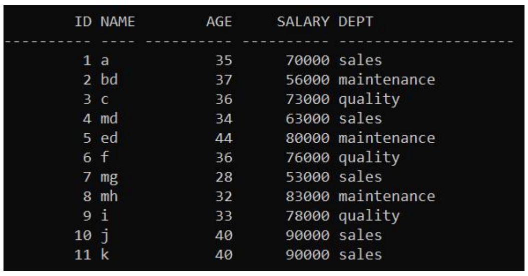
Ex. No: 1 b SQL DML COMMANDS

Date: 24/01/22

AIM: To write SQL queries to execute different DML commands.

Data base created for this exercise is:



```
        ID NAME        AGE     SALARY DEPT
---------- ---- ---------- ---------- --------------------
         1 a            35      70000 sales
         2 bd           37      56000 maintenance
         3 c            36      73000 quality
         4 md           34      63000 sales
         5 ed           44      80000 maintenance
         6 f            36      76000 quality
         7 mg           28      53000 sales
         8 mh           32      83000 maintenance
         9 i            33      78000 quality
        10 j            40      90000 sales
        11 k            40      90000 sales
```

DML Commands:

- **Distinct-** Used to return distinct/unique values

  Syntax,

  select distinct column_name from table_name;

  Example,

  SQL> select distinct salary from employee;

```
    SALARY
----------
     76000
     70000
     56000
     73000
     63000
     80000
     53000
     83000
     78000
     90000
```

- **min-** Used to find minimum value in a column

  Syntax,

  select min(column_name) from table_name;

  Example,

  SQL> select min(salary) from employee;

```
MIN(SALARY)
-----------
      53000
```

- **max-** Used to find maximum value in a column

  Syntax,

  select max(column_name) from table_name;

  Example,

  ```
  SQL> select max(salary) from employee;

  MAX(SALARY)
  -----------
       90000
  ```

- **fetch-** Used to find specific records

  Syntax,

  select * from table_name fetch condition;

  Example,

  ```
  SQL> select * from employee fetch first 4 rows only;

          ID NAME        AGE     SALARY DEPT
  ---------- ---- ---------- ---------- --------------------
           1 a            35      70000 sales
           2 b            37      56000 maintenance
           3 c            36      73000 quality
           4 d            34      63000 sales
  ```

- **count-** Used to count number of records

  Syntax,

  select count(column_name) from table_name;

  Example,

  ```
  SQL> select count(id) from employee;

   COUNT(ID)
  ----------
          11
  ```

- **avg-** Used to find average value of a column

  Syntax,

  select avg(column_name) from table_name;

  Example,

  ```
  SQL> select avg(salary) from employee;

  AVG(SALARY)
  -----------
  ```

```
 73818.1818
```

- **sum-** Used to find sum of a column

  Syntax,

  select max(column_name) from table_name;

  Example,

```
SQL> select max(salary) from employee;

SUM(SALARY)
-----------
    812000
```

- **between-** Used to find values between a range in a column

  Syntax,

  select * from table_name where column_name between start point and end point;

  Example,

```
SQL> select * from employee where age between 30 and 35;

        ID NAME        AGE     SALARY DEPT
---------- ---- ---------- ---------- --------------------
         1 a            35      70000 sales
         4 d            34      63000 sales
         8 h            32      83000 maintenance
         9 i            33      78000 quality
```

- **Not between-** Used to find values outside of a range in a column

  Syntax,

  select * from table_name where column_name not between start point and end point;

  Example,

```
SQL> select * from employee where age not between 30 and 35;

        ID NAME        AGE     SALARY DEPT
---------- ---- ---------- ---------- --------------------
         2 b            37      56000 maintenance
         3 c            36      73000 quality
         5 e            44      80000 maintenance
         6 f            36      76000 quality
         7 g            28      53000 sales
        10 j            40      90000 sales
        11 k            40      90000 sales
```

- **Like -** Used to find records with starting or ending with something specific

Syntax,

select column_name from table_name where column_name like 'm%';

select column_name from table_name where column_name like '%d';

Example,

```
SQL> select name from employee where name like 'm%';

NAME
----
md
mg
mh
SQL> select name from employee where name like '%d';

NAME
----
bd
md
ed



SQL> create table employee(id int, name varchar(50), age int, salary int, dept varchar(20));
create table employee(id int, name varchar(50), age int, salary int, dept varchar(20))
             *
ERROR at line 1:
ORA-00955: name is already used by an existing object


SQL> drop table employee
  2  ;

Table dropped.

SQL> create table employee(id int, name varchar(50), age int, salary int, dept varchar(20));

Table created.

SQL> insert into employee values(1, 'a', 35, 70000, 'sales');

1 row created.

SQL> insert into employee values(2, 'b', 37, 56000, 'maintenance');

1 row created.

SQL> insert into employee values(3, 'c', 36, 73000, 'quality');

1 row created.
```

```
SQL> insert into employee values(4, 'd', 34, 63000, 'sales');

1 row created.

SQL> insert into employee values(5, 'e', 44, 80000, 'maintenance');

1 row created.

SQL> insert into employee values(6, 'f', 36, 76000, 'quality');

1 row created.

SQL> insert into employee values(7, 'g', 28, 53000, 'sales');

1 row created.

SQL> insert into employee values(8, 'h', 32, 83000, 'maintenance');

1 row created.

SQL> insert into employee values(9, 'i', 33, 78000, 'quality');

1 row created.

SQL> insert into employee values(10, 'j', 40, 90000, 'sales');

1 row created.

SQL> select * from employee;

        ID NAME                                                      AGE
---------- -------------------------------------------------- ----------
    SALARY DEPT
---------- --------------------
         1 a                                                          35
     70000 sales

         2 b                                                          37
     56000 maintenance

         3 c                                                          36
     73000 quality


        ID NAME                                                      AGE
---------- -------------------------------------------------- ----------
    SALARY DEPT
---------- --------------------
         4 d                                                          34
     63000 sales

         5 e                                                          44
     80000 maintenance

         6 f                                                          36
     76000 quality
```

```
      ID NAME                                          AGE
---------- -------------------------------------------------- ----------
   SALARY DEPT
---------- --------------------
       7 g                                            28
    53000 sales

       8 h                                            32
    83000 maintenance

       9 i                                            33
    78000 quality


      ID NAME                                          AGE
---------- -------------------------------------------------- ----------
   SALARY DEPT
---------- --------------------
      10 j                                            40
    90000 sales


10 rows selected.

SQL> alter table employee modify name varchar(2);

Table altered.

SQL> select * from employee;

      ID NA       AGE     SALARY DEPT
---------- -- ---------- ---------- --------------------
       1 a         35      70000 sales
       2 b         37      56000 maintenance
       3 c         36      73000 quality
       4 d         34      63000 sales
       5 e         44      80000 maintenance
       6 f         36      76000 quality
       7 g         28      53000 sales
       8 h         32      83000 maintenance
       9 i         33      78000 quality
      10 j         40      90000 sales

10 rows selected.

SQL> alter table employee modify name varchar(4);

Table altered.

SQL> select * from employee;

      ID NAME       AGE     SALARY DEPT
---------- ---- ---------- ---------- --------------------
       1 a           35      70000 sales
       2 b           37      56000 maintenance
```

```
         3 c          36      73000 quality
         4 d          34      63000 sales
         5 e          44      80000 maintenance
         6 f          36      76000 quality
         7 g          28      53000 sales
         8 h          32      83000 maintenance
         9 i          33      78000 quality
        10 j          40      90000 sales

10 rows selected.

SQL> select distinct salary from employee;

    SALARY
----------
     76000
     70000
     56000
     73000
     63000
     80000
     53000
     83000
     78000
     90000

10 rows selected.

SQL> insert into employee values(11, 'k', 40, 90000, 'sales');

1 row created.

SQL> select * from employee;

        ID NAME        AGE     SALARY DEPT
---------- ---- ---------- ---------- --------------------
         1 a          35      70000 sales
         2 b          37      56000 maintenance
         3 c          36      73000 quality
         4 d          34      63000 sales
         5 e          44      80000 maintenance
         6 f          36      76000 quality
         7 g          28      53000 sales
         8 h          32      83000 maintenance
         9 i          33      78000 quality
        10 j          40      90000 sales
        11 k          40      90000 sales

11 rows selected.

SQL> select distinct salary from employee;

    SALARY
----------
     76000
     70000
     56000
    73000
    63000
    80000
    53000
    83000
    78000
    90000

10 rows selected.

SQL> select min(salary) from employee;

MIN(SALARY)
-----------
     53000

SQL> select max(salary) from employee;

MAX(SALARY)
-----------
     90000

SQL> select * from employee fetch first 4 rows only;

       ID NAME        AGE     SALARY DEPT
---------- ---- ---------- ---------- --------------------
        1 a          35      70000 sales
        2 b          37      56000 maintenance
        3 c          36      73000 quality
        4 d          34      63000 sales

SQL> select count(id) from employee;

 COUNT(ID)
----------
       11

SQL> select avg(salary) from employee;

AVG(SALARY)
-----------
 73818.1818

SQL> select sum(salary) from employee;

SUM(SALARY)
-----------
    812000

SQL> select * from employee where age between 30 and 35;

       ID NAME        AGE     SALARY DEPT
---------- ---- ---------- ---------- --------------------
        1 a          35      70000 sales
        4 d          34      63000 sales
        8 h          32      83000 maintenance
        9 i          33      78000 quality
```

```
SQL> select * from employee where age not between 30 and 35;

        ID NAME        AGE     SALARY DEPT
---------- ---- ---------- ---------- --------------------
         2 b            37      56000 maintenance
         3 c            36      73000 quality
         5 e            44      80000 maintenance
         6 f            36      76000 quality
         7 g            28      53000 sales
        10 j            40      90000 sales
        11 k            40      90000 sales

7 rows selected.

SQL> update employee set name='md' where id=4;

1 row updated.

SQL> update employee set name='mh' where id=8;

1 row updated.

SQL> update employee set name='mg' where id=7;

1 row updated.

SQL> select names from employee where name like 'm%';
select names from employee where name like 'm%'
       *
ERROR at line 1:
ORA-00904: "NAMES": invalid identifier


SQL> select name from employee where name like 'm%';

NAME
----
md
mg
mh

SQL> update employee set name='bd' where id=2;

1 row updated.

SQL> update employee set name='ed' where id=5;

1 row updated.

SQL> select name from employee where name like '%d';

NAME
----
bd
md
ed
```

```
SQL> spool off
```

Result:

Thus the DML commands are used to modify or manipulate data records present in the customer database tables.