Name: Hammad Ansari

UID: 2018450002

DBMS PRACTICAL 1

1) DDL commands: create, desc , alter, drop, rename

```
SQL> create table student_01 ( rollno number(10), s_name varchar2(20), city varchar2(33));

Table created.

SQL> desc student_02;
 Name                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 ROLLNO                                    NUMBER(10)
 S_NAME                                    VARCHAR2(20)
 CITY                                      VARCHAR2(33)

SQL> alter table student_02 add constraint p_02 primary key(rollno);    //adding primary key

Table altered.

        SQL>  alter table student_02 add constraint c2 check(rollno<20);     //adding constraint

Table altered.

SQL> desc student_02;                                   //displaying contents of the table
 Name                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 ROLLNO                    NOT NULL NUMBER(10)
 S_NAME                             VARCHAR2(20)
 CITY                               VARCHAR2(33)

        SQL> alter table student_02 add constraint u2 unique (city);   //adding a unique key

Table altered.

        SQL>  create table student_002 ( sub1 number(20), sub2 number(15));

Table created.

SQL> desc student_002;
 Name                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 SUB1                                      NUMBER(20)
 SUB2                                      NUMBER(15)

 SQL> alter table student_002
  2  add rollno number(20);
```

Name: Hammad Ansari

UID: 2018450002

Table altered.

```
SQL> desc student_002;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 SUB1                                               NUMBER(20)
 SUB2                                               NUMBER(15)
 ROLLNO                                               NUMBER(20)

 SQL> alter table student_001 drop column rollno;
```

Table altered.

```
SQL> desc student_001;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 SUB1                                               NUMBER(20)
 SUB2                                               NUMBER(15)
```

SQL> alter table student_002 add constraint f2 foreign key (sub1) references student_02;
//adding foreign key
Table altered.

SQL> alter table student_02 rename column rollno to r_no;

Table altered.

```
SQL> desc student_1;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 R_NO                                      NOT NULL NUMBER(10)
 S_NAME                                             VARCHAR2(20)
 CITY                                             VARCHAR2(33)
```

SQL> rename student_02 to student_2; //renaming

Table renamed.

2) DML Commands: insert, update, delete

```
SQL> /
Enter value for r_no: 1
Enter value for s_name: 'nishita'
Enter value for city: 'patna'
old   1: insert into student_01 values (&r_no, &s_name, &city)
new   1: insert into student_01 values (1, 'nishita', 'patna')
```

Name: Hammad Ansari

UID: 2018450002

1 row created.

SQL> insert into student_2 values (&r_no, &s_name, &city);

Enter value for r_no: 2

Enter value for s_name: 'hammad'

Enter value for city: 'mumbai'
old 1: insert into student_02 values (&r_no, &s_name, &city)
new 1: insert into student_01 values (2, 'hammad', 'mumbai')

1 row created.

SQL> select * from student_2;

R_NO	S_NAME	CITY
1	nishita	patna
2	hammad	mumbai

3) TCL Commands: commit, rollback

SQL> commit;

Commit complete.

4) DCL Commands: grant, revoke

SQL> create user Hammad identified by hammad123; //creating new user

User created.

SQL> select * from ALL_USERS; //displaying all the users using MySQL

USERNAME	USER_ID	CREATED
HAMMAD	54	25-JUL-19
MGMT_VIEW	53	11-JUL-19
MDDATA	50	11-JUL-19
SYSMAN	51	11-JUL-19
MDSYS	46	11-JUL-19
SI_INFORMTN_SCHEMA	45	11-JUL-19
ORDPLUGINS	44	11-JUL-19
ORDSYS	43	11-JUL-19
OLAPSYS	47	11-JUL-19
ANONYMOUS	39	11-JUL-19
XDB	38	11-JUL-19

Name: Hammad Ansari

UID: 2018450002

```
USERNAME                       USER_ID CREATED
------------------------------ ---------- ---------
CTXSYS                             36 11-JUL-19
EXFSYS                             34 11-JUL-19
WMSYS                              25 11-JUL-19
DBSNMP                             24 11-JUL-19
TSMSYS                             21 11-JUL-19
DMSYS                              35 11-JUL-19
DIP                                19 11-JUL-19
OUTLN                              11 11-JUL-19
SYSTEM                              5 11-JUL-19
SYS                                 0 11-JUL-19

21 rows selected.
```

SQL> GRANT create session to Hammad; //granting session to new user nishita

Grant succeeded.

SQL> grant insert,select on student_2 to Hammad; //giving nishita permission to insert and view table contents

Grant succeeded.

SQL> revoke all on student_2 from Hammad; //revoking insertion and selection access

Revoke succeeded.

SQL> revoke create session from Hammad; //revoking session

Revoke succeeded.

SQL> create table stud_1 as select * from student_2;

Table created.

```
SQL> desc stud_1;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 R_NO                                               NUMBER(10)
 S_NAME                                             VARCHAR2(20)
 CITY                                               VARCHAR2(33)
```

SQL> create sequence sq_1

```
 2  start with 1
 3  maxvalue 15
```

Name: Hammad Ansari

UID: 2018450002

```
  4  increment by 1
  5  cache 20;

Sequence created.

SQL> insert into stud_1 values(sq_1.nextval, 'diksha','borivali');

1 row created.

SQL> select * from stud_1;

     R_NO S_NAME              CITY
---------- -------------------- --------------------------------
         1 nishita              patna
         2 hammad                 mumbai
         4 Maulika              Virar
         1 diksha               borivali

SQL> rollback;

Rollback complete.

SQL> select * from stud_2;

     R_NO S_NAME              CITY
---------- -------------------- --------------------------------
         1 nishita              patna
         2 hammad                 mumbai
         4 Maulika              Virar

SQL> drop sequence sq_1;

Sequence dropped.

SQL> create sequence sq_1
  2  start with 5
  3  maxvalue 15
  4  increment by 1
  5  cache 20;

Sequence created.

SQL> insert into stud_2 values(sq_1.nextval, 'riya', 'borivali');

1 row created.

SQL> desc stud_2;
 Name                              Null?    Type
```

Name: Hammad Ansari

UID: 2018450002

```
 ----------------------------------------- -------- ----------------------------
 R_NO                                       NUMBER(10)
 S_NAME                                       VARCHAR2(20)
 CITY                                      VARCHAR2(33)

SQL> select * from stud_2;

    R_NO S_NAME              CITY
---------- -------------------- --------------------------------
       1 nishita            mumbai
       2 hammad               jaipur
       4 Maulika             Virar
       5 riya               borivali

SQL> commit;

Commit complete.

SQL> create view stud_2_view_1 as select r_no, s_name from stud_2;     //creating view

View created.

          SQL> insert into stud_2_view_1 values(6,'diksha');


1 row created.

          SQL> select * from  stud_2_view_1;


    R_NO S_NAME
---------- --------------------
       1 nishita
       2 hammad
       4 Maulika
       5 riya
       6 diksha

SQL> commit;

Commit complete.

SQL> desc stud_2;
 Name                              Null?    Type
 ----------------------------------------- -------- ----------------------------
 R_NO                                       NUMBER(10)
 S_NAME                                       VARCHAR2(20)
 CITY                                      VARCHAR2(33)

SQL> select * from stud_2;
```

Name: Hammad Ansari

UID: 2018450002

```
     R_NO S_NAME             CITY
---------- -------------------- --------------------------------
         1 nishita              mumbai
         2 hammad               jaipur
         4 Maulika              Virar
         5 riya                 borivali
         6 diksha
```

```
SQL> commit;

Commit complete.

SQL> alter table student_02 drop constraint f2;

Table altered.


SQL> desc student_02;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 SUB1                                               NUMBER(20)
 SUB2                                               NUMBER(15)

          SQL>  alter table student_02

  2  add r_no number(15);

Table altered.

SQL> desc student_02;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 SUB1                                               NUMBER(20)
 SUB2                                               NUMBER(15)
 R_NO                                               NUMBER(15)

          SQL> spool off;
```

5) Using DML,TCL,DCL and DDL on tables borrow_02,customer_02, deposit_02 and branch_02

```
SQL> create table deposit_02( acno varchar2(5), cname varchar2(18), bname varchar2(18), amount
          number(8,2));

Table created.
```

Name: Hammad Ansari

UID: 2018450002

```
SQL> desc deposit_02
 Name                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 ACNO                                      VARCHAR2(5)
 CNAME                                     VARCHAR2(18)
 BNAME                                     VARCHAR2(18)
 AMOUNT                                    NUMBER(8,2)

SQL> create table Branch_02( bname varchar2(20),city varchar2(20));

Table created.

SQL> create table customer_02( cname varchar2(20),city varchar2(20));

Table created.

SQL> create table borrow_02( loanno varchar2(5), cname varchar2(18), bname varchar2(18),
        amount number(8,2));

Table created.

SQL> desc Branch_02;
 Name                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 BNAME                                     VARCHAR2(20)
 CITY                                      VARCHAR2(20)

SQL> desc customer_02;
 Name                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 CNAME                                     VARCHAR2(20)
 CITY                                      VARCHAR2(20)

SQL> desc borrow_02;
 Name                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 LOANNO                                    VARCHAR2(5)
 CNAME                                     VARCHAR2(18)
 BNAME                                     VARCHAR2(18)
 AMOUNT                                    NUMBER(8,2)

SQL> alter table deposit_02 add constraint pkk1 primary key (acno);

Table altered.

SQL> desc deposit_02;
 Name                      Null?    Type
```

Name: Hammad Ansari

UID: 2018450002

```
 ----------------------------------------- -------- ----------------------------
 ACNO                                      NOT NULL VARCHAR2(5)
 CNAME                                              VARCHAR2(18)
 BNAME                                              VARCHAR2(18)
 AMOUNT                                             NUMBER(8,2)
```

```
SQL> alter table deposit_02 modify (cname not null, bname not null);

Table altered.

SQL> desc deposit_02;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 ACNO                                      NOT NULL VARCHAR2(5)
 CNAME                                     NOT NULL VARCHAR2(18)
 BNAME                                     NOT NULL VARCHAR2(18)
 AMOUNT                                             NUMBER(8,2)

SQL> alter table deposit_02 add constraint ch1 check(amount<1000);

Table altered.

SQL> alter table deposit_02 add adate date;

Table altered.

SQL> desc deposit_02;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 ACNO                                      NOT NULL VARCHAR2(5)
 CNAME                                     NOT NULL VARCHAR2(18)
 BNAME                                     NOT NULL VARCHAR2(18)
 AMOUNT                                             NUMBER(8,2)
 ADATE                                              DATE

SQL> alter table branch_02 add constraint pk2 primary key (bname);

Table altered.

SQL> alter table customer_02 add constraint pk3 primary key (cname);

Table altered.

SQL> alter table borrow_02 add constraint pk4 primary key (loanno);

Table altered.

SQL> alter table borrow_02 modify (cname not null, bname not null);
```

Name: Hammad Ansari

UID: 2018450002

Table altered.

```
SQL> desc borrow_02;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 LOANNO                                    NOT NULL VARCHAR2(5)
 CNAME                                     NOT NULL VARCHAR2(18)
 BNAME                                     NOT NULL VARCHAR2(18)
 AMOUNT                                             NUMBER(8,2)
```

```
SQL> alter table deposit_02 add constraint fk1 foreign key (bname) references branch_02;
```

Table altered.

```
SQL> alter table deposit_02 add constraint fk2 foreign key (cname) references customer_02;
```

Table altered.

```
SQL> alter table borrow_02 add constraint fk3 foreign key (cname) references customer_02;
```

Table altered.

```
SQL> alter table borrow_02 add constraint fk4 foreign key (bname) references branch_02;
```

Table altered.

```
SQL> insert into branch_02 (bname, city) values ('VRCE','NAGPUR');
```

1 row created.

```
SQL> insert into branch_02 values('AJNI','NAGPUR');
```

1 row created.

```
SQL> insert into branch_02 values('KAROLBAGH; 'DELHI');

SQL> insert into branch_02 values ('KAROLBAGH','DELHI');
```

1 row created.

```
SQL> insert into branch_02 values ('CHANDNI','DELHI');
```

1 row created.

```
SQL> insert into branch_02 values ('DHARAMPETH', 'NAGPUR');
```

Name: Hammad Ansari

UID: 2018450002

1 row created.

SQL> insert into branch_02 values ('M.G.ROAD', 'BANGALORE');

1 row created.

SQL> insert into branch_02 values ('$bname','$city');

1 row created.

SQL> /
Enter value for bname: 'ANDHERI'
Enter value for city: 'MUMBAI'
old 1: insert into branch_02 values (&bname,&city)
new 1: insert into branch_02 values ('ANDHERI','MUMBAI')

1 row created.

SQL> /
Enter value for bname: 'VIRAR'
Enter value for city: 'MUMBAI'
old 1: insert into branch_02 values (&bname,&city)
new 1: insert into branch_02 values ('VIRAR','MUMBAI')

1 row created.

SQL> /
Enter value for bname: 'NEHRU PLACE'
Enter value for city: 'DELHI'
old 1: insert into branch_02 values (&bname,&city)
new 1: insert into branch_02 values ('NEHRU PLACE','DELHI')

1 row created.

SQL> /
Enter value for bname: 'POWAI'
Enter value for city: 'MUMBAI'
old 1: insert into branch_02 values (&bname,&city)
new 1: insert into branch_02 values ('POWAI','MUMBAI')

1 row created.

SQL> select * from branch_02;

BNAME CITY
---------- ----------

Name: Hammad Ansari

UID: 2018450002

```
VRCE              NAGPUR
AJNI              NAGPUR
KAROLBAGH         DELHI
CHANDNI           DELHI
DHARAMPETH        NAGPUR
M.G.ROAD          BANGALORE
$bname            $city
ANDHERI           MUMBAI
VIRAR             MUMBAI
NEHRU PLACE       DELHI
POWAI             MUMBAI
```

11 rows selected.

```
SQL> delete from branch_02 where bname = '$bname';
```

1 row deleted.

```
SQL> select * from branch_02;

BNAME               CITY
-------------------- --------------------
VRCE              NAGPUR
AJNI              NAGPUR
KAROLBAGH         DELHI
CHANDNI           DELHI
DHARAMPETH        NAGPUR
M.G.ROAD          BANGALORE
ANDHERI           MUMBAI
VIRAR             MUMBAI
NEHRU PLACE       DELHI
POWAI             MUMBAI
```

10 rows selected.

```
SQL> desc customer_02;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 CNAME                                     NOT NULL VARCHAR2(20)
 CITY                                               VARCHAR2(20)


SQL> insert into customer_02 values (&cname, &city);
Enter value for cname:  'ANIL'
Enter value for city:  'KOLKATA'
old   1: insert into customer_02 values (&cname, &city)
new   1: insert into customer_02 values ( 'ANIL',  'KOLKATA')
```

Name: Hammad Ansari

UID: 2018450002

1 row created.

SQL> /
Enter value for cname: 'SUNIL'
Enter value for city: 'DELHI'
old 1: insert into customer_02 values (&cname, &city)
new 1: insert into customer_02 values ('SUNIL', 'DELHI')

1 row created.

SQL> /
Enter value for cname: 'MEHUL'
Enter value for city: 'BARODA'
old 1: insert into customer_02 values (&cname, &city)
new 1: insert into customer_02 values ('MEHUL', 'BARODA')

1 row created.

SQL> /
Enter value for cname: 'MANDAR'
Enter value for city: 'PATNA'
old 1: insert into customer_02 values (&cname, &city)
new 1: insert into customer_02 values ('MANDAR', 'PATNA')

1 row created.

SQL> /
Enter value for cname: 'MADHURI'
Enter value for city: 'NAGPUR'
old 1: insert into customer_02 values (&cname, &city)
new 1: insert into customer_02 values ('MADHURI', 'NAGPUR')

1 row created.

SQL> /
Enter value for cname: 'PRAMOD'
Enter value for city: 'NAGPUR'
old 1: insert into customer_02 values (&cname, &city)
new 1: insert into customer_02 values ('PRAMOD', 'NAGPUR')

1 row created.

SQL> /
Enter value for cname: 'SANDIP'
Enter value for city: 'SURAT'
old 1: insert into customer_02 values (&cname, &city)
new 1: insert into customer_02 values ('SANDIP', 'SURAT')

Name: Hammad Ansari

UID: 2018450002

```
1 row created.

SQL> /
Enter value for cname: 'SHIVANI'
Enter value for city: 'MUMBAI'
old   1: insert into customer_02 values (&cname, &city)
new   1: insert into customer_02 values ('SHIVANI', 'MUMBAI')

1 row created.

SQL> /
Enter value for cname: 'KRANTI'
Enter value for city: 'MUMBAI'
old   1: insert into customer_02 values (&cname, &city)
new   1: insert into customer_02 values ('KRANTI', 'MUMBAI')

1 row created.

SQL> /
Enter value for cname: 'NAREN'
Enter value for city: 'MUMBAI'
old   1: insert into customer_02 values (&cname, &city)
new   1: insert into customer_02 values ('NAREN', 'MUMBAI')

1 row created.

SQL> select * from customer_02;

CNAME                CITY
-------------------- --------------------
ANIL                 KOLKATA
SUNIL                DELHI
MEHUL                BARODA
MANDAR               PATNA
MADHURI              NAGPUR
PRAMOD               NAGPUR
SANDIP               SURAT
SHIVANI              MUMBAI
KRANTI               MUMBAI
NAREN                MUMBAI

10 rows selected.

SQL> alter table deposit_02 add constraint check1 check(amount>1000);

Table altered.

        SQL> alter table deposit_02 drop constraint check1;
```

Name: Hammad Ansari

UID: 2018450002

Table altered.

SQL> alter table deposit_02 drop constraint ch1;

Table altered.

SQL> commit;

Commit complete.

SQL> alter table deposit_02 add constraint ch1 check(amount >= 1000);

Table altered.

SQL> insert into deposit_02 values(&acno, &bname, &cname, &amount, &adate);
Enter value for acno: '100'
Enter value for bname: 'ANIL'
Enter value for cname: 'VRCE'
Enter value for amount: 1000.00
Enter value for adate: '1-MAR-95'
old 1: insert into deposit_02 values(&acno, &bname, &cname, &amount, &adate)
new 1: insert into deposit_02 values('100', 'ANIL', 'VRCE', 1000.00, '1-MAR-95')

1 row created.

SQL> /
Enter value for acno: '101'
Enter value for bname: 'SUNIL'
Enter value for cname: 'AJNI'
Enter value for amount: 5000.0
Enter value for adate: '4-JAN-96'
old 1: insert into deposit_02 values(&acno, &bname, &cname, &amount, &adate)
new 1: insert into deposit_02 values('101', 'SUNIL', 'AJNI', 5000.0, '4-JAN-96')

1 row created.

SQL> /
Enter value for acno: '102'
Enter value for bname: 'MEHUL'
Enter value for cname: 'KAROLBAGH'
Enter value for amount: 3500.00
Enter value for adate: '17-NOV-95'
old 1: insert into deposit_02 values(&acno, &bname, &cname, &amount, &adate)
new 1: insert into deposit_02 values('102', 'MEHUL', 'KAROLBAGH', 3500.00, '17-NOV-95')

1 row created.

Name: Hammad Ansari

UID: 2018450002

```
SQL> /
Enter value for acno: '104'
Enter value for bname: 'MADHURI'
Enter value for cname: 'CHANDNI'
Enter value for amount: 1200.00
Enter value for adate: '17-DEC-95'
old   1: insert into deposit_02 values(&acno, &bname, &cname, &amount, &adate)
new   1: insert into deposit_02 values('104', 'MADHURI', 'CHANDNI', 1200.00, '17-DEC-95')

1 row created.

SQL> /
Enter value for acno: '105'
Enter value for bname: 'PRAMOD'
Enter value for cname: 'M.G.ROAD'
Enter value for amount: 3000.0
Enter value for adate: '27-MAR-96'
old   1: insert into deposit_02 values(&acno, &bname, &cname, &amount, &adate)
new   1: insert into deposit_02 values('105', 'PRAMOD', 'M.G.ROAD', 3000.0, '27-MAR-96')

1 row created.

SQL> /
Enter value for acno: '106'
Enter value for bname: 'SANDIP'
Enter value for cname: 'ANDHERI'
Enter value for amount: 2000.00
Enter value for adate: '31-MAR-96'
old   1: insert into deposit_02 values(&acno, &bname, &cname, &amount, &adate)
new   1: insert into deposit_02 values('106', 'SANDIP', 'ANDHERI', 2000.00, '31-MAR-96')

1 row created.

SQL> /
Enter value for acno: '107'
Enter value for bname: 'SHIVANI'
Enter value for cname: 'VIRAR'
Enter value for amount: 1000.00
Enter value for adate: '5-SEP-95'
old   1: insert into deposit_02 values(&acno, &bname, &cname, &amount, &adate)
new   1: insert into deposit_02 values('107', 'SHIVANI', 'VIRAR', 1000.00, '5-SEP-95')

1 row created.

SQL> /
Enter value for acno: '108'
Enter value for bname: 'KRANTI'
Enter value for cname: 'NEHRU PLACE'
```

Name: Hammad Ansari

UID: 2018450002

```
Enter value for amount: 5000.00
Enter value for adate: '2-JUL-95'
old   1: insert into deposit_02 values(&acno, &bname, &cname, &amount, &adate)
new   1: insert into deposit_02 values('108', 'KRANTI', 'NEHRU PLACE', 5000.00, '2-JUL-95')

1 row created.

SQL> /
Enter value for acno: '109'
Enter value for bname: 'NAREN'
Enter value for cname: 'POWAI'
Enter value for amount: 7000.00
Enter value for adate: '10-AUG-95'
old   1: insert into deposit_02 values(&acno, &bname, &cname, &amount, &adate)
new   1: insert into deposit_02 values('109', 'NAREN', 'POWAI', 7000.00, '10-AUG-95')

1 row created.

SQL> COMMIT;

Commit complete.
```

6) INBUILT FUNCTIONS

- **Arithmetic Operator**

1. Multiplication Operator

```
SQL> select 1234 * 123 from dual;

 1234*123
----------
    151782
```

2. Addition Operator

```
SQL> select 1234 + 123 from dual;

 1234+123
----------
    1357
```

Name: Hammad Ansari

UID: 2018450002

SQL> select (amount)+100 from borrow_02;

(AMOUNT)+100

1101

5100

3100

2100

8100

3100

6 rows selected.

3. Subtraction Operator

SQL> select 1234 - 123 from dual;

1234-123

1111

4. Division Operator

SQL> select 1234 / 123 from dual;

1234/2

617

5. Unary Negation Operator

SQL> select -(amount) from borrow_02;

Name: Hammad Ansari

UID: 2018450002

-(AMOUNT)

-1001

-5000

-3000

-2000

-8000

-3000

6 rows selected.

- Display System Date

SQL> select sysdate from dual;

SYSDATE

22-JUL-19

- Relational Operators

1. Greater Than Operator

SQL> select * from borrow_02 where amount>=1000;

LOANN CNAME BNAME AMOUNT

----- ---------- ---------- ----------

201 ANIL VRCE 1001

206 MEHUL AJNI 5000

Name: Hammad Ansari

UID: 2018450002

311 SUNIL DHARAMPETH 3000

321 MADHURI ANDHERI 2000

375 PRAMOD VIRAR 8000

481 KRANTI NEHRU PLACE 3000

6 rows selected.

2. Not Equal to Operator

SQL> select * from borrow_02 where amount<>1001;

LOANN CNAME BNAME AMOUNT

----- ---------- ---------- ----------

206 MEHUL AJNI 5000

311 SUNIL DHARAMPETH 3000

321 MADHURI ANDHERI 2000

375 PRAMOD VIRAR 8000

481 KRANTI NEHRU PLACE 3000

SQL> select * from borrow_02 where cname<>'MEHUL';

LOANN CNAME BNAME AMOUNT

----- ---------- ---------- ----------

201 ANIL VRCE 1001

311 SUNIL DHARAMPETH 3000

321 MADHURI ANDHERI 2000

375 PRAMOD VIRAR 8000

481 KRANTI NEHRU PLACE 3000

- Logical Operators

Name: Hammad Ansari

UID: 2018450002

1. OR Operator

```
SQL>  select * from borrow_02 where cname='MEHUL' OR cname='SUNIL';

LOANN CNAME           BNAME               AMOUNT
----- ------------------ ------------------ ----------
206   MEHUL           AJNI                5000
311   SUNIL           DHARAMPETH            3000
```

2. IN Operator

```
SQL>  select * from borrow_02 where cname in ('MEHUL', 'SUNIL');

LOANN CNAME           BNAME               AMOUNT
----- ------------------ ------------------ ----------
206   MEHUL           AJNI                5000
311   SUNIL           DHARAMPETH            3000
```

3. AND Operator

```
SQL>  select * from borrow_02 where CNAME='MEHUL' AND BNAME='AJNI';

LOANN CNAME           BNAME               AMOUNT
----- ------------------ ------------------ ----------
206   MEHUL           AJNI                5000
```

4. NOT Operator

```
SQL>  select * from borrow_02 where CNAME NOT IN 'MEHUL';

LOANN CNAME           BNAME               AMOUNT
----- ------------------ ------------------ ----------
201   ANIL            VRCE                1001
```

Name: Hammad Ansari

UID: 2018450002

311 SUNIL DHARAMPETH 3000

321 MADHURI ANDHERI 2000

375 PRAMOD VIRAR 8000

481 KRANTI NEHRU PLACE 3000

- Math Operators

1. Absolute function

SQL> SELECT ABS(AMOUNT) FROM borrow_02;

ABS(AMOUNT)

1001

5000

3000

2000

8000

3000

6 rows selected.

SQL> SELECT ABS(AMOUNT) AS AMT FROM borrow_02;

AMT

1001

5000

3000

2000

8000

3000

Name: Hammad Ansari

UID: 2018450002

6 rows selected.

2. Ceil Function

SQL> SELECT CEIL(15.235) FROM DUAL;

CEIL(15.235)

16

3. Floor Function

SQL> SELECT FLOOR(15.235) FROM DUAL;

FLOOR(15.235)

15

4. Truncate Function

SQL> SELECT TRUNC(23.456,2) FROM DUAL;

TRUNC(23.456,2)

23.45

5. Square Root Function

SQL> SELECT SQRT(25) FROM DUAL;

SQRT(25)

5

- Character Functions

Name: Hammad Ansari

UID: 2018450002

1. ASCII function

```
SQL> SELECT ASCII('A') FROM DUAL;

ASCII('A')
----------
        65
SQL> SELECT ASCII('ABC') FROM DUAL;

ASCII('ABC')
------------
          65
```

2. Character Function

```
SQL> SELECT CHR(65) FROM DUAL;

C
-
A
```

3. Initial Caps Function

```
SQL> SELECT INITCAP('heelloo') FROM DUAL;

INITCAP
-------
Heelloo
```

- String Functions

Name: Hammad Ansari

UID: 2018450002

1. Lower Function

```
SQL> SELECT LOWER('HEELLOO') FROM DUAL;

LOWER('
-------
heelloo
```

2. LPAD function

```
SQL> SELECT LPAD('ABC',10,'*') FROM DUAL;

LPAD('ABC'
----------
*******ABC
```

3. LTRIM Function

```
SQL> SELECT LTRIM('nishita',2) FROM DUAL;

LTRIM
-----
shita
```

Hello World

4. RTRIM Function

```
SQL> SELECT RTRIM('nishita',2) FROM DUAL;
RTRIM
-----
nishi
```

Name: Hammad Ansari

UID: 2018450002

5. Sub string Function

```
SQL> SELECT SUBSTR('NISHITA',2,3) FROM DUAL;

SUB
---
ISH
```

6. INSTR Function

```
SQL> select INSTR('Corporate Floor','or', -3, 2) from dual;

INSTR('CORPORATEFLOOR','OR',-3,2)
---------------------------------
                                2
```

7. Concatenation Function

```
SQL> SELECT CONCAT(CNAME,CITY) FROM customer_02;

CONCAT(CNAME,CITY)
-----------------------------------
ANILKOLKATA
SUNILDELHI
MEHULBARODA
MANDARPATNA
MADHURINAGPUR
PRAMODNAGPUR
SANDIPSURAT
```

Name: Hammad Ansari

UID: 2018450002

SHIVANIMUMBAI

KRANTIMUMBAI

NARENMUMBAI

10 rows selected.

SQL> SELECT CONCAT(CNAME,CONCAT(' ',CITY)) FROM customer_02;

CONCAT(CNAME,CONCAT('',CITY))

ANIL KOLKATA

SUNIL DELHI

MEHUL BARODA

MANDAR PATNA

MADHURI NAGPUR

PRAMOD NAGPUR

SANDIP SURAT

SHIVANI MUMBAI

KRANTI MUMBAI

NAREN MUMBAI

10 rows selected.

- Date Functions

1. ADD_MONTHS Function

Name: Hammad Ansari

UID: 2018450002

```
SQL> SELECT ADD_MONTHS('22-JUL-2019',2) FROM DUAL;

ADD_MONTH
---------
22-SEP-19
```

2. LAST_DAY Function

```
SQL> SELECT LAST_DAY(SYSDATE) FROM DUAL;
LAST_DAY(
---------
31-JUL-19
```

3. MONTHS_BETWEEN Function

```
SQL> SELECT MONTHS_BETWEEN(SYSDATE,'22-SEP-2019') FROM DUAL;

MONTHS_BETWEEN(SYSDATE,'22-SEP-2019')
-------------------------------------
                                   -2
```

4. NEXT_DAY Function

```
SQL> SELECT NEXT_DAY(SYSDATE,'SUNDAY') FROM DUAL;

NEXT_DAY(
```

Name: Hammad Ansari

UID: 2018450002

28-JUL-19

6 rows selected.

- Extra Functions

1. ROWID function

SQL> SELECT ROWID,CNAME FROM borrow_02;

ROWID CNAME

------------------ ------------------

AAAMiNAABAAAOs6AAA ANIL

AAAMiNAABAAAOs6AAB MEHUL

AAAMiNAABAAAOs6AAC SUNIL

AAAMiNAABAAAOs6AAD MADHURI

AAAMiNAABAAAOs6AAE PRAMOD

AAAMiNAABAAAOs6AAF KRANTI

6 rows selected.

2. ROWNUM Function

SQL> SELECT ROWNUM, CNAME FROM borrow_02;

ROWNUM CNAME

---------- ------------------

1 ANIL

2 MEHUL

3 SUNIL

4 MADHURI

Name: Hammad Ansari

UID: 2018450002

5 PRAMOD

6 KRANTI

6 rows selected.

- Aggregate Functions

1. Max Function

SQL> SELECT MAX(AMOUNT) FROM borrow_02;

MAX(AMOUNT)

8000

SQL> SELECT * FROM borrow_02 WHERE AMOUNT=(SELECT MAX(AMOUNT) FROM borrow_02);

LOANN CNAME BNAME AMOUNT

----- ---------- ---------- ----------

375 PRAMOD VIRAR 8000

2. Min Function

SQL> SELECT MIN(AMOUNT) FROM borrow_02;

MIN(AMOUNT)

1000

3. Average Function

Name: Hammad Ansari

UID: 2018450002

SQL> SELECT AVG(AMOUNT) FROM borrow_02;

AVG(AMOUNT)

3666.83333

4. Count Function

SQL> SELECT COUNT(AMOUNT) FROM borrow_02;

COUNT(AMOUNT)

6

5. Sum Function

SQL> SELECT SUM(AMOUNT) FROM borrow_02;

SUM(AMOUNT)

22001

- Concatenation Operator

SQL> SELECT CNAME || ' ' || CITY FROM customer_02;

CNAME||''||CITY

ANIL KOLKATA

SUNIL DELHI

MEHUL BARODA

MANDAR PATNA

Name: Hammad Ansari

UID: 2018450002

MADHURI NAGPUR

PRAMOD NAGPUR

SANDIP SURAT

SHIVANI MUMBAI

KRANTI MUMBAI

NAREN MUMBAI

10 rows selected.

- NVL and NVL2 commands:

SQL> select nvl(100,NULL) from dual;

NVL(100,NULL)

100

SQL> select nvl(200,100) from dual;

NVL(200,100)

200

SQL> select nvl(100,200) from dual;

NVL(100,200)

100

Name: Hammad Ansari

UID: 2018450002

```
SQL> select nvl(NULL,200) from dual;

NVL(NULL,200)
-------------
        200

SQL> select nvl2(100,200,NULL) from dual;

NVL2(100,200,NULL)
------------------
           200

SQL> select nvl2(100,200,300) from dual;

NVL2(100,200,300)
-----------------
           200

SQL> select nvl2(100,NULL,300) from dual;

NVL2(100,NULL,300)
```

- Coalesce commands:

```
SQL> select coalesce(NULL,NULL,NULL,2,NULL,3) from dual;

COALESCE(NULL,NULL,NULL,2,NULL,3)
---------------------------------
                  2
```

Name: Hammad Ansari

UID: 2018450002