Create new user

```
SQL> connect sys as sysdba;
Enter password: password not needed
SQL> create user <username> identified by <password>;
SQL> grant connect, resource, dba to <username>;
Grant succeeded.
```

Change existing user password

```
SQL> connect sys as sysdba;
Enter password: password not needed
SQL> alter user system identified by <previous_username> <password>;
SQL> connect system
Enter password: <type_password>
SQL> grant connect, resource, dba to <username>;
Grant succeeded.
```

Start working

```
SQL> connect system;
Enter password: <type_password>
Connected.
SQL> connect <username>;
Enter password: <type_password>

SQL> connect <username>;
Enter password: <type_password>
Connected.
```

Show tables in the work space of <username>

```
select table_name from user_tables;
TABLE_NAME
------------------------------
STUDENT
```

Create Table

```
SQL> create table employee(id number(15), name varchar2(100), marks varchar2(3)
Table created.
```

Show user

```
SQL> show user
USER is "SYSTEM"
SQL> connect Ziaul
Enter password: <type_password>
Connected.
SQL> show user
USER is "ZIAUL"
```

Describe table using ‘desc’ command:

```
SQL> desc employee
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 ID                                                 NUMBER(15)
 FIRST_NAME                                         VARCHAR2(100)
 MIDDLE_NAME                                        VARCHAR2(100)
 LAST_NAME                                          VARCHAR2(100)
 SALARY                                             FLOAT(5)
 DEPARTMENT                                         VARCHAR2(100)
```

Insert values using Value method:

```
SQL> insert into employee(id,first_name,middle_name,last_name,salary,department)
values(2,'Md','Mehadi','Hasan',40000.0 ,'DBA');


1 row created.
```

Insert values using address method:

```
SQL> insert into employee values(&id, '&first_name','&middle_name','&last_name',&salary,'&department');
Enter value for id: 1
Enter value for first_name: Md.
Enter value for middle_name: Ziaul
Enter value for last_name: Karim
Enter value for salary: 40000.0
Enter value for department: DBA
old   1: insert into employee values(&id, '&first_name','&middle_name','&last_name',&salary,'&department')
new   1: insert into employee values(1, 'Md.','Ziaul','Karim',40000.0,'DBA')


1 row created.
```

Use ‘Select’ Command to see table values:

```
SQL> select id, name, department from employee;

        ID     NAME                                                                                SALARY  DEPARTMENT
-------------------------------------------------------------------------------------------------------------------
         1 Md. Ziaul Karim                                                                         40000   DBA
         2 Md Mehadi Hasan                                                                         40000   DBA
```

Use ‘Order By’ (asc, desc) :

```
SQL> select id,name,salary,department from employee order by id desc;

    ID NAME                                SALARY         DEPARTMENT
-------------------------------------------------------------------------------------------------------------------------------------------
     2 Md Mehadi Hasan                     40000          DBA
     1 Md. Ziaul Karim                     40000          DBA

SQL> select id,name,salary,department from employee order by id asc;

    ID  NAME                               SALARY         DEPARTMENT
-------------------------------------------------------------------------------------------------------------------------------------------
     1   Md. Ziaul Karim                   40000          DBA
     2   Md Mehadi Hasan                   40000          DBA
```

Using ‘Where’:

```
SQL> select id,middle_name,salary from employee where middle_name='Mehadi';

    ID  MIDDLE_NAME                                                                                      SALARY
---------- ---------------------------------------------------------------------------------------------------- ----------
     2   Mehadi                                                                                           40000
```

Using ‘and’ and ‘update’:

```
SQL> update employee set first_name='Md.' where id=2 and middle_name='Mehadi';

1 row updated.

SQL> select * from employee;
    ID NAME                                SALARY          DEPARTMENT
-------------------------------------------------------------------------------------------------------------------------------------------
     1 Md. Ziaul Karim                      40000          DBA
     2 Md. Mehadi Hasan                     40000          DBA
```

Using ‘like’:

```
SQL> select id, name, salary, department from employee where middle_name like ‘Z%';

    ID NAME                           SALARY         DEPARTMENT
-------------------------------------------------------------------------------------------------------------------------------
     1 Md. Ziaul Karim                 40000         DBA

SQL> select id, name, salary, department from employee where middle_name like ‘%_l%';

    ID NAME                           SALARY         DEPARTMENT
-------------------------------------------------------------------------------------------------------------------------------
     1 Md. Ziaul Karim                 40000         DBA
```

Using ‘Alter’:

Adding Column

```
SQL> alter table employee add age number(2);

Table altered.

SQL> desc employee;
 Name                                                    Null?        Type
 ------------------------------------------------------------------------------------
 ID                                                                   NUMBER(15)
 FIRST_NAME                                                           VARCHAR2(100)
 MIDDLE_NAME                                                          VARCHAR2(100)
 LAST_NAME                                                            VARCHAR2(100)
 SALARY                                                               FLOAT(5)
 DEPARTMENT                                                           VARCHAR2(100)
 AGE                                                                  NUMBER(2)
```

Removing Column

```
SQL> alter table employee drop column age;

Table altered.

SQL> desc employee;
 Name                    Null?    Type
 ----------------------- -----  ----------
 ID                             NUMBER(15)
 FIRST_NAME                     VARCHAR2(100)
 MIDDLE_NAME                    VARCHAR2(100)
 LAST_NAME                      VARCHAR2(100)
 SALARY                         FLOAT(5)
 DEPARTMENT                     VARCHAR2(100)
```

Making Columns Unused

```
SQL> alter table employee set unused column department;

Table altered.

SQL> desc employee;
 Name                  Null?    Type
 --------------------- ----- ----------
 ID                            NUMBER(15)
 FIRST_NAME                    VARCHAR2(100)
 MIDDLE_NAME                   VARCHAR2(100)
 LAST_NAME                     VARCHAR2(100)
 SALARY                        FLOAT(5)
```

Dropping Unused Columns

```
SQL> alter table employee drop unused columns;

Table altered.

SQL> desc employee;
 Name                  Null?    Type
 --------------------- ----- ----------
 ID                            NUMBER(15)
 FIRST_NAME                    VARCHAR2(100)
 MIDDLE_NAME                   VARCHAR2(100)
 LAST_NAME                     VARCHAR2(100)
 SALARY                        FLOAT(5)
```

Increasing or Decreasing Precision of a table

```
SQL> alter table employee modify salary float(6);

Table altered.

SQL> desc employee;
 Name                    Null?    Type
 ----------------------- -----  ----------
 ID                              NUMBER(15)
 FIRST_NAME                      VARCHAR2(100)
 MIDDLE_NAME                     VARCHAR2(100)
 LAST_NAME                       VARCHAR2(100)
 SALARY                          FLOAT(6)
```

Renaming Columns

```
SQL> alter table employee rename column salary to annual_salary;

Table altered.

SQL> desc employee;
 Name                    Null?    Type
 ----------------------- -----  ----------
 ID                              NUMBER(15)
 FIRST_NAME                      VARCHAR2(100)
 MIDDLE_NAME                     VARCHAR2(100)
 LAST_NAME                       VARCHAR2(100)
 ANNUAL_SALARY                   FLOAT(6)
```

Using Truncate

```
SQL> truncate table employee;

Table truncated.
```

Using Drop

```
SQL> select table_name from user_tables;

TABLE_NAME

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

EMPLOYEE

STUDENT

SQL> drop table student;

Table dropped.

SQL> select table_name from user_tables;

TABLE_NAME

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

EMPLOYEE
```

Using Rename

```
SQL> rename employee to employee_info;

Table renamed.

SQL> select table_name from user_tables;

TABLE_NAME

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

EMPLOYEE_INFO
```

Concatenating Strings in Multiple Columns

```
SQL> select id, first_name||' '||middle_name||' '||last_name as name, annual_salary as
salary from employee;

    ID NAME                                SALARY         DEPARTMENT

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

     1 Md. Ziaul Karim                      40000          DBA

     2 Md. Mehadi Hasan                     66000          DBA
```

Another look at 'Update'

```
SQL> update employee set annual_salary=55000.0 where id=1 and first_name='Ziaul';

1 row updated.

SQL> select id, first_name||' '||middle_name||' '||last_name as name, annual_salary as
salary from employee;

    ID NAME                                SALARY         DEPARTMENT

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

     1 Md. Ziaul Karim                      55000          DBA

     2 Md. Mehadi Hasan                     66000          DBA
```