Winter – SEMESTER 2022 - 23
Course Code: MCSE506P
Course-Title: – Database Systems Lab
DIGITAL ASSIGNMENT - 1
(LAB)

Name: Nidhi Singh
Reg. No:22MAI0015

Slot- L29+L30

Faculty: Dr. KARTHIK G M - SCOPE

1.A CREATION OF SCHEMAS

CREATION OF TABLES:

SQL> create table customer (customer_name char(20), customer_street char(30), customer_city char(30), primary key(customer_name));

```
SQL> create table customer(customer_name char(20),customer_street char(30),customer_city char(30)
,primary key(customer_name));

Table created.
```

SQL> desc customer

```
SQL> desc customer;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------


 CUSTOMER_NAME                             NOT NULL CHAR(20)
 CUSTOMER_STREET                                    CHAR(30)
 CUSTOMER_CITY                                      CHAR(30)

SQL>
```

SQL> create table branch (branch_name char(15),branch_city char(30), assets numeric(16,2), primary key(branch_name), check (assets>=0),check(branch_name in (‘sbi’, ‘pnb’, ‘iob’, ‘icc’, ‘kvb’, ‘icici’, ‘hdfc’, ‘hsbc’)));

```
SQL> create table branch(branch_name char(15),branch_city char(30),assets numeri
c(16,2),primary key(branch_name),check (assets>=0),check(branch_name in('sbi','p
nb','iob','icc','kvb','icici','hdfc','hsbc')));

Table created.
```

SQL> desc branch

```
SQL> desc branch;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------

 BRANCH_NAME                               NOT NULL CHAR(15)
 BRANCH_CITY                                        CHAR(30)
 ASSETS                                             NUMBER(16,2)

SQL>
```

SQL> create table account (account_no char(10),branch_name char(15), balance numeric (12,2) check (balance >0), primary key(account_no));

```
 SQL> create table account(account_no char(10),branch_name char(15),balance numeric(12,2)
check(balance>0),primary key(account_no),foreign key(branch_name) references branch
(branch_name));

Table created.
```

SQL> desc account

```
SQL> desc account;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------

 ACCOUNT_NO                                NOT NULL CHAR(10)
 BRANCH_NAME                                        CHAR(15)
 BALANCE                                            NUMBER(12,2)
```

SQL> create table depositor (customer_name char(20), account_no char(10), primary key (customer_name,account_no));

```
SQL> create table depositor (customer_name char(20), account_no char(10), primary
key(customer_name,account_no));

Table created.

SQL>
```

SQL> desc depositor;

```
SQL> desc depositor;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------

 CUSTOMER_NAME                             NOT NULL CHAR(20)
 ACCOUNT_NO                                NOT NULL CHAR(10)

SQL>
```

SQL> select * from tab;

```
SQL> select *from tab;

TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE    CLUSTERID
------- ----------
LOGMNR_TABPART$
TABLE

LOGMNR_TABSUBPART$
TABLE

LOGMNR_TABCOMPART$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE    CLUSTERID
------- ----------
LOGMNR_TYPE$
TABLE

LOGMNR_COLTYPE$
TABLE

LOGMNR_ATTRIBUTE$
```

```
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_LOB$
TABLE

LOGMNR_CON$
TABLE

LOGMNR_CONTAINER$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_CDEF$
TABLE

LOGMNR_CCOL$
TABLE

LOGMNR_ICOL$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_LOBFRAG$
TABLE

LOGMNR_INDPART$
TABLE

LOGMNR_INDSUBPART$
TABLE
```

```
TNAME
--------------------------------------------------------------------------------

TABTYPE        CLUSTERID
------------- ----------
LOGMNR_INDCOMPART$
TABLE

LOGMNR_LOGMNR_BUILDLOG
TABLE

LOGMNR_NTAB$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE        CLUSTERID
------------- ----------
LOGMNR_OPQTYPE$
TABLE

LOGMNR_SUBCOLTYPE$
TABLE

LOGMNR_KOPM$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE        CLUSTERID
------------- ----------
LOGMNR_PROPS$
TABLE

LOGMNR_ENC$
TABLE

LOGMNR_REFCON$
TABLE


TNAME
--------------------------------------------------------------------------------
```

```
TABTYPE       CLUSTERID
------------- ----------
LOGMNR_IDNSEQ$
TABLE

LOGMNR_PARTOBJ$
TABLE

LOGMNRP_CTAS_PART_MAP
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_SHARD_TS
TABLE

SCHEDULER_PROGRAM_ARGS
VIEW

SCHEDULER_JOB_ARGS
VIEW


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
SCHEDULER_PROGRAM_ARGS_TBL
TABLE

SCHEDULER_JOB_ARGS_TBL
TABLE

LOGSTDBY$PARAMETERS
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGSTDBY$EVENTS
```

```
TABLE

LOGSTDBY$APPLY_PROGRESS
TABLE

LOGSTDBY$APPLY_MILESTONE
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGSTDBY$SCN
TABLE

LOGSTDBY$FLASHBACK_SCN
TABLE

LOGSTDBY$PLSQL
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGSTDBY$SKIP_TRANSACTION
TABLE

LOGSTDBY$SKIP
TABLE

LOGSTDBY$SKIP_SUPPORT
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGSTDBY$HISTORY
TABLE

LOGSTDBY$EDS_TABLES
```

```
TABLE

REPL_VALID_COMPAT
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
REPL_SUPPORT_MATRIX
TABLE

PRODUCT_PRIVS
VIEW

SQLPLUS_PRODUCT_PROFILE
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
PRODUCT_USER_PROFILE
SYNONYM

HELP
TABLE

CUSTOMER1
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
DEPOSITOR
TABLE


140 rows selected.
```

SQL> create table customer_name(cn char(20));

```
SQL> create table customer_name(cn) as select customer_name from customer;

Table created.
```

SQL> desc customer_name;

```
SQL> desc customer_name;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------

 CN                                                 CHAR(20)

SQL>
```

SQL> create table depositor (customer_name char(20), account_no char(10), primary key (customer_name, account_no));

```
SQL> create table depositor (customer_name char(20), account_no char(10),primary
 key(customer_name, account_no));
create table depositor (customer_name char(20), account_no char(10),primary key(
customer_name, account_no))
             *
ERROR at line 1:
ORA-00955: name is already used by an existing object
```

SQL> desc depositor;

```
SQL> desc depositor;
 Name                                      Null?    Type
 ----------------------------------------- -------- ---------------------------

 CUSTOMER_NAME                             NOT NULL CHAR(20)
 ACCOUNT_NO                                NOT NULL CHAR(10)

SQL>
```

SQL> create table loan (loan_no char(20), branch_name char(20), amount numeric(12,2), primary key(loan_no));

```
SQL> create table loan(loan_no char(20),branch_name char(20), amount numeric(12,2),primary
key(loan_no));

Table created.
```

SQL> desc loan;

```
SQL> desc loan;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------

 LOAN_NO                                   NOT NULL CHAR(20)
 BRANCH_NAME                                        CHAR(20)
 AMOUNT                                             NUMBER(12,2)
```

SQL> create table borrower (customer_name char(20), loan_no char(20), primary key (customer_name, loan));

```
SQL> create table borrower(customer_name char(20),loan_no char(20),primary key(c
ustomer_name,loan_no));

Table created.
```

SQL> desc borrower;

```
SQL> desc borrower;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------

 CUSTOMER_NAME                             NOT NULL CHAR(20)
 LOAN_NO                                   NOT NULL CHAR(20)

SQL>
```

SQL> select * from tab;

```
SQL> select *from tab;

TABLE


TNAME
------------------------------------------------------------------------------

TABTYPE   CLUSTERID
------- ----------
LOGMNR_TABPART$
TABLE

LOGMNR_TABSUBPART$
```

```
TABLE

LOGMNR_TABCOMPART$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_TYPE$
TABLE

LOGMNR_COLTYPE$
TABLE

LOGMNR_ATTRIBUTE$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_LOB$
TABLE

LOGMNR_CON$
TABLE

LOGMNR_CONTAINER$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_CDEF$
TABLE

LOGMNR_CCOL$
TABLE

LOGMNR_ICOL$
```

```
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_LOBFRAG$
TABLE

LOGMNR_INDPART$
TABLE

LOGMNR_INDSUBPART$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_INDCOMPART$
TABLE

LOGMNR_LOGMNR_BUILDLOG
TABLE

LOGMNR_NTAB$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_OPQTYPE$
TABLE

LOGMNR_SUBCOLTYPE$
TABLE

LOGMNR_KOPM$
TABLE
```

```
TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_PROPS$
TABLE

LOGMNR_ENC$
TABLE

LOGMNR_REFCON$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_IDNSEQ$
TABLE

LOGMNR_PARTOBJ$
TABLE

LOGMNRP_CTAS_PART_MAP
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_SHARD_TS
TABLE

SCHEDULER_PROGRAM_ARGS
VIEW

SCHEDULER_JOB_ARGS
VIEW


TNAME
--------------------------------------------------------------------------------
```

```
TABTYPE       CLUSTERID
-------------- -----------
SCHEDULER_PROGRAM_ARGS_TBL
TABLE

SCHEDULER_JOB_ARGS_TBL
TABLE

LOGSTDBY$PARAMETERS
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
-------------- -----------
LOGSTDBY$EVENTS
TABLE

LOGSTDBY$APPLY_PROGRESS
TABLE

LOGSTDBY$APPLY_MILESTONE
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
-------------- -----------
LOGSTDBY$SCN
TABLE

LOGSTDBY$FLASHBACK_SCN
TABLE

LOGSTDBY$PLSQL
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
-------------- -----------
LOGSTDBY$SKIP_TRANSACTION
```

```
TABLE

LOGSTDBY$SKIP
TABLE

LOGSTDBY$SKIP_SUPPORT
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGSTDBY$HISTORY
TABLE

LOGSTDBY$EDS_TABLES
TABLE

REPL_VALID_COMPAT
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
REPL_SUPPORT_MATRIX
TABLE

PRODUCT_PRIVS
VIEW

SQLPLUS_PRODUCT_PROFILE
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
PRODUCT_USER_PROFILE
SYNONYM

HELP
```

```
TABLE

CUSTOMER1
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
DEPOSITOR
TABLE

LOAN
TABLE

CUSTOMER
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
BRANCH
TABLE

ACCOUNT
TABLE

BORROWER
TABLE





156 rows selected.

SQL>
```

CREATING A TABLE WITH ROWS FROM ANOTHER TABLE

SQL> create table branch1 (brname, brcity) as select branch_name, brach_city from branch;

```
SQL> create table branch1(brname, brcity) as select branch_name,branch_city from
 branch;

Table created.
```

SQL> select * from branch1;

```
SQL> select * from branch1;

BRNAME         BRCITY
--------------- ------------------------------
sbi            lucknow
pnb              mirzapur
iob             mumbai
icc            sahajahapur
kvb              bengal
icici          haridwar
hdfc             varanasi
hsbc             bhuj

8 rows selected.
```

SQL> create table customer1 as select customer_name, customer_street, customer_city from customer where customer_city in (‘mumbai’, ‘delhi’,‘cochin’);

```
SQL> create table customer1 as select customer_name,customer_street,customer_cit
y from customer where customer_city in ('mumbai','delhi','varanasi');

Table created.
```

SQL> select * from customer1

```
SQL> select *from customer1;

CUSTOMER_NAME       CUSTOMER_STREET
-------------------- ------------------------------
CUSTOMER_CITY
------------------------------
shishir singh       samane ghat
varanasi
```

```
ishu            avalesh pur
varanasi

janhavi          gaov devi road
mumbai


CUSTOMER_NAME      CUSTOMER_STREET
-------------------- ------------------------------
CUSTOMER_CITY
------------------------------
ayat ibrahim khan    garegaov
mumbai
```

1.B INSERTION RECORDS INTO TABLE:

CUSTOMER SCHEMA:

SQL> select * from customer;

```
SQL> select * from customer;

no rows selected
```

SQL> insert into customer values ('&1','&2','&3');

```
SQL> insert into customer values('nidhi singh','indra nagar','varanasi');

1 row created.

SQL> insert into customer values('neha singh','niyamatpur','mirzapur');

1 row created.

SQL> insert into customer values('nilu singh','bagahi','mirzapur');

1 row created.

SQL> insert into customer values('shishir singh','samane ghat','varanasi');

1 row created.
```

```
SQL> insert into customer values('shivani','mankuva','bhuj');

1 row created.

SQL> insert into customer values('ayantika','kolkatta','bengal');

1 row created.

SQL> insert into customer values('shreya','rishikesh','haridwar');

1 row created.

SQL> insert into customer values('vivek','baliya','lala chauk');
1 row created.
```

SQL> select * from customer;

```
SQL> select *from customer;

CUSTOMER_NAME       CUSTOMER_STREET
-------------------- ------------------------------
CUSTOMER_CITY
------------------------------
neha singh          niyamatpur
mirzapur

nilu singh          bagahi
mirzapur

shishir singh       samane ghat
varanasi


CUSTOMER_NAME       CUSTOMER_STREET
-------------------- ------------------------------
CUSTOMER_CITY
------------------------------
shivani             mankuva
bhuj

ayantika            kolkatta
bengal

shreya              rishikesh
```

```
haridwar


CUSTOMER_NAME        CUSTOMER_STREET
-------------------- ------------------------------
CUSTOMER_CITY
------------------------------
vivek                baliya
lala chauk


7 rows selected.
```

SQL> insert into customer values ('&1','&2','&3');

```
SQL> insert into customer values('vaibhav','allahabad','prayagraj');

1 row created.

SQL> insert into customer values('annu','lal nagar','lucknow');

1 row created.

SQL> insert into customer values('ishu','avalesh pur','varanasi');

1 row created.

SQL> insert into customer values('divya pathak','sahajahapur','sahajahapur');

1 row created.

SQL> insert into customer values('saket','sitamadi','balia');

1 row created.

SQL> insert into customer values('janhavi','gaov devi road','mumbai');

1 row created.

SQL> insert into customer values('ayat ibrahim khan','garegaov','mumbai');

1 row created.

SQL> insert into customer values('yashodhara','guvahati','assam');
```

```
1 row created.
```

SQL> select * from customer;

```
SQL> select *from customer;

CUSTOMER_NAME        CUSTOMER_STREET
-------------------- ------------------------------
CUSTOMER_CITY
------------------------------
neha singh           niyamatpur
mirzapur

nilu singh           bagahi
mirzapur

shishir singh        samane ghat
varanasi


CUSTOMER_NAME        CUSTOMER_STREET
-------------------- ------------------------------
CUSTOMER_CITY
------------------------------
shivani              mankuva
bhuj

ayantika             kolkatta
bengal

shreya               rishikesh
haridwar


CUSTOMER_NAME        CUSTOMER_STREET
-------------------- ------------------------------
CUSTOMER_CITY
------------------------------
vivek                baliya
lala chauk

vaibhav              allahabad
prayagraj

annu                 lal nagar
```

```
lucknow


CUSTOMER_NAME        CUSTOMER_STREET
-------------------- ------------------------------
CUSTOMER_CITY
------------------------------
ishu                 avalesh pur
varanasi

divya pathak         sahajahapur
sahajahapur

saket                sitamadi
balia


CUSTOMER_NAME        CUSTOMER_STREET
-------------------- ------------------------------
CUSTOMER_CITY
------------------------------
janhavi              gaov devi road
mumbai

ayat ibrahim khan    garegaov
mumbai

yashodhara           guvahati
assam


15 rows selected.

SQL>
```

BRANCH SCHEMA:

SQL> select * from branch;

```
SQL> select * from branch;

no rows selected
```

SQL> insert into branch values ('&branch_name', '&branch_city', &assets);

```
SQL> insert into branch values('sbi','lucknow',1000000);

1 row created.

SQL> insert into branch values('pnb','mirzapur',50000);

1 row created.

SQL> insert into branch values('iob','mumbai',5000000);

1 row created.

SQL> insert into branch values('icc','sahajahapur',960000);

1 row created.

SQL> insert into branch values('kvb','bengal',9060000);

1 row created.

SQL> insert into branch values('icici','haridwar',60000);

1 row created.

SQL> insert into branch values('hdfc','varanasi',800000);

1 row created.

SQL> insert into branch values('hsbc','bhuj',8000000);

1 row created.

SQL> insert into branch values('hsbc','sahajahapur',7000000);
insert into branch values('hsbc','sahajahapur',7000000)
*
ERROR at line 1:
ORA-00001: unique constraint (SYSTEM.SYS_C008332) violated
```

SQL> select * from branch;

```
SQL> select *from branch;

BRANCH_NAME     BRANCH_CITY                    ASSETS
--------------- ------------------------------ ----------
sbi             lucknow                       1000000
pnb              mirzapur                       50000
iob             mumbai                        5000000
icc             sahajahapur                    960000
kvb              bengal                       9060000
icici           haridwar                        60000
hdfc             varanasi                      800000
hsbc             bhuj                         8000000

8 rows selected.
```

ACCOUNT SCHEMA:

SQL> select * from account;

```
SQL> select * from account;

no rows selected
```

SQL> insert into account values(‘&account_no’, ‘&branch_name’, &balance);

```
SQL> insert into account values('1010','icici',100000);

1 row created.

SQL> insert into account values('1009','hsbc',1000);

1 row created.

SQL> insert into account values('1008','hdfc',60000);

1 row created.

SQL> insert into account values('1007','icici',200000);
```

```
1 row created.

SQL> insert into account values('1006','kvb',190000);

1 row created.

SQL> insert into account values('1005','icc',10000);

1 row created.

SQL> insert into account values('1004','iob',500000);

1 row created.

SQL> insert into account values('1003','pnb',900000);

1 row created.

SQL> insert into account values('1002','sbi',907000);

1 row created.

SQL> insert into account values('1001','sbi',298790);

1 row created.
```

SQL> select * from account;

```
SQL> select * from account;

ACCOUNT_NO BRANCH_NAME        BALANCE
---------- --------------- ----------
1010       icici              100000
1009       hsbc                 1000
1008       hdfc                60000
1007       icici              200000
1006       kvb                190000
1005       icc                 10000
1004       iob                500000
1003       pnb                900000
1002       sbi                907000
1001       sbi                298790

10 rows selected.
```

DEPOSITOR SCHEMA:

SQL> select * from depositor;

```
SQL> select * from depositor;

no rows selected
```

SQL> insert into depositor values('&1','&2');

```
SQL> insert into depositor values('divya pathak','1008');

1 row created.

SQL> select * from depositor;

CUSTOMER_NAME       ACCOUNT_NO
-------------------- ----------
divya pathak        1008

SQL> insert into depositor values('divya pathak','1007');

1 row created.

SQL> insert into depositor values('divya pathak','1006');

1 row created.

SQL> insert into depositor values('divya pathak','1005');

1 row created.

SQL> insert into depositor values('ayat','1005');

1 row created.

SQL> insert into depositor values('ayat','1010');

1 row created.

SQL> insert into depositor values('ayat','1009');
```

```
1 row created.

SQL> insert into depositor values('ayat','1008');

1 row created.

SQL> insert into depositor values('ayat','1007');

1 row created.

SQL> insert into depositor values('ayantika','1007');

1 row created.

SQL> insert into depositor values('ayantika','1008');

1 row created.

SQL> insert into depositor values('ayantika','1006');

1 row created.

SQL> insert into depositor values('ayantika','1005');

1 row created.

SQL> insert into depositor values('ayantika','1004');

1 row created.


SQL> insert into depositor values('annu','1004');

1 row created.

SQL> insert into depositor values('annu','1005');

1 row created.

SQL> insert into depositor values('annu','1003');

1 row created.

SQL> insert into depositor values('annu','1002');

1 row created.
```

```
SQL> insert into depositor values('annu','1010');

1 row created.

SQL> insert into depositor values('ishu','1002');

1 row created.

SQL> insert into depositor values('ishu','1003');

1 row created.

SQL> insert into depositor values('ishu','1004');

1 row created.

SQL> insert into depositor values('ishu','1005');

1 row created.

SQL> insert into depositor values('ishu','1006');

1 row created.

SQL> insert into depositor values('janhavi','1006');

1 row created.

SQL> insert into depositor values('janhavi','1007');

1 row created.

SQL> insert into depositor values('janhavi','1008');

1 row created.

SQL> insert into depositor values('janhavi','1009');

1 row created.

SQL> insert into depositor values('janhavi','1010');

1 row created.

SQL> insert into depositor values('neha singh','1010');
```

```
1 row created.

SQL> insert into depositor values('neha singh','1009');

1 row created.

SQL> insert into depositor values('neha singh','1008');

1 row created.

SQL> insert into depositor values('neha singh','1007');

1 row created.

SQL> insert into depositor values('neha singh','1006');

1 row created.

SQL> insert into depositor values('nilu singh','1006');

1 row created.

SQL> insert into depositor values('nilu singh','1005');

1 row created.

SQL> insert into depositor values('nilu singh','1004');

1 row created.

SQL> insert into depositor values('nilu singh','1003');

1 row created.

SQL> insert into depositor values('nilu singh','1002');

1 row created.

SQL> insert into depositor values('nilu singh','1001');

1 row created.

SQL> insert into depositor values('saket','1001');

1 row created.
```

```
SQL> insert into depositor values('saket','1010');

1 row created.

SQL> insert into depositor values('saket','1009');

1 row created.

SQL> insert into depositor values('saket','1008');

1 row created.

SQL> insert into depositor values('saket','1007');

1 row created.

SQL> insert into depositor values('shishir singh','1007');

1 row created.

SQL> insert into depositor values('shishir singh','1006');

1 row created.

SQL> insert into depositor values('shishir singh','1005');

1 row created.

SQL> insert into depositor values('shishir singh','1004');

1 row created.

SQL> insert into depositor values('shishir singh','1003');

1 row created.

SQL> insert into depositor values('shishir singh','1001');

1 row created.

SQL> insert into depositor values('shivani','1006');

1 row created.

SQL> insert into depositor values('shivani','1010');
```

```
1 row created.

SQL> insert into depositor values('shivani','1009');

1 row created.

SQL> insert into depositor values('shivani','1008');

1 row created.

SQL> insert into depositor values('shreya','1008');

1 row created.

SQL> insert into depositor values('shreya','1010');

1 row created.

SQL> insert into depositor values('shreya','1003');

1 row created.

SQL> insert into depositor values('shreya','1001');

1 row created.

SQL> insert into depositor values('shreya','1005');

1 row created.

SQL> insert into depositor values('vaibhav','1005');

1 row created.

SQL> insert into depositor values('vaibhav','1004');

1 row created.

SQL> insert into depositor values('vaibhav','1003');

1 row created.

SQL> insert into depositor values('vaibhav','1001');

1 row created.
```

```
SQL> insert into depositor values('vivek','1004');

1 row created.

SQL> insert into depositor values('vivek','1006');

1 row created.

SQL> insert into depositor values('vivek','1008');

1 row created.

SQL> insert into depositor values('vivek','1010');

1 row created.
```

SQL> select * from depositor;

```
SQL> select * from depositor;

CUSTOMER_NAME        ACCOUNT_NO
-------------------- ----------
annu                 1002
annu                 1003
annu                 1004
annu                 1005
annu                 1010
ayantika               1004
ayantika               1005
ayantika               1006
ayantika               1007
ayantika               1008
ayat                 1005

CUSTOMER_NAME        ACCOUNT_NO
-------------------- ----------
ayat                 1007
ayat                 1008
ayat                 1009
ayat                 1010
divya pathak           1005
divya pathak           1006
divya pathak           1007
divya pathak           1008
```

```
ishu                 1002
ishu                 1003
ishu                 1004

CUSTOMER_NAME        ACCOUNT_NO
-------------------- ----------
ishu                 1005
ishu                 1006
janhavi              1006
janhavi              1007
janhavi              1008
janhavi              1009
janhavi              1010
neha singh           1006
neha singh           1007
neha singh           1008
neha singh           1009

CUSTOMER_NAME        ACCOUNT_NO
-------------------- ----------
neha singh           1010
nilu singh           1001
nilu singh           1002
nilu singh           1003
nilu singh           1004
nilu singh           1005
nilu singh           1006
saket                1001
saket                1007
saket                1008
saket                1009

CUSTOMER_NAME        ACCOUNT_NO
-------------------- ----------
saket                1010
shishir singh        1001
shishir singh        1003
shishir singh        1004
shishir singh        1005
shishir singh        1006
shishir singh        1007
shivani              1006
shivani              1008
shivani              1009
shivani              1010
```

```
CUSTOMER_NAME        ACCOUNT_NO
-------------------- ----------
shreya               1001
shreya               1003
shreya               1005
shreya               1008
shreya               1010
vaibhav              1001
vaibhav              1003
vaibhav              1004
vaibhav              1005
vivek                1004
vivek                1006

CUSTOMER_NAME        ACCOUNT_NO
-------------------- ----------
vivek                1008
vivek                1010

68 rows selected.
```

CUSTOMERNAME SCHEMA:

```
SQL> select * from customer_name;
select * from customer_name
              *
ERROR at line 1:
ORA-00942: table or view does not exist
```

SQL> insert into customer_name values ('&1');

```
SQL> create table customer_name(cn) as select customer_name from customer;

Table created.
```

SQL> select * from customer_name;

```
SQL> select *from customer_name;

CN
system
--------------------
annu
```

```
ayantika
ayat ibrahim khan
divya pathak
ishu
janhavi
neha singh
nilu singh
saket
shishir singh
shivani

CN
--------------------
shreya
vaibhav
vivek
yashodhara

15 rows selected.
```

DEPOSITOR SCHEMA:

SQL> select * from depositor;

```
SQL> select * from depositor;

no rows selected
```

SQL> insert into depositor values('&1','&2');

```
SQL> insert into depositor values('divya pathak','1008');

1 row created.
```

SQL> select * from depositor;

```
SQL> select * from depositor;

CUSTOMER_NAME        ACCOUNT_NO
-------------------- ----------
divya pathak         1008
```

SQL> insert into depositor values('&1','&2');

```
 SQL> insert into depositor values('divya pathak','1007');

1 row created.

SQL> insert into depositor values('divya pathak','1006');

1 row created.

SQL> insert into depositor values('divya pathak','1005');

1 row created.

SQL> insert into depositor values('ayat','1005');

1 row created.

SQL> insert into depositor values('ayat','1010');

1 row created.

SQL> insert into depositor values('ayat','1009');

1 row created.

SQL> insert into depositor values('ayat','1008');

1 row created.

SQL> insert into depositor values('ayat','1007');

1 row created.

SQL> insert into depositor values('ayantika','1007');

1 row created.

SQL> insert into depositor values('ayantika','1008');

1 row created.

SQL> insert into depositor values('ayantika','1006');

1 row created.

SQL> insert into depositor values('ayantika','1005');
```

```
1 row created.

SQL> insert into depositor values('ayantika','1004');

1 row created.


SQL> insert into depositor values('annu','1004');

1 row created.

SQL> insert into depositor values('annu','1005');

1 row created.

SQL> insert into depositor values('annu','1003');

1 row created.

SQL> insert into depositor values('annu','1002');

1 row created.

SQL> insert into depositor values('annu','1010');

1 row created.

SQL> insert into depositor values('ishu','1002');

1 row created.

SQL> insert into depositor values('ishu','1003');

1 row created.

SQL> insert into depositor values('ishu','1004');

1 row created.

SQL> insert into depositor values('ishu','1005');

1 row created.

SQL> insert into depositor values('ishu','1006');

1 row created.

SQL> insert into depositor values('janhavi','1006');
```

```
1 row created.

SQL> insert into depositor values('janhavi','1007');

1 row created.

SQL> insert into depositor values('janhavi','1008');

1 row created.

SQL> insert into depositor values('janhavi','1009');

1 row created.

SQL> insert into depositor values('janhavi','1010');

1 row created.

SQL> insert into depositor values('neha singh','1010');

1 row created.

SQL> insert into depositor values('neha singh','1009');

1 row created.

SQL> insert into depositor values('neha singh','1008');

1 row created.

SQL> insert into depositor values('neha singh','1007');

1 row created.

SQL> insert into depositor values('neha singh','1006');

1 row created.

SQL> insert into depositor values('nilu singh','1006');

1 row created.

SQL> insert into depositor values('nilu singh','1005');

1 row created.

SQL> insert into depositor values('nilu singh','1004');
```

```
1 row created.

SQL> insert into depositor values('nilu singh','1003');

1 row created.

SQL> insert into depositor values('nilu singh','1002');

1 row created.

SQL> insert into depositor values('nilu singh','1001');

1 row created.

SQL> insert into depositor values('saket','1001');

1 row created.

SQL> insert into depositor values('saket','1010');

1 row created.

SQL> insert into depositor values('saket','1009');

1 row created.

SQL> insert into depositor values('saket','1008');

1 row created.

SQL> insert into depositor values('saket','1007');

1 row created.

SQL> insert into depositor values('shishir singh','1007');

1 row created.

SQL> insert into depositor values('shishir singh','1006');

1 row created.

SQL> insert into depositor values('shishir singh','1005');

1 row created.

SQL> insert into depositor values('shishir singh','1004');
```

```
1 row created.

SQL> insert into depositor values('shishir singh','1003');

1 row created.

SQL> insert into depositor values('shishir singh','1001');

1 row created.

SQL> insert into depositor values('shivani','1006');

1 row created.

SQL> insert into depositor values('shivani','1010');

1 row created.

SQL> insert into depositor values('shivani','1009');

1 row created.

SQL> insert into depositor values('shivani','1008');

1 row created.

SQL> insert into depositor values('shreya','1008');

1 row created.

SQL> insert into depositor values('shreya','1010');

1 row created.

SQL> insert into depositor values('shreya','1003');

1 row created.

SQL> insert into depositor values('shreya','1001');

1 row created.

SQL> insert into depositor values('shreya','1005');

1 row created.

SQL> insert into depositor values('vaibhav','1005');
```

```
1 row created.

SQL> insert into depositor values('vaibhav','1004');

1 row created.

SQL> insert into depositor values('vaibhav','1003');

1 row created.

SQL> insert into depositor values('vaibhav','1001');

1 row created.

SQL> insert into depositor values('vivek','1004');

1 row created.

SQL> insert into depositor values('vivek','1006');

1 row created.

SQL> insert into depositor values('vivek','1008');

1 row created.

SQL> insert into depositor values('vivek','1010');

1 row created.
```

SQL> select * from depositor;

```
SQL> select * from depositor;

CUSTOMER_NAME        ACCOUNT_NO
-------------------- ----------
annu                 1002
annu                 1003
annu                 1004
annu                 1005
annu                 1010
ayantika               1004
ayantika               1005
ayantika               1006
ayantika               1007
ayantika               1008
```

```
ayat               1005

CUSTOMER_NAME       ACCOUNT_NO
-------------------- ----------
ayat               1007
ayat               1008
ayat               1009
ayat               1010
divya pathak        1005
divya pathak        1006
divya pathak        1007
divya pathak        1008
ishu               1002
ishu               1003
ishu               1004

CUSTOMER_NAME       ACCOUNT_NO
-------------------- ----------
ishu               1005
ishu               1006
janhavi             1006
janhavi             1007
janhavi             1008
janhavi             1009
janhavi             1010
neha singh           1006
neha singh           1007
neha singh           1008
neha singh           1009

CUSTOMER_NAME       ACCOUNT_NO
-------------------- ----------
neha singh           1010
nilu singh          1001
nilu singh          1002
nilu singh          1003
nilu singh          1004
nilu singh          1005
nilu singh          1006
saket              1001
saket              1007
saket              1008
saket              1009

CUSTOMER_NAME       ACCOUNT_NO
-------------------- ----------
saket              1010
shishir singh        1001
shishir singh       1003
shishir singh       1004
shishir singh       1005
shishir singh       1006
shishir singh       1007
shivani             1006
shivani             1008
shivani             1009
shivani             1010

CUSTOMER_NAME       ACCOUNT_NO
-------------------- ----------
shreya              1001
shreya              1003
shreya              1005
shreya              1008
shreya              1010
vaibhav             1001
vaibhav             1003
vaibhav             1004
vaibhav             1005
vivek               1004
vivek               1006

CUSTOMER_NAME       ACCOUNT_NO
-------------------- ----------
vivek               1008
vivek               1010

68 rows selected.
```

LOAN SCHEMA:

SQL> select * from loan;

```
SQL> select * from loan;

no rows selected
```

SQL> insert into loan values('&1','&2', &3);

```
SQL> insert into loan values(10001,'sbi',40000);

1 row created.
```

```
SQL> insert into loan values('10001','sbi',40000);
insert into loan values('10001','sbi',40000)
*
ERROR at line 1:
ORA-00001: unique constraint (SYSTEM.SYS_C008321) violated


SQL> insert into loan values('10002','sbi',20000);

1 row created.

SQL> insert into loan values('10003','pnb',200000);

1 row created.

SQL> insert into loan values('10004','iob',1000);

1 row created.

SQL> insert into loan values('10005','icc',10000);

1 row created.

SQL> insert into loan values('10006','kvb',5000);

1 row created.

SQL> insert into loan values('10007','icici',50000);

1 row created.

SQL> insert into loan values('10008','hdfc',29000);

1 row created.

SQL> insert into loan values('10009','hsbc',9000);

1 row created.

SQL> insert into loan values('10010','hsbc',98000);

1 row created.

SQL> insert into loan values('10011','hdfc',6000);

1 row created.
```

SQL> select * from loan;

```
SQL> select *from loan;

LOAN_NO          BRANCH_NAME          AMOUNT
-------------------- -------------------- ----------
10001            sbi                  40000
10002            sbi                  20000
10003            pnb                  200000
10004            iob                   1000
10005            icc                  10000
10006            kvb                   5000
10007            icici                50000
10008            hdfc                  29000
10009            hsbc                   9000
10010            hsbc                  98000
10011            hdfc                   6000

11 rows selected.
```

SQL> insert into loan values('&1','&2', &3);

```
SQL> insert into loan values('10012','icici',60000);

1 row created.

SQL> insert into loan values('10013','icc',600000);

1 row created.

SQL> insert into loan values('10014','kvb',40000);

1 row created.

SQL> insert into loan values('10015','pnb',340000);

1 row created.
```

SQL> select * from loan;

```
SQL> select * from loan;

LOAN_NO              BRANCH_NAME              AMOUNT
-------------------- -------------------- ----------
10001                sbi                       40000
10002                sbi                       20000
10003                pnb                      200000
10004                iob                        1000
10005                icc                       10000
10006                kvb                        5000
10007                icici                     50000
10008                hdfc                      29000
10009                hsbc                       9000
10010                hsbc                      98000
10011                hdfc                       6000

LOAN_NO              BRANCH_NAME              AMOUNT
-------------------- -------------------- ----------
10012                icici                     60000
10013                icc                      600000
10014                kvb                       40000
10015                pnb                      340000

15 rows selected.
```

BORROWER SCHEMA:

SQL> select * from borrower;

```
SQL> select * from borrower;

no rows selected
```

SQL> insert into borrower values('&1','&2');

```
SQL> insert into borrower values('annu',10001);

1 row created.

SQL> insert into borrower values('shivani','10001');

1 row created.
```

```
SQL> insert into borrower values('shivani','10007');

1 row created.

SQL> insert into borrower values('vivek','10001');

1 row created.

SQL> insert into borrower values('annu',10003);

1 row created.

SQL> insert into borrower values('annu',10002);

1 row created.

SQL> insert into borrower values('ayantika',10002);

1 row created.

SQL> insert into borrower values('ayantika','10003');

1 row created.

SQL> insert into borrower values('ayantika','10004');

1 row created.

SQL> insert into borrower values('ayantika','10005');

1 row created.

SQL> insert into borrower values('ishu','10005');

1 row created.

SQL> insert into borrower values('ishu','10006');

1 row created.

SQL> insert into borrower values('ishu','10007');

1 row created.

SQL> insert into borrower values('ishu','10008');

1 row created.
```

```
SQL> insert into borrower values('shreya','10008');

1 row created.

SQL> insert into borrower values('shreya','10001');

1 row created.

SQL> insert into borrower values('vivek','10001');
insert into borrower values('vivek','10001')
*
ERROR at line 1:
ORA-00001: unique constraint (SYSTEM.SYS_C008336) violated


SQL> insert into borrower values('shivani','10001');
insert into borrower values('shivani','10001')
*
ERROR at line 1:
ORA-00001: unique constraint (SYSTEM.SYS_C008336) violated


SQL> insert into borrower values('nilu singh','10001');

1 row created.
```

SQL> select * from borrower;

```
SQL> select * from borrower;

CUSTOMER_NAME        LOAN_NO
-------------------- --------------------
annu                 10001
shivani              10001
shivani              10007
vivek                10001
annu                 10003
annu                 10002
ayantika             10002
ayantika             10003
ayantika             10004
ayantika             10005
ishu                 10005

CUSTOMER_NAME        LOAN_NO
-------------------- --------------------
```

```
ishu             10006
ishu             10007
ishu             10008
shreya            10008
shreya            10001
nilu singh         10001

17 rows selected.
```

INSERTING TUPLES FROM EXISTING TABLES

SQL> select * from branch1;

```
SQL> select * from branch1;
select * from branch1
              *
ERROR at line 1:
ORA-00942: table or view does not exist
```

SQL> insert into branch1 select branch_name, branch_city from branch;

```
SQL> create table branch1(brname, brcity) as select branch_name,branch_city from
 branch;

Table created.
```

SQL> select * from branch1;

```
SQL> select * from branch1;

BRNAME          BRCITY
--------------- ------------------------------
sbi            lucknow
pnb             mirzapur
iob            mumbai
icc            sahajahapur
kvb             bengal
icici          haridwar
hdfc            varanasi
hsbc            bhuj

8 rows selected.
```

SQL> select * from customer1;

```
SQL> select * from customer1;

no rows selected
```

SQL> insert into customer1 as select customer_name, customer _street, customer_city from customer where customer city = ‘cochin’;

```
SQL> insert into customer1 select customer_name, customer_street,customer_city f
rom customer where customer_city='varanasi';

2 rows created.
```

SQL> select * from customer1;

```
SQL> select *from customer1;

CUSTOMER_NAME       CUSTOMER_STREET
-------------------- ------------------------------
CUSTOMER_CITY
------------------------------
shishir singh       samane ghat
varanasi

ishu                avalesh pur
varanasi

janhavi             gaov devi road
mumbai


CUSTOMER_NAME       CUSTOMER_STREET
-------------------- ------------------------------
CUSTOMER_CITY
------------------------------
ayat ibrahim khan   garegaov
mumbai

shishir singh       samane ghat
varanasi

ishu                avalesh pur
varanasi


6 rows selected.
```

2.A MODIFYING AND DELETING OF TABLES:

ALTERING ATTRIBUTE TO EXISTING TABLE:

- **ADD THE CUSTOMER CITY COLUMN TO CUSTOMER_NAME TABLE.**

SQL> desc customer_name;

```
SQL> desc customer_name;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------

 CN                                                 CHAR(20)
```

SQL> alter table customer_name add city char(20);

```
SQL> alter table customer_name add city char(20);

Table altered.
```

SQL> desc customer_name;

```
SQL> desc customer_name;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------

 CN                                                 CHAR(20)
 CITY                                                CHAR(20)
```

SQL> alter table customer_name drop city;

```
SQL> alter table customer_name drop column city;

Table altered.
```

SQL> desc customer_name;

```
SQL> desc customer_name;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------

 CN                                                 CHAR(20)
```

SQL> alter table customer_name drop primary key;

```
SQL> alter table customer_name drop primary key;
alter table customer_name drop primary key
*
ERROR at line 1:
ORA-02441: Cannot drop nonexistent primary key
```

DELETING A SINGLE RECORD FROM TABLE:

DELETE RAM DETAILS FROM CUSTOMER_NAME

SQL> select * from customer_name;

```
SQL> select * from customer_name;

CN
--------------------
annu
ayantika
ayat ibrahim khan
divya pathak
ishu
janhavi
neha singh
nilu singh
saket
shishir singh
shivani

CN
--------------------
shreya
vaibhav
vivek
yashodhara

15 rows selected.
```

SQL> delete from customer_name where cn =’janhavi’;

```
SQL> delete from customer_name where cn='janhavi';

1 row deleted.
```

SQL> select * from customer_name;

```
SQL> select * from customer_name;

CN
--------------------
annu
ayantika
ayat ibrahim khan
divya pathak
ishu
neha singh
nilu singh
saket
shishir singh
shivani
shreya

CN
--------------------
vaibhav
vivek
yashodhara

14 rows selected.
```

DELETING MULTIPLE RECORDS IN THE TABLE:

DELETE CUSTOMER NAME WITH %G%

SQL> select * from customer_name;

```
SQL> select * from customer_name;

CN
--------------------
annu
ayantika
ayat ibrahim khan
divya pathak
ishu
neha singh
```

```
nilu singh
saket
shishir singh
shivani
shreya

CN
--------------------
vaibhav
vivek
yashodhara

14 rows selected.
```

SQL> delete from customer_name where cn like ‘%singh%’;

```
SQL> delete from customer_name where cn like '%singh%';

3 rows deleted.
```

SQL> select * from customer_name;

```
SQL> select * from customer_name;

CN
--------------------
annu
ayantika
ayat ibrahim khan
divya pathak
ishu
saket
shivani
shreya
vaibhav
vivek
yashodhara

11 rows selected.
```

DELETING ALL IN THE TABLE:

DELETE ALL ROWS IN CUSTOMER_NAME TABLE

SQL> select * from customer_name;

```
SQL> select * from customer_name;

CN
--------------------
annu
ayantika
ayat ibrahim khan
divya pathak
ishu
saket
shivani
shreya
vaibhav
vivek
yashodhara

11 rows selected.
```

SQL> delete customer_name;

```
SQL> delete customer_name;

11 rows deleted.
```

DELETING ATTRIBUTE FROM TABLE:

DELETE CUSTOMER_NAME COLUMN FROM CUSTOMER TABLE.

SQL> select * from customer_name;

```
SQL> select * from customer_name;

no rows selected
```

SQL> alter table customer_name drop column cn;

```
SQL> alter table customer_name drop column cn;
alter table customer_name drop column cn
*
ERROR at line 1:
ORA-12983: cannot drop all columns in a table
```

SQL> select * from customer_name;

```

SQL> select * from customer_name;

no rows selected
```

DROPING A TABLE:

DELETE THE TABLE CUSTOMER_NAME

SQL> select * from tab;

```

SQL> select * from tab;
TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_TABPART$
TABLE

LOGMNR_TABSUBPART$
TABLE

LOGMNR_TABCOMPART$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_TYPE$
```

```
TABLE

LOGMNR_COLTYPE$
TABLE

LOGMNR_ATTRIBUTE$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_LOB$
TABLE

LOGMNR_CON$
TABLE

LOGMNR_CONTAINER$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_CDEF$
TABLE

LOGMNR_CCOL$
TABLE

LOGMNR_ICOL$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_LOBFRAG$
TABLE
```

```
LOGMNR_INDPART$
TABLE

LOGMNR_INDSUBPART$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_INDCOMPART$
TABLE

LOGMNR_LOGMNR_BUILDLOG
TABLE

LOGMNR_NTAB$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_OPQTYPE$
TABLE

LOGMNR_SUBCOLTYPE$
TABLE

LOGMNR_KOPM$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_PROPS$
TABLE
```

```
LOGMNR_ENC$
TABLE

LOGMNR_REFCON$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_IDNSEQ$
TABLE

LOGMNR_PARTOBJ$
TABLE

LOGMNRP_CTAS_PART_MAP
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_SHARD_TS
TABLE

SCHEDULER_PROGRAM_ARGS
VIEW

SCHEDULER_JOB_ARGS
VIEW


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
SCHEDULER_PROGRAM_ARGS_TBL
TABLE

SCHEDULER_JOB_ARGS_TBL
```

```
TABLE

LOGSTDBY$PARAMETERS
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGSTDBY$EVENTS
TABLE

LOGSTDBY$APPLY_PROGRESS
TABLE

LOGSTDBY$APPLY_MILESTONE
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGSTDBY$SCN
TABLE

LOGSTDBY$FLASHBACK_SCN
TABLE

LOGSTDBY$PLSQL
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGSTDBY$SKIP_TRANSACTION
TABLE

LOGSTDBY$SKIP
TABLE
```

```
LOGSTDBY$SKIP_SUPPORT
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGSTDBY$HISTORY
TABLE

LOGSTDBY$EDS_TABLES
TABLE

REPL_VALID_COMPAT
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
REPL_SUPPORT_MATRIX
TABLE

PRODUCT_PRIVS
VIEW

SQLPLUS_PRODUCT_PROFILE
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
PRODUCT_USER_PROFILE
SYNONYM

HELP
TABLE
```

```
CUSTOMER1
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
DEPOSITOR
TABLE

LOAN
TABLE

CUSTOMER
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
BRANCH
TABLE

ACCOUNT
TABLE

BORROWER
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
CUSTOMER_NAME
TABLE

BRANCH1
TABLE

161 rows selected.
```

SQL> select * from customer_name;

```
SQL> select * from customer_name;

no rows selected
```

SQL> drop table customer_name;

```
SQL> drop table customer_name;

Table dropped.
```

SQL> select * from customer_name;

```
SQL> select *from customer_name;
select *from customer_name
             *
ERROR at line 1:
ORA-00942: table or view does not exist
```

SQL> select * from tab;

```
SQL> select * from tab;
TABLE


TNAME
--------------------------------------------------------------------------------


TABTYPE       CLUSTERID
------------- ----------
LOGMNR_TABPART$
TABLE

LOGMNR_TABSUBPART$
TABLE

LOGMNR_TABCOMPART$
TABLE


TNAME
```

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

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_TYPE$
TABLE

LOGMNR_COLTYPE$
TABLE

LOGMNR_ATTRIBUTE$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_LOB$
TABLE

LOGMNR_CON$
TABLE

LOGMNR_CONTAINER$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_CDEF$
TABLE

LOGMNR_CCOL$
TABLE

LOGMNR_ICOL$
TABLE


TNAME
--------------------------------------------------------------------------------
```

```
TABTYPE       CLUSTERID
------------- ----------
LOGMNR_LOBFRAG$
TABLE

LOGMNR_INDPART$
TABLE

LOGMNR_INDSUBPART$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_INDCOMPART$
TABLE

LOGMNR_LOGMNR_BUILDLOG
TABLE

LOGMNR_NTAB$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_OPQTYPE$
TABLE

LOGMNR_SUBCOLTYPE$
TABLE

LOGMNR_KOPM$
TABLE


TNAME
--------------------------------------------------------------------------------
```

```
TABTYPE       CLUSTERID
------------- ----------
LOGMNR_PROPS$
TABLE

LOGMNR_ENC$
TABLE

LOGMNR_REFCON$
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_IDNSEQ$
TABLE

LOGMNR_PARTOBJ$
TABLE

LOGMNRP_CTAS_PART_MAP
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGMNR_SHARD_TS
TABLE

SCHEDULER_PROGRAM_ARGS
VIEW

SCHEDULER_JOB_ARGS
VIEW


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
```

```
------------- ----------
SCHEDULER_PROGRAM_ARGS_TBL
TABLE

SCHEDULER_JOB_ARGS_TBL
TABLE

LOGSTDBY$PARAMETERS
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE      CLUSTERID
------------- ----------
LOGSTDBY$EVENTS
TABLE

LOGSTDBY$APPLY_PROGRESS
TABLE

LOGSTDBY$APPLY_MILESTONE
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE      CLUSTERID
------------- ----------
LOGSTDBY$SCN
TABLE

LOGSTDBY$FLASHBACK_SCN
TABLE

LOGSTDBY$PLSQL
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE      CLUSTERID
------------- ----------
```

```
LOGSTDBY$SKIP_TRANSACTION
TABLE

LOGSTDBY$SKIP
TABLE

LOGSTDBY$SKIP_SUPPORT
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
LOGSTDBY$HISTORY
TABLE

LOGSTDBY$EDS_TABLES
TABLE

REPL_VALID_COMPAT
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
REPL_SUPPORT_MATRIX
TABLE

PRODUCT_PRIVS
VIEW

SQLPLUS_PRODUCT_PROFILE
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
PRODUCT_USER_PROFILE
```

```
SYNONYM

HELP
TABLE

CUSTOMER1
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
DEPOSITOR
TABLE

LOAN
TABLE

CUSTOMER
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
BRANCH
TABLE

ACCOUNT
TABLE

BORROWER
TABLE


TNAME
--------------------------------------------------------------------------------

TABTYPE       CLUSTERID
------------- ----------
BRANCH1
TABLE
```

```
160 rows selected.
```

2.B DML COMMANDS:

SELECT CLAUSE:

- **FIND THE NAMES OF ALL BRANCHES IN THE LOAN TABLE.**

SQL> select branch_name from loan;

```
SQL> select branch_name from loan;

BRANCH_NAME
--------------------
sbi
sbi
pnb
iob
icc
kvb
icici
hdfc
hsbc
hsbc
hdfc

BRANCH_NAME
--------------------
icici
icc
kvb
pnb

15 rows selected.
```

- **FIND ALL CUSTOMER NAME ALONG WITH CITY FROM CUSTOMER TABLE.**

SQL> select customer_name, customer_city from customer;

```
SQL> select customer_name, customer_city from customer;

CUSTOMER_NAME       CUSTOMER_CITY
-------------------- ------------------------------
neha singh          mirzapur
nilu singh          mirzapur
shishir singh       varanasi
shivani             bhuj
ayantika            bengal
shreya              haridwar
vivek               lala chauk
vaibhav             prayagraj
annu                lucknow
ishu                varanasi
divya pathak        sahajahapur

CUSTOMER_NAME       CUSTOMER_CITY
-------------------- ------------------------------
saket               balia
janhavi             mumbai
ayat ibrahim khan   mumbai
yashodhara          assam

15 rows selected.
```

RELATIONAL OPERATORS (=, <, >, <>, ^=)

- **FIND ALL BRANCH** NAMES **WHOSE ASSETS ARE LESS THAN 5000.**

SQL> select branch_name from branch where assets <5000;

```
SQL> select branch_name from branch where assets<5000;

no rows selected
```

SQL> select branch_name from branch where assets<500000;

```
SQL> select branch_name from branch where assets<500000;

BRANCH_NAME
---------------
pnb
icici
```

- **FIND ALL CUSTOMER NAMES WHO DO NOT LIVE IN MUMBAI**

SQL> select customer_name from customer where customer_city <> ‘mumbai’;

```
SQL> select customer_name from customer where customer_city <> 'mumbai';

CUSTOMER_NAME
--------------------
neha singh
nilu singh
shishir singh
shivani
ayantika
shreya
vivek
vaibhav
annu
ishu
divya pathak

CUSTOMER_NAME
--------------------
saket
yashodhara

13 rows selected.
```

LOGICAL OPERATOR

- **FIND THE LOAN NUMBER WITH AMOUNT 1000 OR 5000.**

SQL> select loan_number from loan where amount = 1000 or amount = 5000;

```
SQL> select loan_no from loan where amount=1000 or amount=5000;

LOAN_NO
--------------------
10004
10006
```

USING DISTINCT KEYWORD:

- **FIND DISTINCT BRANCH NAME FROM LOAN TABLE.**

SQL> select distinct branch_name from loan;

```
SQL> select distinct branch_name from loan;

BRANCH_NAME
--------------------
sbi
pnb
iob
icc
kvb
icici
hdfc
hsbc

8 rows selected.
```

USING KEYWORD ALL:

- **FIND ALL BRANCH NAMES FROM LOAN TABLE.**

SQL> select all branch_name from loan;

```
SQL> select all branch_name from loan;

BRANCH_NAME
--------------------
sbi
sbi
pnb
iob
icc
kvb
icici
hdfc
hsbc
hsbc
hdfc

BRANCH_NAME
--------------------
icici
icc
kvb
pnb

15 rows selected.
```

USING ARITHMETIC EXPRESSION:

- **FIND THE LOAN NUMBER AND BRANCH NAME WITH 1000 DEDUCTED FROM THEIR AMOUNT IN LOAN TABLE.**

SQL> select loan_no,branch_name,amount-1000 from loan;

```
SQL> select loan_no,branch_name,amount-1000 from loan;

LOAN_NO              BRANCH_NAME          AMOUNT-1000
-------------------- -------------------- -----------
10001                sbi                        39000
10002                sbi                        19000
10003                pnb                       199000
10004                iob                            0
10005                icc                         9000
10006                kvb                         4000
10007                icici                      49000
10008                hdfc                       28000
10009                hsbc                        8000
10010                hsbc                       97000
10011                hdfc                        5000

LOAN_NO              BRANCH_NAME          AMOUNT-1000
-------------------- -------------------- -----------
10012                icici                      59000
10013                icc                       599000
10014                kvb                        39000
10015                pnb                       339000

15 rows selected.
```

WHERE CLAUSE:

- **FIND THE LOAN NUMBER BELONG TO SBI WITH AMOUNT GREATER THAN 1000.**

SQL> select loan_no from loan where branch_name='sbi' and amount>1000;

```
SQL> select loan_no from loan where branch_name='sbi' and amount >1000;

LOAN_NO
--------------------
10001
10002
```

- **FIND THE ACCOUNT DETAILS WHOSE BALANCE IS BETWEEN 500 AND 2000.**

SQL> select account_no from account where balance between 500 and 2000;

```
SQL> select account_no from account where balance between 500 and 2000;

ACCOUNT_NO
----------
1009
```

ORDERING THE TUPLES:

- **LIST ALL CUSTOMERS IN ALPHABETICAL ORDER WHO HAVE LOAN AT SBI BRANCH.**

SQL> select distinct customer_name from borrower,loan where borrower.loan_no = loan.loan_no and branch_name='sbi' order by customer_name;

```
SQL> select distinct customer_name from borrower,loan where borrower.loan_no=loa
n.loan_no and branch_name='sbi' order by customer_name;

CUSTOMER_NAME
--------------------
annu
ayantika
nilu singh
shivani
shreya
vivek

6 rows selected.
```

LIST ALL CUSTOMERS IN DESCENDING ORDER WHO HAVE LOAN AT SBI BRANCH.

SQL> select distinct customer_name from depositor,account where depositor.account_no =account.account_no and branch_name='pnb' order by customer_name desc;

```
SQL> select distinct customer_name from depositor,account where depositor.accoun
t_no=account.account_no and branch_name='pnb' order by customer_name desc;

CUSTOMER_NAME
--------------------
vaibhav
shreya
shishir singh
nilu singh
ishu
annu

6 rows selected.
```

SET OPERATION-UNION/INTERSECT/EXCEPT:

FIND ALL CUSTOMER HAVING A LOAN , AN ACCOUNT OR BOTH AT THE BANK

SQL> (select customer_name from depositor)union(select customer_name from borrower);

```
SQL> (select customer_name from depositor) union (select customer_name from borr
ower);

CUSTOMER_NAME
--------------------
annu
ayantika
ayat
divya pathak
ishu
janhavi
neha singh
nilu singh
saket
shishir singh
shivani
```

```
CUSTOMER_NAME
--------------------
shreya
vaibhav
vivek

14 rows selected.
```

USE OF KEYWORD ALL:

FIND ALL CUSTOMER HAVING A LOAN , AN ACCOUNT OR BOTH AT THE BANK WITH DUPLICATE VALUES.

SQL> (select customer_name from depositor)union all(select customer_name from borrower);

```
SQL> select customer_name from depositor union all select customer_name from bor
rower;

CUSTOMER_NAME
--------------------
annu
annu
annu
annu
annu
ayantika
ayantika
ayantika
ayantika
ayantika
ayat

CUSTOMER_NAME
--------------------
ayat
ayat
ayat
ayat
divya pathak
divya pathak
divya pathak
divya pathak
ishu
ishu
```

```
ishu

CUSTOMER_NAME
--------------------
ishu
ishu
janhavi
janhavi
janhavi
janhavi
janhavi
neha singh
neha singh
neha singh
neha singh

CUSTOMER_NAME
--------------------
neha singh
nilu singh
nilu singh
nilu singh
nilu singh
nilu singh
nilu singh
saket
saket
saket
saket

CUSTOMER_NAME
--------------------
saket
shishir singh
shishir singh
shishir singh
shishir singh
shishir singh
shishir singh
shivani
shivani
shivani
shivani

CUSTOMER_NAME
--------------------
```

```
shreya
shreya
shreya
shreya
shreya
vaibhav
vaibhav
vaibhav
vaibhav
vivek
vivek

CUSTOMER_NAME
--------------------
vivek
vivek
annu
annu
annu
ayantika
ayantika
ayantika
ayantika
ishu
ishu

CUSTOMER_NAME
--------------------
ishu
ishu
nilu singh
shivani
shivani
shreya
shreya
vivek

85 rows selected.
```

FIND ALL CUSTOMERS WHO HAVE BOTH LOAN AND ACCOUNT AT THE BANK

SQL> (select customer_name from depositor)intersect(select customer_name from borrower);

```
SQL> (select customer_name from depositor)intersect(select customer_name from bo
rrower);

CUSTOMER_NAME
--------------------
annu
ayantika
ishu
nilu singh
shivani
shreya
vivek

7 rows selected.
```

FIND ALL CUSTOMER WHO HAVE ACCOUNT BUT NO LOAN AT THE BANK.

SQL> (select customer_name from depositor) minus (select customer_name from borrower);

```
SQL> (select customer_name from depositor)minus(select customer_name from borrow
er);

CUSTOMER_NAME
--------------------
ayat
divya pathak
janhavi
neha singh
saket
shishir singh
vaibhav

7 rows selected.
```

AGGREGATE FUNCTION-AVG/MIN/MAX/SUM/COUNT:

FIND THE AVERAGE ACCOUNT BALANCE OF IOB BANK.

SQL> select avg(balance)from account where branch_name='iob';

```
SQL> select avg(balance) from account where branch_name='iob';

AVG(BALANCE)
------------
      500000
```

FIND THE AVERAGE ACCOUNT BALANCE AT EACH BRANCH.

SQL> select branch_name,avg(balance) from account group by branch_name;

```
SQL> select branch_name,avg(balance) from account group by branch_name;

BRANCH_NAME     AVG(BALANCE)
--------------- ------------
icici                 150000
hsbc                    1000
hdfc                   60000
kvb                   190000
icc                    10000
iob                   500000
pnb                   900000
sbi                   602895

8 rows selected.
```

FIND THE NUMBER OF DEPOSITORS FOR EACH BRANCH.

SQL> select branch_name,count(distinct customer_name) from depositor,account where depositor.account_no=account.account_no group by branch_name;

```
SQL> select branch_name,count(distinct customer_name) from depositor,account whe
re depositor.account_no=account.account_no group by branch_name;

BRANCH_NAME     COUNT(DISTINCTCUSTOMER_NAME)
--------------- ----------------------------
sbi                                7
pnb                                6
iob                                7
icc                                9
icici                             11
kvb                                9
hdfc                               9
hsbc                               5

8 rows selected.
```

FIND THE BRANCHES WHOSE AVG BALANCE IS GREATER THAN 1200.

SQL> select branch_name,avg(balance) from account group by branch_name having avg(balance)>1200;

```
SQL> select branch_name,avg(balance) from account group by branch_name having av
g(balance)>1200;

BRANCH_NAME     AVG(BALANCE)
--------------- ------------
icici                 150000
hdfc                   60000
kvb                   190000
icc                    10000
iob                   500000
pnb                   900000
sbi                   602895

7 rows selected.
```

3. A SUBQUERIES WITH SET OPERATION, JOIN AND CONSTRAINTS:

NESTED SUBQUERIES

FIND THE AVERAGE BALANCE FOR EACH CUSTOMER WHO LIVES IN MUMBAI AND HAS AT LEAST THREE ACCOUNTS.

SQL> select depositor.customer_name,avg(balance) from depositor,account,customer where depositor.account_no=account.account_no and depositor.customer_name=customer.customer_name and customer_city='mumbai' group by depositor.customer_name having count(distinct depositor.account_no)>=3;

```
SQL> select depositor.customer_name,avg(balance) from
  2  depositor,account,customer where
  3  depositor.account_no=account.account_no and
  4  depositor.customer_name=customer.customer_name and
  5  customer_city='mumbai' group by depositor.customer_name having
  6  count(distinct depositor.account_no)>=3;

CUSTOMER_NAME        AVG(BALANCE)
-------------------- ------------
janhavi                    110200
```

FIND THE AVERAGE LOAN AMOUNT OF EACH CUSTOMER WHO LIVES IN MUMBAI AND HAS AT LEAST TWO LOANS.

SQL> select borrower.customer_name,avg(amount) from borrower,loan,customer where borrower.loan_no=loan.loan_no and borrower.customer_name=customer.customer_name and customer_city='mumbai' group by borrower.customer_name having count(distinct borrower.loan_no)>=2;

```
SQL> select borrower.customer_name,avg(amount) from
  2  borrower,loan,customer where borrower.loan_no=loan.loan_no and
  3  borrower.customer_name=customer.customer_name and
  4  customer_city='mumbai' group by borrower.customer_name having
  5  count(distinct borrower.loan_no)>=2;

no rows selected
```

SQL> select borrower.customer_name,avg(amount) from borrower,loan,customer where borrower.loan_no=loan.loan_no and borrower.customer_name=customer.customer_name and customer_city='varanasi' group by borrower.customer_name having count(distinct borrower.loan_no)>=2;

```
SQL> select borrower.customer_name,avg(amount) from
  2  borrower,loan,customer where borrower.loan_no=loan.loan_no and
  3  borrower.customer_name=customer.customer_name and
  4  customer_city='varanasi' group by borrower.customer_name having
  5  count(distinct borrower.loan_no)>=2;

CUSTOMER_NAME        AVG(AMOUNT)
-------------------- -----------
ishu                       23500
```

- **SET MEMBERSHIP:**
- **USING KEYWORD IN:**
- **FIND THE CUSTOMER WHO LIVES IN CHENNAI OR MUMBAI.**

SQL> select customer_name from customer where customer_city in (‘chennai’, ‘mumbai’);

```
SQL> select customer_name from customer where customer_city in ('chennai','mumba
i');

CUSTOMER_NAME
--------------------
janhavi
ayat ibrahim khan
```

- **FIND THE ACCOUNT NUMBER WHOSE BALANCE IS BETWEEN 1000 AND 5000.**

SQL> select account_no from accounts where balance between 1000 and 5000;

```
SQL> select account_no from accounts where balance between 1000 and 5000;
select account_no from accounts where balance between 1000 and 5000
                       *
ERROR at line 1:
ORA-00942: table or view does not exist
```

SQL> select account_no from account where balance between 1000 and 5000;

```
SQL> select account_no from account where balance between 1000 and 5000;

ACCOUNT_NO
----------
1009
```

- **FIND THE ACCOUNT NUMBER WHOSE BALANCE IS NOT BETWEEN 1000 AND 5000.**

SQL> select account_no from accounts where balance not between 1000 and 5000;

```
SQL> select account_no from accounts where balance not between 1000 and 5000;
select account_no from accounts where balance not between 1000 and 5000
                             *
ERROR at line 1:
ORA-00942: table or view does not exist
```

SQL> select account_no from account where balance not between 1000 and 5000;

```
SQL> select account_no from account where balance not between 1000 and 5000;

ACCOUNT_NO
----------
1010
1008
1007
1006
1005
1004
1003
1002
1001

9 rows selected.
```

- **FIND THE CUSTOMER WHO HAS LOAN AND ACCOUNT.**

SQL> select distinct customer_name from borrower where customer_name in (select customer_name from depositor);

```
SQL> select distinct customer_name from borrower where customer_name in (select
customer_name from depositor);

CUSTOMER_NAME
--------------------
annu
ayantika
ishu
nilu singh
shivani
shreya
vivek

7 rows selected.
```

- **FIND ALL CUSTOMERS WHO HAVE BOTH AN ACCOUNT AND LOAN AT PNB BANK**

SQL> select distinct customer_name from borrower,loan where borrower.loan_no=loan.loan_no and branch_name='pnb' and (branch_name,customer_name) in (select branch_name,customer_name from depositor,account where depositor.account_no=account.account_no);

```
SQL> select distinct customer_name from borrower,loan where
  2  borrower.loan_no=loan.loan_no and branch_name='pnb' and
  3  (branch_name,customer_name) in (select
  4  branch_name, customer_name from depositor,account where
  5  depositor.account_no=account.account_no);

CUSTOMER_NAME
--------------------
Annu
```

- **FIND ALL CUSTOMERS WHO DO HAVE LOAN AT THE BANK, BUT DO NOT HAVE AN ACCOUNT AT THE BANK.**

SQL> select distinct customer_name from borrower where customer_name not in(select customer_name from depositor);

```
SQL> select distinct customer_name from borrower where customer_name
  2  not in(select customer_name from depositor);

no rows selected
```

Changes done into table :-

```
SQL> select * from borrower;

CUSTOMER_NAME        LOAN_NO
-------------------- --------------------
annu                 10001
annu                 10002
annu                 10003
ayantika             10002
ayantika             10003
ayantika             10004
ayantika             10005
ishu                 10005
ishu                 10006
ishu                 10007
ishu                 10008

CUSTOMER_NAME        LOAN_NO
-------------------- --------------------
nilu singh           10001
shivani              10001
shivani              10007
shreya               10001
shreya               10008
vivek                10001

17 rows selected.

SQL> select * from depositor;

CUSTOMER_NAME        ACCOUNT_NO
-------------------- ----------
annu                 1002
annu                 1003
annu                 1004
annu                 1005
annu                 1010
ayantika             1004
ayantika             1005
ayantika             1006
ayantika             1007
ayantika             1008
ayat                 1005

CUSTOMER_NAME        ACCOUNT_NO
-------------------- ----------
```

```
ayat                 1007
ayat                 1008
ayat                 1009
ayat                 1010
divya pathak         1005
divya pathak         1006
divya pathak         1007
divya pathak         1008
ishu                 1002
ishu                 1003
ishu                 1004

CUSTOMER_NAME        ACCOUNT_NO
-------------------- ----------
ishu                 1005
ishu                 1006
janhavi              1006
janhavi              1007
janhavi              1008
janhavi              1009
janhavi              1010
neha singh           1006
neha singh           1007
neha singh           1008
neha singh           1009

CUSTOMER_NAME        ACCOUNT_NO
-------------------- ----------
neha singh           1010
nilu singh           1001
nilu singh           1002
nilu singh           1003
nilu singh           1004
nilu singh           1005
nilu singh           1006
saket                1001
saket                1007
saket                1008
saket                1009

CUSTOMER_NAME        ACCOUNT_NO
-------------------- ----------
saket                1010
shishir singh        1001
shishir singh        1003
shishir singh        1004
shishir singh        1005
shishir singh        1006
shishir singh        1007
shivani             1006
shivani             1008
shivani             1009
shivani             1010

CUSTOMER_NAME       ACCOUNT_NO
-------------------- ----------
shreya              1001
shreya              1003
shreya              1005
shreya              1008
shreya              1010
vaibhav              1001
vaibhav              1003
vaibhav              1004
vaibhav              1005
vivek               1004
vivek               1006

CUSTOMER_NAME       ACCOUNT_NO
-------------------- ----------
vivek               1008
vivek               1010

68 rows selected.

SQL> desc borrower;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------

 CUSTOMER_NAME                             NOT NULL CHAR(20)
 LOAN_NO                          NOT NULL CHAR(20)

SQL> insert into borrower values ('Ashish','1004');

1 row created.

SQL> insert into borrower values ('MS Dhoni','1005');

1 row created.

SQL> insert into borrower values ('papa','1006');

1 row created.

SQL> insert into borrower values ('nanu','1007');
```

```
1 row created.
```

SQL> select distinct customer_name from borrower where customer_name not in(select customer_name from depositor);

```
SQL> select distinct customer_name from borrower where customer_name
  2  not in(select customer_name from depositor);

CUSTOMER_NAME
--------------------
Ashish
papa
MS Dhoni
nanu

SQL>
```

- **FIND ALL CUSTOMERS WHO DO HAVE ACCOUNT AT THE BANK BUT DO NOT HAVE LOAN AT THE BANK.**

SQL> select distinct customer_name from depositor where customer_name
not in(select customer_name from borrower);

```
SQL> select distinct customer_name from depositor where customer_name
  2  not in(select customer_name from borrower);

CUSTOMER_NAME
--------------------
ayat
vaibhav
divya pathak
saket
neha singh
shishir singh
janhavi

7 rows selected.
```

- **FIND ALL ACCOUNT HOLDER NAME EXCEPT RAMESH AND SENTHIL**

SQL> select distinct customer_name from depositor where customer_name not in('ramesh','senthil');

```
SQL> select distinct customer_name from depositor where customer_name
  2  not in('ramesh','senthil');

CUSTOMER_NAME
--------------------
annu
ayantika
ayat
divya pathak
ishu
janhavi
neha singh
nilu singh
saket
shishir singh
shivani

CUSTOMER_NAME
--------------------
shreya
vaibhav
vivek

14 rows selected.

SQL>
```

- **SET COMPARAISON:**
- **FIND THE NAMES OF ALL BRANCHES THAT HAVE ASSETS GREATER THAN THOSE OF AT LEAT ONE BRANCH LOCATED IN MUMBAI.**

SQL> select distinct t.branch_name from branch t, branch s where t.assets>s.assets and s.branch_city='mumbai';

```
SQL> select distinct t.branch_name from branch t, branch s where
  2  t.assets>s.assets and s.branch_city='mumbai';
```

```
BRANCH_NAME
---------------
kvb
hsbc
```

- **FIND THE NAMES OF ALL BRANCHES THAT HAVE ASSETS GREATER THAN THOSE OF AT LEAT ONE BRANCH LOCATED IN MUMBAI USING 'SOME' KEYWORD**

SQL> select branch_name from branch where assets>some(select assets from branch where branch_city='mumbai');

```
SQL> select branch_name from branch where assets>some(select assets from branch
where branch_city='mumbai');

BRANCH_NAME
---------------
Kvb
hsbc
```

- **FIND THE NAMES OF ALL BRANCHES THAT HAVE AN ASSET VALUE GREATER THAN THAT OF EACH BRANCH IN MUMBAI**

SQL> select branch_name from branch where assets>all(select assets from branch where branch_city='mumbai');

```
SQL> select branch_name from branch where assets>all(select assets from
  2  branch where branch_city='mumbai');

BRANCH_NAME
---------------
hsbc
kvb
```

- **FIND THE BRANCH THAT HAS THE HIGHEST AVERAGE BALANCE.**

SQL> select branch_name from account group by branch_name having avg(balance)>=all (select avg(balance)from account group by branch_name);

```
SQL> select branch_name from account group by branch_name having
```

```
  2  avg(balance)>=all (select avg(balance)from account group by
  3  branch_name);

BRANCH_NAME
---------------
Pnb
```

- **FIND THE BRANCH THAT HAS THE HIGHEST AVERAGE BALANCE.**

SQL> select branch_name,avg(balance) from account group by branch_name having avg(balance)<=all(select avg(balance) from account group by branch_name);

```
SQL> select branch_name,avg(balance) from account group by branch_name
  2  having avg(balance)<=all(select avg(balance) from account group by
  3  branch_name);

BRANCH_NAME     AVG(BALANCE)
--------------- ------------
hsbc                    1000
```

- **TEST FOR EMPTY RELATION:**
- **FIND ALL CUSTOMERS WHO HAVE BOTH AN ACCOUNT AND LOAN AT THE BANK**

SQL> select customer_name from borrower where exists(select * from depositor where depositor.customer_name=borrower.customer_name);

```
SQL> select customer_name from borrower where exists(select *from
  2  depositor where
  3  depositor.customer_name=borrower.customer_name);

CUSTOMER_NAME
--------------------
annu
annu
annu
ayantika
ayantika
ayantika
ayantika
ishu
```

```
ishu
ishu
ishu

CUSTOMER_NAME
--------------------
nilu singh
shivani
shivani
shreya
shreya
vivek

17 rows selected.

SQL>
```

- **FIND ALL CUSTOMERS WHO DO NOT HAVE BOTH AN ACCOUNT AND LOAN AT THE BANK**

SQL> select customer_name from borrower where not exists(select * from depositor where depositor.customer_name=borrower.customer_name);

```
SQL> select customer_name from borrower where not exists(select *from
  2  depositor where
  3  depositor.customer_name=borrower.customer_name);

CUSTOMER_NAME
--------------------
Ashish
papa
MS Dhoni
Nanu
```

- **FIND ALL CUSTOMERS WHO HAVE AN ACCOUNT AT ALL BRANCHES LOCATED IN MUMBAI**

SQL> select distinct s.customer_name from depositor s where not exists((select branch_name from branch where branch_city='mumbai')minus(select r.branch_name from depositor t ,account r where t.account_no=r.account_no and s.customer_name=t.customer_name));

```
SQL> select distinct s.customer_name from depositor s where not
  2  exists((select branch_name from branch where
  3  branch_city='mumbai')minus(select r.branch_name from depositor t
  4  ,account r where t.account_no=r.account_no and
  5  s.customer_name=t.customer_name));

CUSTOMER_NAME
--------------------
annu
ayantika
ishu
nilu singh
shishir singh
vaibhav
vivek

7 rows selected.
```

- **VIEWS:**

SQL> create view allcustomer as(select branch_name,customer_name from depositor,account where depositor.account_no=account.account_no) union(select branch_name,customer_name from borrower,loan where borrower.loan_no=loan.loan_no);

```
SQL> create view allcustomer as(select branch_name,customer_name from
  2  depositor,account where depositor.account_no=account.account_no)
  3  union(select branch_name,customer_name from borrower,loan where
  4  borrower.loan_no=loan.loan_no);

View created.
```

SQL> create view brtot(branch_name,totloan)as select branch_name,sum(amount)from loan group by branch_name;

```
SQL> create view brtot(branch_name,totloan)as select
  2  branch_name,sum(amount)from loan group by branch_name;

View created.
```

SQL> select a.account_no, v.loan_no, v.amount-a.amount from account a, (
select distinct l.loan_no, l.amount from loan l) v where
a.account_no=l.loan_no group by rollup a.account_no, v.loan_no;

```
SQL> select a.account_no,v.loan_no,v.amount-a.balance from account a,(select dis
tinct l.loan_no,l.amount from loan l) v
  2  where a.account_no=v.loan_no
  3  group by rollup (a.account_no,v.loan_no,v.amount-a.balance);

no rows selected
```

- **UPDATE:**

```
SQL> select balance from account;

  BALANCE
----------
   100000
     1000
    60000
   200000
   190000
    10000
   500000
   900000
   907000
   298790

10 rows selected.
```

SQL> update account set balance=balance-100;

```
SQL> update account set balance=balance-100;

10 rows updated.
```

```
SQL> select balance from account;

  BALANCE
----------
    99900
      900
    59900
    199900
    189900
      9900
    499900
    899900
    906900
    298690

10 rows selected.
```

SQL> update account set balance=balance*1.05where balance>=1000;

```
SQL> update account set balance=balance*1.05
  2  where balance>=1000;

9 rows updated.
```

```
SQL> select balance from account;

   BALANCE
----------
    104895
       900
     62895
    209895
    199395
     10395
    524895
    944895
    952245
  313624.5

10 rows selected.
```

SQL> update account set balance=balance*1.06where balance>(select avg(balance) from account);

```
SQL> update account set balance=balance*1.06
  2  where balance>(select avg(balance) from account);

3 rows updated.
```

SQL> select balance from account;

```
SQL> select balance from account;

   BALANCE
----------
    104895
       900
     62895
    209895
    199395
     10395
  556388.7
 1001588.7
 1009379.7
  313624.5

10 rows selected.
```

SQL> select * from account;

```
SQL> select * from account;

ACCOUNT_NO BRANCH_NAME        BALANCE
---------- --------------- ----------
1010       icici               104895
1009       hsbc                   900
1008       hdfc                 62895
1007       icici               209895
1006       kvb                 199395
1005       icc                  10395
1004       iob               556388.7
1003       pnb              1001588.7
1002       sbi              1009379.7
1001       sbi               313624.5

10 rows selected.
```

SQL> update account set balance=case when balance<=1000 then balance*1.05 when balance>=1000 and balance<=2000 then balance * 1.10 when balance>2000 then balance*3 else balance*1.01end;

```
SQL> update account set balance=case
  2  when balance<=1000 then
  3  balance*1.05 when balance>=1000 and balance<=2000 then balance *1.10 when b
alance >2000 then balance*3 else balance*1.01 end;
```

```
10 rows updated.
```

SQL> select * from account;

```
SQL> select *from account;

ACCOUNT_NO BRANCH_NAME       BALANCE
---------- --------------- ----------
1010       icici             314685
1009       hsbc                 945
1008       hdfc              188685
1007       icici             629685
1006       kvb               598185
1005       icc                31185
1004       iob             1669166.1
1003       pnb             3004766.1
1002       sbi             3028139.1
1001       sbi              940873.5

10 rows selected.
```

- **JOIN:**
- **CARTESIAN JOIN:**

SQL> select account_no, balance,branch. branch_name, branch_city, assets from account, branch;

```
SQL> select account_no,balance,branch.branch_name,branch_city,assets from accoun
t,branch;

ACCOUNT_NO    BALANCE BRANCH_NAME     BRANCH_CITY                        ASSETS
---------- ---------- --------------- ------------------------------ ----------
1010           314685 sbi             lucknow                           1000000
1009              945 sbi             lucknow                           1000000
1008           188685 sbi             lucknow                           1000000
1007           629685 sbi             lucknow                           1000000
1006           598185 sbi             lucknow                           1000000
1005            31185 sbi             lucknow                           1000000
1004        1669166.1 sbi             lucknow                           1000000
1003        3004766.1 sbi             lucknow                           1000000
1002        3028139.1 sbi             lucknow                           1000000
1001         940873.5 sbi             lucknow                           1000000
1010           314685 pnb             mirzapur                            50000

ACCOUNT_NO    BALANCE BRANCH_NAME     BRANCH_CITY                        ASSETS
```

```
---------- ---------- --------------- ------------------------------ ----------
1009              945 pnb             mirzapur                            50000
1008           188685 pnb             mirzapur                            50000
1007           629685 pnb             mirzapur                            50000
1006           598185 pnb             mirzapur                            50000
1005            31185 pnb             mirzapur                            50000
1004        1669166.1 pnb             mirzapur                            50000
1003        3004766.1 pnb             mirzapur                            50000
1002        3028139.1 pnb             mirzapur                            50000
1001         940873.5 pnb             mirzapur                            50000
1010           314685 iob             mumbai                            5000000
1009              945 iob             mumbai                            5000000

ACCOUNT_NO    BALANCE BRANCH_NAME     BRANCH_CITY                        ASSETS
---------- ---------- --------------- ------------------------------ ----------
1008           188685 iob             mumbai                            5000000
1007           629685 iob             mumbai                            5000000
1006           598185 iob             mumbai                            5000000
1005            31185 iob             mumbai                            5000000
1004        1669166.1 iob             mumbai                            5000000
1003        3004766.1 iob             mumbai                            5000000
1002        3028139.1 iob             mumbai                            5000000
1001         940873.5 iob             mumbai                            5000000
1010           314685 icc             sahajahapur                        960000
1009              945 icc             sahajahapur                        960000
1008           188685 icc             sahajahapur                        960000

ACCOUNT_NO    BALANCE BRANCH_NAME     BRANCH_CITY                        ASSETS
---------- ---------- --------------- ------------------------------ ----------
1007           629685 icc             sahajahapur                        960000
1006           598185 icc             sahajahapur                        960000
1005            31185 icc             sahajahapur                        960000
1004        1669166.1 icc             sahajahapur                        960000
1003        3004766.1 icc             sahajahapur                        960000
1002        3028139.1 icc             sahajahapur                        960000
1001         940873.5 icc             sahajahapur                        960000
1010           314685 kvb             bengal                            9060000
1009              945 kvb             bengal                            9060000
1008           188685 kvb             bengal                            9060000
1007           629685 kvb             bengal                            9060000

ACCOUNT_NO    BALANCE BRANCH_NAME     BRANCH_CITY                        ASSETS
---------- ---------- --------------- ------------------------------ ----------
1006           598185 kvb             bengal                            9060000
1005            31185 kvb             bengal                            9060000
1004        1669166.1 kvb             bengal                            9060000
1003        3004766.1 kvb             bengal                            9060000
1002        3028139.1 kvb             bengal                            9060000
```

```
1001       940873.5 kvb          bengal                    9060000
1010         314685 icici        haridwar                    60000
1009            945 icici        haridwar                    60000
1008         188685 icici        haridwar                    60000
1007         629685 icici        haridwar                    60000
1006         598185 icici        haridwar                    60000

ACCOUNT_NO    BALANCE BRANCH_NAME     BRANCH_CITY                  ASSETS
---------- ---------- --------------- ------------------------------ ----------
1005          31185 icici        haridwar                    60000
1004      1669166.1 icici        haridwar                    60000
1003      3004766.1 icici        haridwar                    60000
1002      3028139.1 icici        haridwar                    60000
1001       940873.5 icici        haridwar                    60000
1010         314685 hdfc         varanasi                   800000
1009            945 hdfc         varanasi                   800000
1008         188685 hdfc         varanasi                   800000
1007         629685 hdfc         varanasi                   800000
1006         598185 hdfc         varanasi                   800000
1005          31185 hdfc         varanasi                   800000

ACCOUNT_NO    BALANCE BRANCH_NAME     BRANCH_CITY                  ASSETS
---------- ---------- --------------- ------------------------------ ----------
1004      1669166.1 hdfc         varanasi                   800000
1003      3004766.1 hdfc         varanasi                   800000
1002      3028139.1 hdfc         varanasi                   800000
1001       940873.5 hdfc         varanasi                   800000
1010         314685 hsbc         bhuj                      8000000
1009            945 hsbc         bhuj                      8000000
1008         188685 hsbc         bhuj                      8000000
1007         629685 hsbc         bhuj                      8000000
1006         598185 hsbc         bhuj                      8000000
1005          31185 hsbc         bhuj                      8000000
1004      1669166.1 hsbc         bhuj                      8000000

ACCOUNT_NO    BALANCE BRANCH_NAME     BRANCH_CITY                  ASSETS
---------- ---------- --------------- ------------------------------ ----------
1003      3004766.1 hsbc         bhuj                      8000000
1002      3028139.1 hsbc         bhuj                      8000000
1001       940873.5 hsbc         bhuj                      8000000

80 rows selected.

SQL>
```

- **NATURAL JOIN:**

SQL> select * from account;

```
SQL> select * from account;

ACCOUNT_NO BRANCH_NAME       BALANCE
---------- --------------- ----------
1010       icici              314685
1009       hsbc                  945
1008       hdfc               188685
1007       icici              629685
1006       kvb                598185
1005       icc                 31185
1004       iob             1669166.1
1003       pnb             3004766.1
1002       sbi             3028139.1
1001       sbi              940873.5

10 rows selected.
```

```
SQL> insert into account values('l7','icic',120000);
```

```
SQL> insert into account values('17','icici',120000);

1 row created.

SQL> select * from account;

ACCOUNT_NO BRANCH_NAME       BALANCE
---------- --------------- ----------
1010       icici              314685
1009       hsbc                  945
1008       hdfc               188685
1007       icici              629685
1006       kvb                598185
1005       icc                 31185
1004       iob             1669166.1
1003       pnb             3004766.1
1002       sbi             3028139.1
1001       sbi              940873.5
17         icici              120000

11 rows selected.
```

```
SQL> select *from branch;
```

```
SQL> select *from branch;
```

```
BRANCH_NAME     BRANCH_CITY                       ASSETS
--------------- ------------------------------ ----------
sbi            lucknow                      1000000
pnb             mirzapur                      50000
iob            mumbai                       5000000
icc            sahajahapur                    960000
kvb             bengal                      9060000
icici          haridwar                      60000
hdfc            varanasi                     800000
hsbc            bhuj                        8000000

8 rows selected.
```

SQL> insert into branch values('icic','chennai',12344);

```
SQL> insert into branch values('icici','chennai',12344);
insert into branch values('icici','chennai',12344)
*
ERROR at line 1:
ORA-00001: unique constraint (SYSTEM.SYS_C008332) violated
```

SQL> select a.account_no, a.branch_name, b.branch_name, b.branch_city from account a, branch b where a.branch_name = b.branch_name;

```
SQL> select a.account_no,a.branch_name,b.branch_name,b.branch_city from account
a, branch b where a.branch_name=b.branch_name;

ACCOUNT_NO BRANCH_NAME     BRANCH_NAME     BRANCH_CITY
---------- --------------- --------------- ------------------------------
1010      icici          icici          haridwar
1009      hsbc            hsbc            bhuj
1008      hdfc            hdfc            varanasi
1007      icici          icici          haridwar
1006      kvb             kvb             bengal
1005      icc            icc            sahajahapur
1004      iob            iob             mumbai
1003      pnb             pnb             mirzapur
1002      sbi            sbi            lucknow
1001      sbi            sbi            lucknow
17       icici          icici          haridwar

11 rows selected.

SQL>
```

- **LEFT OUTER JOIN:**
- **FIND ALL CUSTOMERS WHO HAVE AN ACCOUNT BUT NO LOAN AT THE BANK**

SQL> select a.account_no,a.branch_name,b.branch_name,b.branch_city
from account a,branch b where a.branch_name(+)=b.branch_name;

```
SQL> select a.account_no,a.branch_name,b.branch_name,b.branch_city
  2  from account a,branch b
  3  where a.branch_name(+)=b.branch_name;

ACCOUNT_NO BRANCH_NAME     BRANCH_NAME     BRANCH_CITY
---------- --------------- --------------- ------------------------------
1010       icici           icici           haridwar
1009       hsbc            hsbc            bhuj
1008       hdfc            hdfc            varanasi
1007       icici           icici           haridwar
1006       kvb             kvb             bengal
1005       icc             icc             sahajahapur
1004       iob             iob             mumbai
1003       pnb             pnb             mirzapur
1002       sbi             sbi             lucknow
1001       sbi             sbi             lucknow
17         icici           icici           haridwar

11 rows selected.
```

- **RIGHT OUTER JOIN:**
- **FIND ALL CUSTOMERS WHO HAVE EITHER AN ACCOUNT OR A LOAN AT THE BANK**

SQL> select a.account_no,a.branch_name,b.branch_name,b.branch_city
from account a,branch b where a.branch_name = (+)b.branch_name;

```
SQL> select a.account_no,a.branch_name,b.branch_name,b.branch_city
  2  from account a,branch b
  3  where a.branch_name=b.branch_name (+);

ACCOUNT_NO BRANCH_NAME     BRANCH_NAME     BRANCH_CITY
---------- --------------- --------------- ------------------------------
1002       sbi             sbi             lucknow
1001       sbi             sbi             lucknow
1003       pnb             pnb             mirzapur
```

```
1004      iob          iob          mumbai
1005      icc          icc          sahajahapur
1006      kvb          kvb          bengal
1010      icici        icici        haridwar
1007      icici        icici        haridwar
17      icici        icici        haridwar
1008      hdfc         hdfc         varanasi
1009      hsbc         hsbc         bhuj

11 rows selected.
```

- **KEY CONSTRAINT:**

SQL> alter table account add constraint acbr foreign key(branch_name) references branch(branch_name)deferrable*initially immediate

```
SQL> alter table account add constraint acbr foreign key(branch_name)
  2  references branch(branch_name) deferrable initially immediate;
alter table account add constraint acbr foreign key(branch_name)
                                   *
ERROR at line 1:
ORA-02275: such a referential constraint already exists in the table
```

SQL> alter table loan add constraint lobr foreign key(branch_name) references branch(branch_name)deferrable initially deferred;

```
SQL> alter table loan add constraint lobr foreign key(branch_name)
  2  references branch(branch_name) deferrable initially deferred;

Table altered.
```

SQL> alter session set constraint=immediate;

```
SQL> alter session set constraint=immediate;

Session altered.
```

SQL> alter session set constraint=deferred;

```
SQL> alter session set constraint=deferred;

Session altered.
```

SQL> alter table account modify constraint acbr enable validate;

```
SQL> alter table account modify constraint acbr enable validate;
alter table account modify constraint acbr enable validate
*
ERROR at line 1:
ORA-02430: cannot enable constraint (ACBR) - no such constraint
```

SQL> alter table loan modify constraint lobr enable novalidate;

```
SQL> alter table loan modify constraint lobr enable novalidate;

Table altered.
```

SQL> alter table account modify constraint acbr disable novalidate;

```
SQL> alter table account modify constraint acbr disable novalidate;
alter table account modify constraint acbr disable novalidate
*
ERROR at line 1:
ORA-02431: cannot disable constraint (ACBR) - no such constraint
```

SQL> alter table account drop primary key;

```
SQL> alter table account drop primary key;

Table altered.
```

- **DROPPING A TABLE:**

SQL> alter table account drop constraint acbr;

```
SQL> alter table account drop constraint acbr;
alter table account drop constraint acbr
                         *
ERROR at line 1:
ORA-02443: Cannot drop constraint  - nonexistent constraint
```

SQL> alter table loan drop constraint lobr;

```
SQL> alter table loan drop constraint lobr;

Table altered.
```