BRANCH (BNAME, CITY) values ('VRCE', 'MAGPUR');
16 insert into BRANCH (BNAME, CITY) values ('AJNI', 'MAGPUR');
17 insert into BRANCH (BNAME, CITY) values ('KAROLBAGH', 'DELHI');
18 insert into BRANCH (BNAME, CITY) values ('CHANDNI', 'DELHI');
19 insert into BRANCH (BNAME, CITY) values ('DHARAMPETH', 'MAGPUR');
20 insert into BRANCH (BNAME, CITY) values ('MG ROAD', 'BANGALORE');
21 insert into BRANCH (BNAME, CITY) values ('ANDHERI', 'BOMBAY');
22 insert into BRANCH (BNAME, CITY) values ('NAHRU PALACE', 'DELHI');
23 insert into BRANCH (BNAME, CITY) values ('POWAI', 'BOMBAY');
24 select * from BRANCH;
25 select BNAME from BRANCH;
26 select BNAME from BRANCH where CITY='BOMBAY';
27 select BNAME from BRANCH where CITY='DELHI';
```

3 rows

BNAME
KAROLBAGH
CHANDNI
NAHRU PALACE

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Database Queries Export Share Snippet RUN

```
14 create table BRANCH (BNAME varchar(20),CITY varchar(30)NOT NULL);
15 insert into BRANCH (BNAME, CITY) values ('VRCE', 'MAGPUR');
16 insert into BRANCH (BNAME, CITY) values ('AJNI', 'MAGPUR');
17 insert into BRANCH (BNAME, CITY) values ('KAROLBAGH', 'DELHI');
18 insert into BRANCH (BNAME, CITY) values ('CHANDNI', 'DELHI');
19 insert into BRANCH (BNAME, CITY) values ('DHARAMPETH', 'MAGPUR');
20 insert into BRANCH (BNAME, CITY) values ('MG ROAD', 'BANGALORE');
21 insert into BRANCH (BNAME, CITY) values ('ANDHERI', 'BOMBAY');
22 insert into BRANCH (BNAME, CITY) values ('NAHRU PALACE', 'DELHI');
23 insert into BRANCH (BNAME, CITY) values ('POWAI', 'BOMBAY');
24 select * from BRANCH;
25 select BNAME from BRANCH;
26 select BNAME from BRANCH where CITY='BOMBAY';
27 select BNAME from BRANCH where CITY='DELHI';
28 select CITY from BRANCH where BNAME='KAROLBAGH';
```

1 row

CITY
DELHI

EXPERIMENT NO. 3

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

insert 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	

2.Modifying the structure of tables

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

b.Dropping a column from a table: sal

c.Modifying existing column :ename varchar2(15)

d.Renaming the tables: emp to emp1

e.truncating the tables:emp1

f.Destroying tables:emp

3.Create a table stud with sname varchar2(20) primary key , rollno number(10) not null,dob date not null

4.Create a table student as regno number (6), mark number (3) check constraint (mark >=0 and mark <=100)); In table student add check constraint(length(regno<=4))

5.Create a table cust with(custid number(6) constraint unique, name char(10) 6. Refer the table “stud” in table “ student”

OUTPUT

```
CREATE TABLE emp(EMPNO INT(4) PRIMARY KEY, ENAME CHAR(10), HIREDATE DATE, SALARY INT(5), COMMISSION INT(5));
```

```
INSERT INTO emp(EMPNO,ENAME,HIREDATE,SALARY) VALUES (101,'RAMESH','1980-01-17',5000),(102,'AJAY','1985-07-05',5000), (103,'RAVI','1981-08-12',1500),(104,'Nikesh','1983-03-03',3000), (105,'Ravi','1985-07-05',3000);
```

```
ALTER TABLE emp ADD sal int;
```

```
ALTER TABLE emp DROP COLUMN sal;
```

```
ALTER TABLE emp MODIFY ename VARCHAR(15);
```

```
RENAME table emp to emp1; TRUNCATE TABLE emp1;
```

```
DROP TABLE emp1; CREATE TABLE stud(sname varchar(20) PRIMARY KEY, rollno int NOT NULL, dob date NOT NULL); SELECT * FROM stud;
```

```
Create table student (regno int, mark int(3) constraint b check (mark >=0 and mark <=100));
```

```
SELECT * from STUDENT;
```

```
Alter table student add regno check (length(regno)<=4));
```

```
CREATE TABLE cust(custid number(6) UNIQUE, name char(10));
```

```
OUTPUT: mysql> CREATE TABLE emp(EMPNO NUMBER(4) PRIMARY KEY, -> ENAME CHAR(10), -> HIREDATE DATE, -> SALARY NUMBER(5), -> COMMISSION NUMBER(5)); ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'NUMBER(4) PRIMARY KEY, ENAME CHAR(10),
```

```
mysql> INSERT INTO emp(EMPNO,ENAME,HIREDATE,SALARY) VALUES(101,'RAMESH','17-01-1980',5000);  
mysql> INSERT INTO emp(EMPNO,ENAME,HIREDATE,SALARY) VALUES(101,'RAMESH','1980-01-17',5000);  
Query OK, 1 row affected (0.01 sec)
```

```
mysql> INSERT INTO emp(EMPNO,ENAME,HIREDATE,SALARY,COMMISSION) VALUES(102,'AJAY','05-07-1985',5000,500);
```

```
mysql> INSERT INTO emp(EMPNO,ENAME,HIREDATE,SALARY,COMMISSION) VALUES(102,'AJAY','1985-07-05',5000,500);
```

```
Query OK, 1 row affected (0.00 sec)
```

```
mysql> INSERT INTO emp(EMPNO,ENAME,HIREDATE,SALARY) VALUES(103,'RAVI','1981-08-12',1500);  
Query OK, 1 row affected (0.01 sec)
```

```
mysql> INSERT INTO emp(EMPNO,HIREDATE,SALARY,COMMISSION) VALUES(104,'Nikesh','1983-03-03',3000,700);
```

```
mysql> INSERT INTO emp(EMPNO,ENAME,HIREDATE,SALARY,COMMISSION) VALUES(104,'Nikesh','1983-03-03',3000,700);
```

```
Query OK, 1 row affected (0.01 sec)
```

```
mysql> INSERT INTO emp(EMPNO,ENAME,HIREDATE,SALARY) VALUES(105,'Ravi','1985-07-05',3000);  
Query OK, 1 row affected (0.01 sec)
```

```
mysql> ALTER TABLE emp ADD sal number(7,2);
```

```
mysql> ALTER TABLE emp ADD sal int;
```

```
Query OK, 0 rows affected (0.03 sec)
```

Records: 0 Duplicates: 0 Warnings: 0

```
mysql> select * from emp -> select * from emp;
```

MySQL server version for the right syntax to use near 'select * from emp' at line 2

```
mysql> select * from emp; EMPNO ENAME HIREDATE SALARY COMMISSION 101 RAMESH 198
```

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

5 rows in set (0.00 sec)

```
mysql> ALTER TABLE emp DROP COLUMN sal;
```

Query OK, 0 rows affected (0.06 sec) Records: 0 Duplicates: 0 Warnings: 0

```
mysql> select * from emp;
```

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

5 rows in set (0.00 sec)

```
mysql> ALTER TABLE emp MODIFY ename VARCHAR(15);
```

Query OK, 5 rows affected (0.06 sec)

Records: 5 Duplicates: 0 Warnings: 0

```
mysql> select * from emp;
```

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

5 rows in set (0.00 sec)

mysql> RENAME table emp to emp1;

Query OK, 0 rows affected (0.02 sec)

mysql> select * from emp1;

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

5 rows in set (0.00 sec)

mysql> TRUNCATE TABLE emp1;

Query OK, 0 rows affected (0.03 sec)

mysql> select * from emp1;

Empty set (0.00 sec)

mysql> desc emp1;

Field	Type	Null	Key	Default	Extra
EMPNO	int	NO	PRI	NULL	
ename	varchar(15)	YES		NULL	
HIREDATE	date	YES		NULL	
SALARY	int	YES		NULL	
COMMISSION	int	YES		NULL	

5 rows in set (0.01 sec)

mysql> DROP TABLE emp1;

Query OK, 0 rows affected (0.03 sec)

mysql> mysql> CREATE TABLE stud(sname varchar(20) PRIMARY KEY, -> rollno NOT NULL, -> dob date NOT NULL)

mysql> CREATE TABLE stud(sname varchar(20) PRIMARY KEY,rollno int NOT NULL, dob date NOT NULL);
Query OK, 0 rows affected (0.04 sec)

mysql> Create table student (regno int,mark int(3) constraint b check (mark >=0 and mark<=100));

Query OK, 0 rows affected, 1 warning (0.03 sec)

mysql> select * from student;

Empty set (0.02 sec)

```
mysql> desc student;
```

Field	Type	Null	Key	Default	Extra
regno	int	YES		NULL	
mark	int	YES		NULL	

2 rows in set (0.01 sec)

```
mysql> Alter table student add constraint b2 check (length(regno)<=4);
```

```
mysql> select * from student;
```

Empty set (0.00 sec)

```
mysql> desc student;
```

Field	Type	Null	Key	Default	Extra
regno	int	YES		NULL	
mark	int	YES		NULL	

EXPERIMENT NO. 4

AIM To familiarize with aggregate functions 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

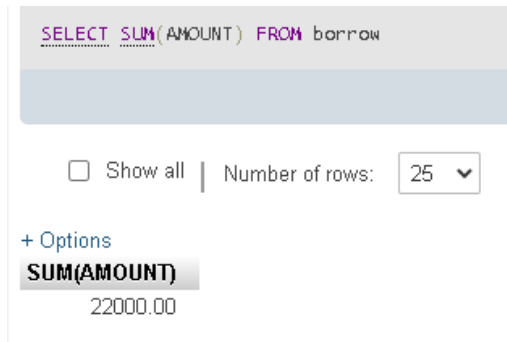
15.Count total number of depositors branch wise

16.Give maximum loan from branch VRCE

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

1.List total loan

```
SELECT SUM(AMOUNT) FROM borrow;
```

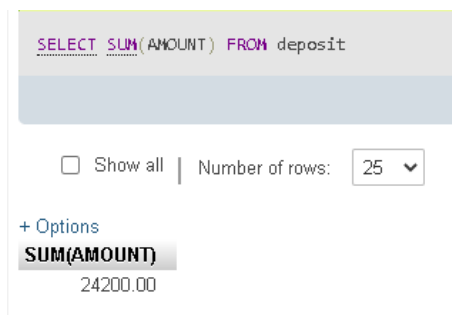


The screenshot shows a SQL query editor with the query `SELECT SUM(AMOUNT) FROM borrow`. Below the query, there is a table with one row and one column. The column header is `SUM(AMOUNT)` and the value is `22000.00`. There are also controls for 'Show all' and 'Number of rows: 25'.

SUM(AMOUNT)
22000.00

2.List total deposit

```
SELECT SUM(AMOUNT) FROM deposit;
```



The screenshot shows a SQL query editor with the query `SELECT SUM(AMOUNT) FROM deposit`. Below the query, there is a table with one row and one column. The column header is `SUM(AMOUNT)` and the value is `24200.00`. There are also controls for 'Show all' and 'Number of rows: 25'.

SUM(AMOUNT)
24200.00

3.List total loan taken from KAROLBAGH branch

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



```
SELECT MAX(AMOUNT) FROM borrow WHERE BNAME = 'KAROLBAGH'
```

☐ Show all | Number of rows: 25 | Filter rows:

+ Options

MAX(AMOUNT)

NULL

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

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

```
SELECT SUM(AMOUNT) from deposit where adate>'1995-03-01'
```

☐ Show all | Number of rows: 25 | Filter rows:

+ Options

SUM(AMOUNT)

14700.00

5. List total deposit of customers living in city NAGPUR

```
SELECT SUM(D1.AMOUNT) FROM desposit D1 , customer C1 WHERE C1.CITY = 'NAGPUR' AND C1.CNAME = D1.CNAME;
```

+ Options

SUM(D1.AMOUNT)

4200.00

6. List maximum deposit of customer living in Bombay

```
SELECT MAX(D1.AMOUNT) FROM deposit D1 , customer C1 WHERE C1.CITY = 'Bombay' AND C1.CNAME = D1.CNAME;
```

+ Options

MAX(D1.AMOUNT)

5000.00

7. List total deposit of customer having branch in BOMBAY

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

+ Options

SUM(AMOUNT)
48400.00

8.Count total number of branch cities

SELECT COUNT(DISTINCT (CITY)) FROM branch ;

+ Options

COUNT(DISTINCT (CITY))
4

9.Count total number of customers cities

SELECT COUNT (CITY) FROM customer;

SELECT COUNT(CITY) FROM customer

+ Options

COUNT(CITY)
10

10.Give branch names and branch wise deposit

SELECT BNAME , SUM(AMOUNT) FROM desposit GROUP BY BNAME;

+ Options

	BNAME	SUM(AMOUNT)
<input type="checkbox"/> Edit Copy Delete	ANDHERI	2000.00
<input type="checkbox"/> Edit Copy Delete	ANJUNI	500.00
<input type="checkbox"/> Edit Copy Delete	CHANDNI	1200.00
<input type="checkbox"/> Edit Copy Delete	KAROLBAGH	3500.00
<input type="checkbox"/> Edit Copy Delete	MG ROAD	3000.00
<input type="checkbox"/> Edit Copy Delete	NEHRU PALACE	5000.00
<input type="checkbox"/> Edit Copy Delete	POWAI	7000.00
<input type="checkbox"/> Edit Copy Delete	VIRAR	1000.00
<input type="checkbox"/> Edit Copy Delete	VRCE	1000.00

11.Give city wise name and branch wise deposit

SELECT C1.CITY , SUM(D1.AMOUNT) FROM customer C1 , deposit D1 WHERE D1.CNAME = C1.CNAME GROUP BY C1.CITY;

+ Options	
← T →	
	CITY
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	BARODA
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	BOMBAY
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	CALCUTTA
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	DELHI
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	NAGPUR
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	SURAT

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

SELECT BNAME , SUM(AMOUNT) FROM borrow, customer WHERE city ='NAGPUR'
GROUP BY BNAME;

+ Options	
BNAME	SUM(AMOUNT)
AJNI	10000.00
ANDHERI	4000.00
DHARAMPETH	6000.00
NEHRU PALACE	6000.00
VIRAR	16000.00
VRCE	2000.00

13. Count total number of customers

SELECT count(cname) from CUSTOMER;

+ Options	
count(cname)	
10	

14. Count total number of depositors branch wise

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

+ Options	
BName	count(*)
ANDHERI	1
ANJNI	1
CHANDNI	1
KAROLBAGH	1
MG ROAD	1
NEHRU PALACE	1
VIRAR	1
VRCE	1

15.Count total number of depositors branch wise

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

+ Options

BName	count(*)
ANDHERI	1
ANJNI	1
CHANDNI	1
KAROLBAGH	1
MG ROAD	1
NEHRU PALACE	1
VIRAR	1
VRCE	1

16.Give maximum loan from branch VRCE

SELECT MAX(AMOUNT) FROM borrow WHERE BNAME ='VRCE';

+ Options

MAX(AMOUNT)
1000.00

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

SELECT COUNT(DISTINCT (CNAME)) FROM customer WHERE CNAME IN ((SELECT CNAME FROM deposit) INTERSECT (SELECT CNAME FROM borrow));

+ Options

COUNT(DISTINCT (CNAME))
6

EXPERIMENT NO. 5

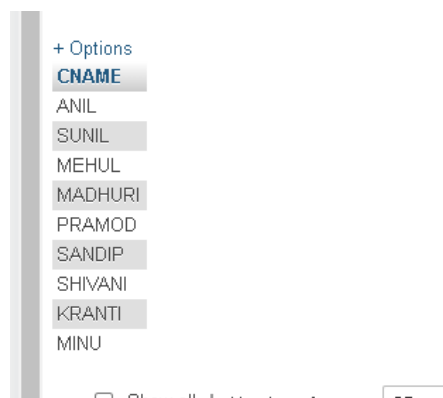
AIM To familiarize with set operations Questions

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

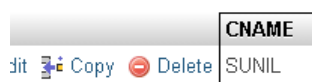
1. List all the customers who are both depositors and borrower

SELECT CNAME FROM DEPOSIT UNION (SELECT CNAME FROM BORROW);



2. List all the depositors having deposit in all the branches where Sunil is having Account

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



4. List all the customers living in city NAGPUR and having branch city BOMBAY or DELHI

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');

CNAME
MADHURI

5.List all the depositors living in city NAGPUR

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

+ Options
CNAME
MADHURI
PRAMOD

6. List all the depositors living in the city NAGPUR and having branch in city BOMBAY

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');

CNAME

7.List the branch cities of Anil and Sunil

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

CITY
Delete NAGPUR

11. List all the cities where branches of Anil and Sunil are locate

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

CITY
Delete NAGPUR

EXPERIMENT NO. 6

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

OUTPUT

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

```
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
-------	-------	-------	------	------	-------

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

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

+ Options

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

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

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

	CNAME
ete	MADHURI
ete	PRAMOD

Give names of borrowers having deposit amount greater than 1000 and loan amount greater than 2000.

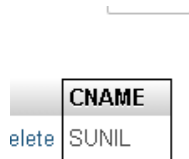
```
SELECT BR1.CNAME, BR1.AMOUNT, D1.CNAME, D1.AMOUNT FROM BORROW BR1,DEPOSIT D1
WHERE D1.CNAME = BR1.CNAME AND D1.AMOUNT > 1000 AND BR1.AMOUNT > 2000;
```

+ Options

CNAME	AMOUNT	CNAME	AMOUNT
MEHUL	5000.00	MEHUL	3500.00
PRAMOD	8000.00	PRAMOD	3000.00
KRANTI	3000.00	KRANTI	5000.00

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

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



CNAME	BNAME
	SUNIL

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

```
SELECT BR1.CNAME, BR1.AMOUNT FROM BORROW BR1 WHERE BR1.AMOUNT > ALL (SELECT BR2.AMOUNT FROM BORROW BR2 WHERE BR2.CNAME = 'PRAMOD');
```



CNAME	AMOUNT
-------	--------

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

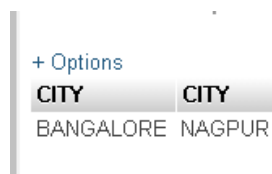
```
SELECT C.CNAME FROM CUSTOMER C WHERE C.CITY IN (SELECT B.CITY FROM BRANCH B WHERE B.BNAME IN (SELECT D.BNAME FROM DEPOSIT D WHERE D.CNAME='SUNIL'));
```



CNAME	CITY
-------	------

Give branch city and living city of Pramod

```
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;
```



CITY	CITY
BANGALORE	NAGPUR





Give branch city of Sunil and branch city of Anil

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

	CITY
 Delete	NAGPUR

Give the living city of Anil and the living city of Sunil

```
SELECT C1.CNAME, C1.CITY FROM CUSTOMER C1 WHERE C1.CNAME = 'ANIL' OR C1.CNAME =  
'SUNIL';
```

	CNAME	CITY
Edit  Copy  Delete	ANIL	CALCUTTA
Edit  Copy  Delete	SUNIL	DELHI

EXPERIMENT NO. 7

AIM To familiarize with Group by and Having clause Questions

- 1.List the branches having sum of deposit more than 5000.
- 2.List the branches having sum of deposit more than 500 and located in city BOMBAY
- 3.List the names of customers having deposited in the branches where the average deposit is more than 5000.
- 4.List the names of customers having maximum deposit
- 5.List the name of branch having highest number of depositors?
- 6.Count the number of depositors living in NAGPUR.
- 7.Give names of customers in VRCE branch having more deposit than any other customer in same branch
- 8.Give the names of branch where number of depositors is more than 5
- 9.Give the names of cities in which the maximum number of branches are located
- 10.Count the number of customers living in the city where branch is located

OUTPUT

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

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

BNAME
POWAI

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

```
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)>500;
```

BNAME
ANDHERI
POWAI

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);
```

CNAME
MINU

4. List the names of customers having maximum deposit

```
SELECT CNAME, MAX(AMOUNT) "AMOUNT" FROM deposit;
```

	CNAME	AMOUNT
te	ANIL	7000.00

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);
```

6. Count the number of depositors living in NAGPUR.

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

+ Options

count(deposit.cname)
18

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

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

CNAME
te ANIL

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;
```

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;

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);

+ Options

count(b1.bname)

6

EXPERIMENT NO. 8

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`));
```

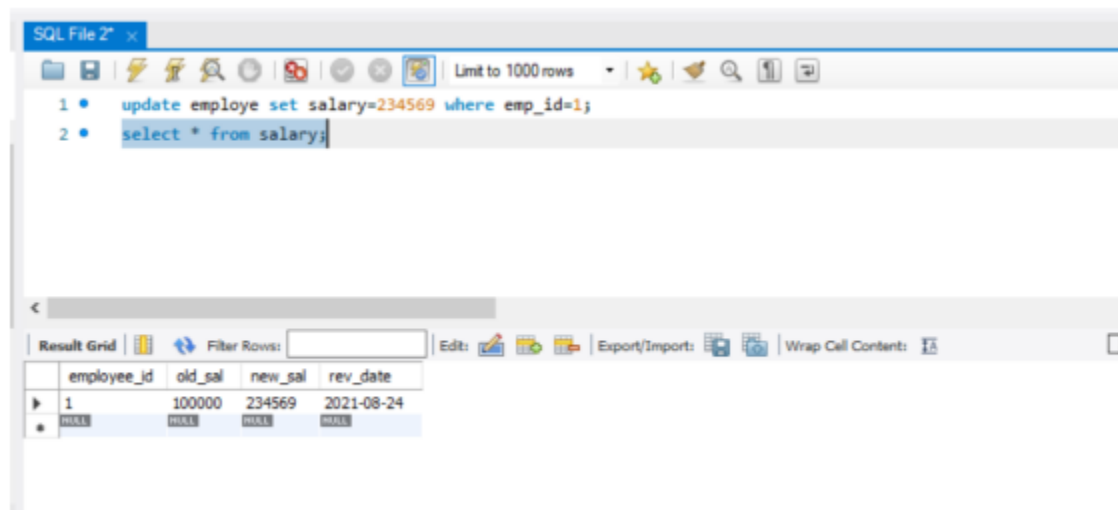
```
Sql> CREATE DEFINER=`root`@`localhost` TRIGGER `employee_db`.`employee_AFTER_UPDATE` AFTER UPDATE ON `employee` FOR EACH ROW BEGIN if(new.salary != old.salary)
```

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 employee set salary=234569 where emp_id=1; select * from salary;
```

OUTPUT



AIM To have familiarize with trigger functions

Question

Create a Trigger for employee table it will update another table personal_updates 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.

Step3: On update the trigger has to be executed.

step 4: execute the trigger procedure after updation

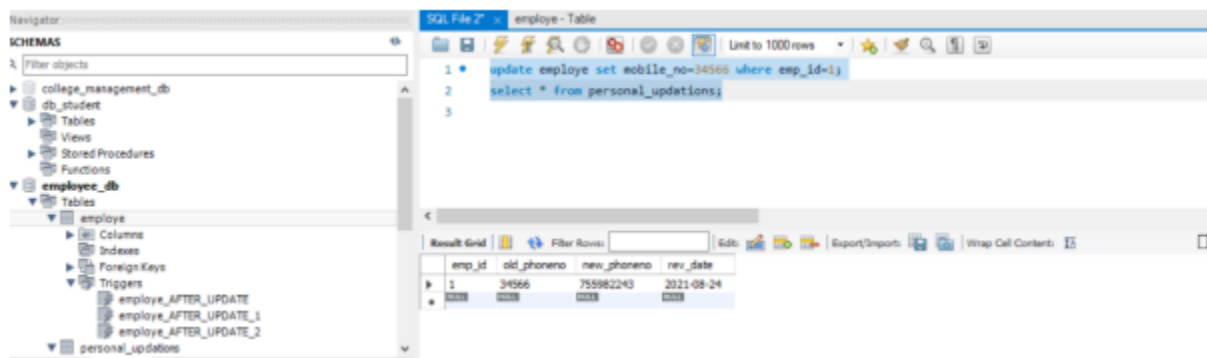
step 5: carryout the operation on the table to check for trigger execution.

step 6: stop

PROGRAM

```
sql> CREATE TABLE `employee` ( `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_updatations` ( `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 `employee_AFTER_UPDATE_1` AFTER UPDATE ON  
`employee`  
FOR EACH ROW BEGIN if(new.mobile_no != old.mobile_no)  
then  
  
INSERT INTO personal_updatations (emp_id,old_phoneno,new_phoneno,rev_date) values  
(new.emp_id,new.mobile_no,old.mobile_no,sysdate());  
  
END if;  
  
END  
  
sql> update employee set mobile_no=34566 where emp_id=4 ; select * from personal_updatations;
```

OUTPUT



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
```



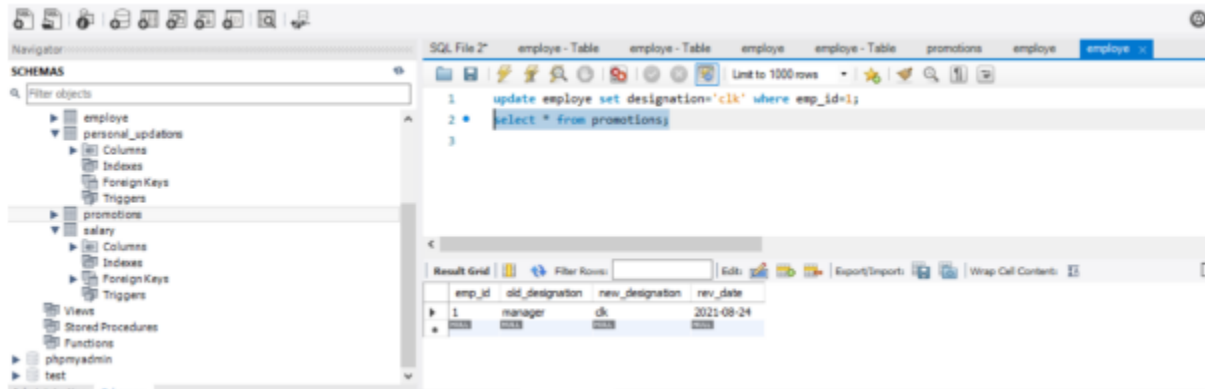
```
INSERT INTO promotions (emp_id,old_designation,new_designation,rev_date) values  
(new.emp_id,new.designation,old.designation,sysdate());
```

```
END if;
```

```
END
```

```
sql> update employe set designation='clk' where emp_id=1; select * from promotions;
```

OUTPUT



EXPERIMENT NO. 9

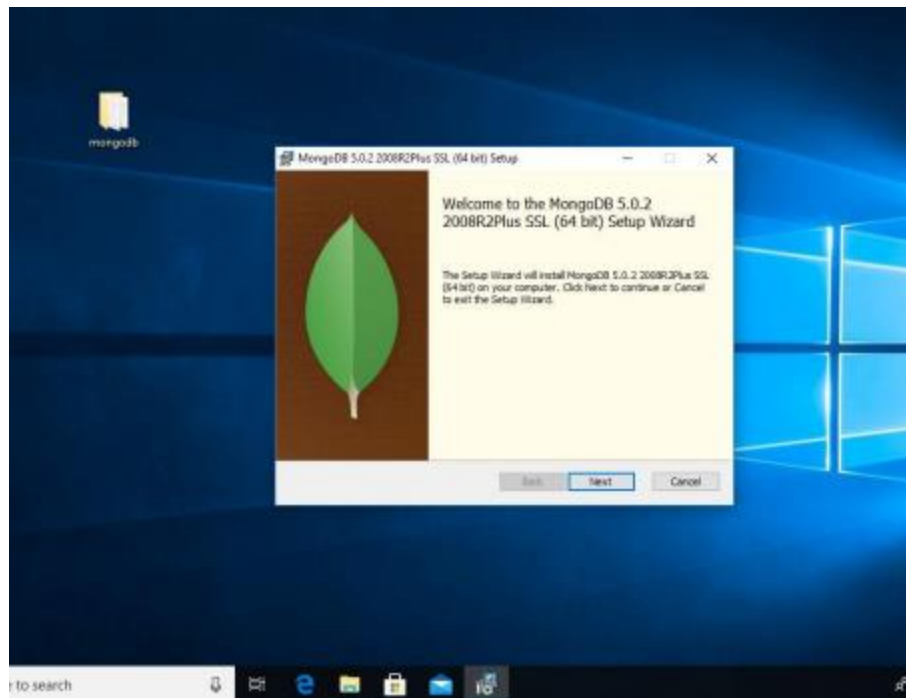
How to Download & Install MongoDB on Windows

The installers for MongoDB are available in both the 32-bit and 64-bit format. The 32-bit installers are good for development and test environments. But for production environments you should use the 64-bit installers. Otherwise, you can be limited to the amount of data that can be stored within MongoDB.

Download & Install MongoDB on Windows

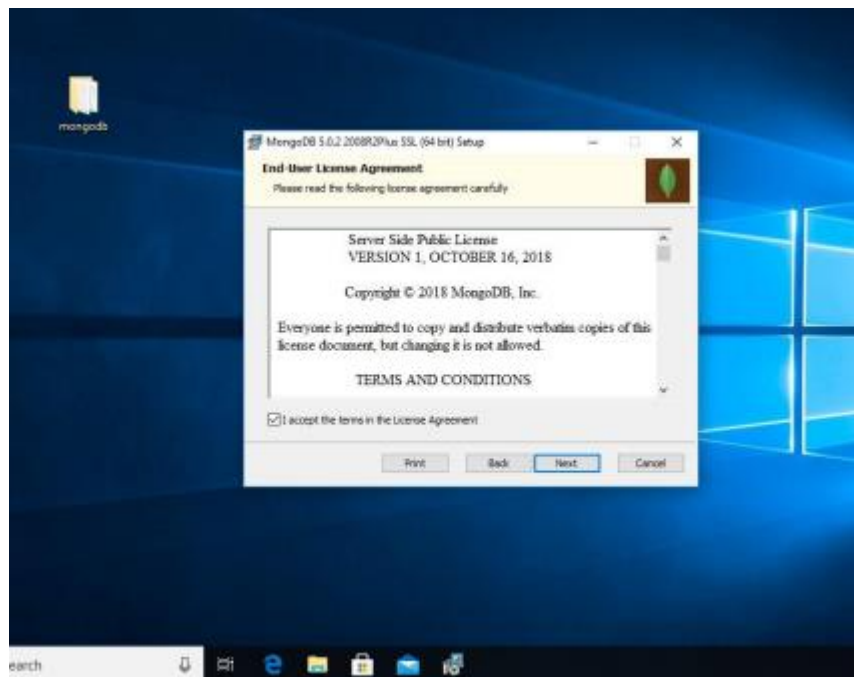
The following steps can be used to install MongoDB on Windows 10:

Step 1: After downloading MongoDB, open the msi file and click next.



Step 2:

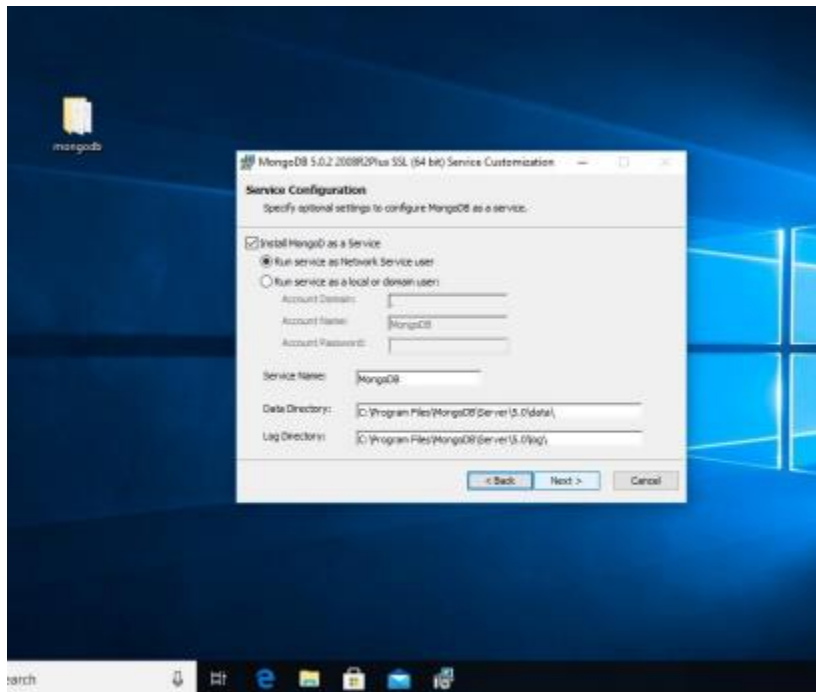
- a. Accept the End-User License Agreement
- b. Click next



Step 3: Click on the "complete" button to install all of the components.

The custom option can be used to install selective components or if you want to change the location of the installation.

1. Select "Run service as Network Service user". Make a note of the data directory, we'll need this later.
2. Click Next



Step 4: Click on the Install button to start the installation.

Installation begins. Click next once completed.

Click on the Finish button to complete the installation.

