EXPERIMENT NO-1

NAME: Deepak Mangal Course: BCA(Al&ML)

ROLL.NO: 15

Group: 1

Title: CREATION OF TABLES

1) Create a table called Employee with following structure.

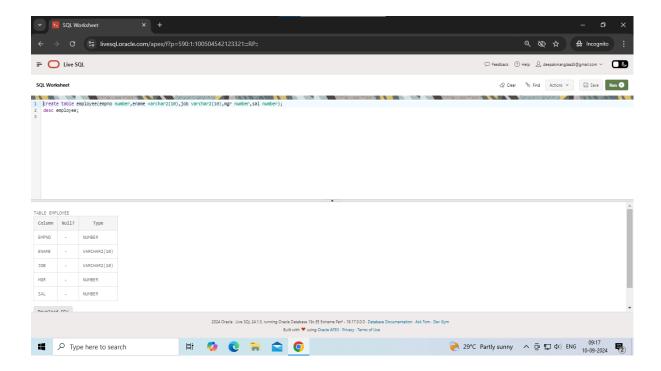
Name	Туре
Empno	Number
Ename	Varchar2(10)
Job	Varchar2(10)
Mgr	Number
Sal	Number

- A. Add a column commission with domain to the Employee table.
- B. Insert any five records into the table.
- C. Update the column details of job.
- D. Rename the column of Employee table using alter command.
- E. Delete the employee whose Empno is 105.

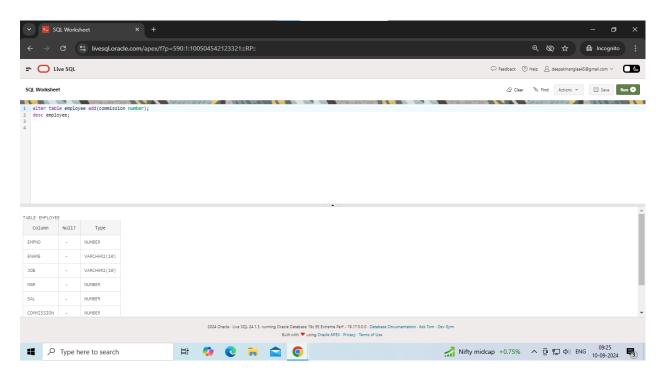
Objective: Implement the basic Knowledge of SQL queries and relational algebra.

Pre-requisites: Basic Understanding of SQL

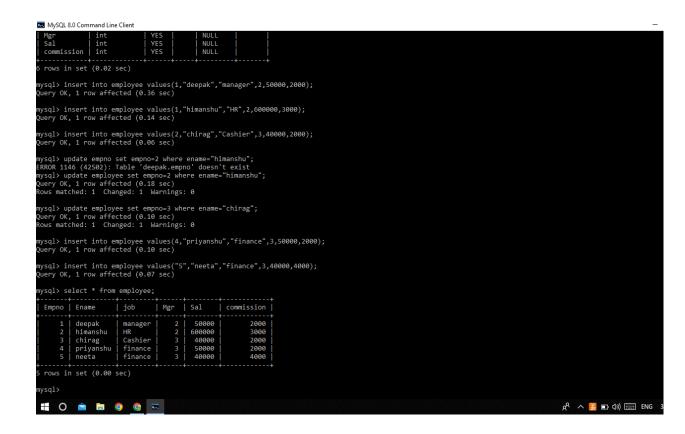
SOLUTION:



a. Add a column commission with domain to the Employee table.



b. Insert any five records into the table..



c. Update the Column details of job?



d. Rename the column of employee table using alter command.

e. Delete the employee whose empno is 19.

```
nysql> delete from employee where empno=19;
Query OK, 0 rows affected (0.02 sec)
mysql> select * from employee;
 Empno | Ename
                      job
                                      | Salary | commission
                              Mgr
                                        50000
                                                       2000
      1
          deepak
                      manager
          himanshu
                                        600000
                                                       3000
          chirag
                      Cashier
                                        40000
                                                       2000
          priyanshu
                      finance
                                         50000
                                                       2000
                      finance
                                         40000
                                                       4000
          neeta
  rows in set (0.04 sec)
```

2) Create department table with the following structure.

Name	Туре
Deptno	Number
Deptname	varchar2(20)
location	varchar2(20)

- a. Add column designation to the department table.
- b. Insert values into the table.
- c. List the records of emp table grouped by deptno.
- d. Update the record where deptno is 9.
- e. Delete any column data from the table.

Solution:

```
mysql> create table department(deptno int,deptname varchar(20),location varchar(20));
Query OK, 0 rows affected (0.27 sec)
mysql> select * from department;
Empty set (0.03 sec)
mysql> desc department;
                              Null | Key | Default | Extra
  Field
              Type
  deptno
              int
                                             NULL
              varchar(20)
                              YES
                                             NULL
  deptname
                              YES
  location |
              varchar(20)
                                             NULL
  rows in set (0.04 sec)
```

a. Add column designation to the department table.

```
mysql> alter table department add column designation varchar(20);
Query OK, 0 rows affected (0.18 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> desc department;
 Field
              Type
                            | Null | Key | Default | Extra
 deptno
               int
                              YES
                                           NULL
 deptname
               varchar(20)
                              YES
                                           NULL
 location
               varchar(20)
                              YES
                                           NULL
 designation | varchar(20)
                             YES
                                           NULL
 rows in set (0.00 sec)
```

b. Insert values into the table.

```
mysql> insert into department value(1,"HR","faridabad","abc");
Query OK, 1 row affected (0.11 sec)
mysql> insert into department value(2,"Finanace","Delhi","abc");
Query OK, 1 row affected (0.07 sec)
mysql> insert into department value(2,"XYZ","Delhi","abc");
Query OK, 1 row affected (0.05 sec)
mysql> insert into department value(2,"sales","Palwal","CEO");
Query OK, 1 row affected (0.06 sec)
mysql> insert into department value(2,"marketing","Palwal","COO");
Query OK, 1 row affected (0.03 sec)
mysql> select * from department;
 deptno | deptname | location | designation
                       faridabad |
          HR
                                  abc
          Finanace
                       Delhi
                                   abc
          XYZ
                       Delhi
                                   abc
          sales
                       Palwal
                                   CEO
          marketing
                      Palwal
                                  C00
 rows in set (0.00 sec)
```

c. List the records of emp table grouped by deptno.

```
mysql> select deptno from department group by deptno;
+-----+
| deptno |
+-----+
| 1 |
| 2 |
+-----+
2 rows in set (0.05 sec)
```

d. Update the record where deptno is 9.

```
mysql> update department set deptname="shipping" where deptno=9;
Query OK, 0 rows affected (0.00 sec)
Rows matched: 0 Changed: 0 Warnings: 0
mysql> select * from department;
 deptno | deptname | location | designation |
                    | faridabad | abc
      1 | HR
                    Delhi
      2 | Finanace
                                 abc
        XYZ
      2
                     Delhi
                                 abc
         sales
      2
                     Palwal
                                 CEO
      2 | marketing | Palwal
                               C00
 rows in set (0.00 sec)
```

e. Delete any column data from the table.

```
mysql> alter table department drop column designation;
Query OK, 0 rows affected (0.14 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> desc department;
         | Type | | Null | Key | Default | Extra
 Field
          int
 deptno
                         YES
                                     NULL
                         YES
 deptname
           varchar(20)
                                     NULL
 location | varchar(20)
                       YES
                                     NULL
3 rows in set (0.02 sec)
```

3. Create a table called Customer table.

Name	Туре
Cust name	Varchar2(20)
Cust street	Varchar2(20)
Cust city	Varchar2(20)

- a. Insert records into the table.
- b. Add salary column to the table.
- c. Alter the table column domain.

- d. Drop salary colum of the customer table.
- e. Delete the rows of customers table whose cust_city is hyderabad.

Solution:

a. Insert records into the table.

```
mysql> insert into customers value("deepak", "sec87", "faridabd");
Query OK, 1 row affected (0.15 sec)
mysql> insert into customers value("himanshu", "sec87", "faridabd");
Query OK, 1 row affected (0.05 sec)
mysql> insert into customers value("Aniket","sec-4","hyderabad");
Query OK, 1 row affected (0.05 sec)
mysql> insert into customers value("Vashu","sec-9","hyderabad");
Query OK, 1 row affected (0.04 sec)
mysql> select * from customers
 Custname | Custstreet | Custcity
                         faridabd
 deepak
           sec87
                         faridabd
 himanshu | sec87
 Aniket
           sec-4
                         hyderabad
 Vashu
           sec-9
                        hyderabad
4 rows in set (0.00 sec)
```

b. Add salary column to the table.

```
mysql> alter table customers add column salary int;
Query OK, 0 rows affected (0.19 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> desc customers;
 Field | Type | Null | Key | Default | Extra
 Custname | varchar(20) | YES
Custstreet | varchar(20) | YES
                                        NULL
                                         NULL
 Custcity | varchar(20)
                            YES
                                        NULL
             int
                           YES
 salary
                                        NULL
 rows in set (0.00 sec)
```

c. Alter the table column domain.

```
mysql> alter table customers modify column Salary int;
Query OK, 0 rows affected (0.07 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> desc customers;
          | Type | | Null | Key | Default | Extra |
 Field
 Custname | varchar(20) | YES
                                      NULL
 Custstreet | varchar(20)
                          YES
                                      NULL
 Custcity
            varchar(20)
                        YES
                                      NULL
 Salary
          int
                         YES
                                     NULL
4 rows in set (0.00 sec)
```

d. Drop salary colum of the customer table.

```
mysql> alter table customers drop column Salary;
Query OK, 0 rows affected (0.05 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> desc customers;
 Field
                          | Null | Key | Default | Extra |
            Type
 Custname | varchar(20) |
                           YES
                                        NULL
 Custstreet | varchar(20)
                           YES
                                        NULL
 Custcity | varchar(20) | YES
                                        NULL
3 rows in set (0.00 sec)
```

e. Delete the rows of customers table whose cust_city is hyderabad.

4. Create a table called branch table.

Name	Туре
Branch name	Varchar2(20)
Branch city	Varchar2(20)
asserts	Number

- a. Increase the size of data type for asserts to the branch.
- b. Add and drop a column to the branch table.
- c. Insert values to the table.
- d. Update the branch name column.
- e. Delete any two columns from the table.

Solution:

```
mysql> create table sailor(Branchname varchar(20),Branchcity varchar(20),asserts int);
Query OK, 0 rows affected (0.49 sec)
mysql> desc sailor;
 Field
                          | Null | Key | Default | Extra |
            Type
 Branchname | varchar(20) | YES |
                                        NULL
 Branchcity |
             varchar(20)
                           YES
                                        NULL
            int
                           YES
                                        NULL
 asserts
3 rows in set (0.27 sec)
```

a. Increase the size of data type for asserts to the branch.

```
mysql> alter table sailor modify column asserts int(10);
Query OK, 0 rows affected, 1 warning (0.20 sec)
Records: 0 Duplicates: 0 Warnings: 1
mysql> desc sailor;
Field
           Type
                          | Null | Key | Default | Extra |
Branchname | varchar(20) | YES
                                        NULL
 Branchcity | varchar(20)
                           YES
                                        NULL
 asserts
            int
                           YES
                                        NULL
3 rows in set (0.00 sec)
```

b. Add and drop a column to the branch table.

```
mysql> alter table sailor add Annualincome int;
Query OK, 0 rows affected (0.07 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> desc sailor;
 Field
                             | Null | Key | Default | Extra |
               Type
 Branchname
                varchar(20)
                              YES
                                            NULL
 Branchcity
                varchar(20)
                               YES
                                            NULL
 asserts
                int
                               YES
                                            NULL
 Annualincome | int
                               YES
                                            NULL
4 rows in set (0.00 sec)
mysql> alter table sailor drop column annualincome;
Query OK, 0 rows affected (0.07 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> desc sailor;
                           | Null | Key | Default | Extra |
 Field
             Type
 Branchname | varchar(20)
Branchcity | varchar(20)
                             YES
                                          NULL
                             YES
                                          NULL
 asserts
             int
                             YES
                                          NULL
 rows in set (0.00 sec)
```

c. Insert values to the table.

d. Update the branch name column.

e. Delete any two columns from the table.

5. Create a table called sailor table.

Name	Туре
Sid	Number
Sname	varchar(20)
rating	varchar(20)

- a. Add column age to the sailor table.
- b. Insert values into the sailor table.
- c. Delete the row with rating>8.
- d. Update the column details of sailor.
- e. Insert null values into the table.

Solution:

```
mysql> create table sailor(Sid int,Sname varchar(20),rating varchar(20));
Query OK, 0 rows affected (0.13 sec)
mysql> desc sailor;
 Field
                        Null | Key | Default | Extra
         Type
 Sid
          int
                        YES
                                     NULL
                        YES
 Sname
          varchar(20)
                                     NULL
 rating
          varchar(20)
                        YES
                                     NULL
 rows in set (0.00 sec)
```

a. Add column age to the sailor table.

```
mysql> alter table sailor add age int;
Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> desc sailor;
 Field
        Type
                       | Null | Key | Default | Extra
 Sid
                        YES
          int
                                      NULL
 Sname
          varchar(20)
                         YES
                                      NULL
          varchar(20)
 rating
                         YES
                                      NULL
                        YES
          int
                                      NULL
 age
l rows in set (0.00 sec)
```

b. Insert values into the sailor table.

```
mysql> insert into sailor value(1,"himanshu","4 star","24");
Query OK, 1 row affected (0.03 sec)
mysql> insert into sailor value(2,"deepak","3star",34);
Query OK, 1 row affected (0.05 sec)
mysql> insert into sailor value(3,"Aakash","3star",26);
Query OK, 1 row affected (0.05 sec)
mysql> insert into sailor value(4,"jindal","9star",27);
Query OK, 1 row affected (0.04 sec)
mysql> insert into sailor value(5,"Anuj","8star",30);
Query OK, 1 row affected (0.06 sec)
mysql> select * from sailor;
 Sid
       Sname
                  | rating | age
     1 | himanshu | 4 star
                               24
     2
        deepak
                    3star
                               34
        Aakash
                               26
                    3star
     4
        jindal
                    9star
                               27
        Anuj
                               30
                  8star
 rows in set (0.00 sec)
```

c. Delete the row with rating>8.

```
mysql> delete from sailor where rating>8;
Query OK, 1 row affected (0.06 sec)
mysql> select * from sailor;
 Sid
       Sname
                  | rating | age
     1
       himanshu
                    4
                               24
     2
         deepak
                    8
                               34
     3
         Aakash
                    3
                               26
     5
       Anuj
                  8
                               30
4 rows in set (0.00 sec)
```

d. Update the column details of sailor.

```
mysql> alter table sailor modify column rating int;
Query OK, 4 rows affected (0.23 sec)
Records: 4 Duplicates: 0 Warnings: 0
mysql> desc sailor;
 Field | Type
                    | Null | Key | Default | Extra
 Sid
                       YES
         int
                                    NULL
 Sname
         varchar(20)
                       YES
                                    NULL
         int
                       YES
 rating
                                    NULL
         int
                       YES
                                    NULL
 age
 rows in set (0.01 sec)
```

e. Insert null values into the table.

```
mysql> insert into sailor values(6,"Aayush",Null,25);
Query OK, 1 row affected (0.05 sec)
mysql> insert into sailor values(6,"Aryan",7,null);
Query OK, 1 row affected (0.06 sec)
mysql> select * from sailor;
 Sid | Sname
                 | rating | age
    1 | himanshu |
                      4
                             24
    2
      deepak
                      8
                             34
       Aakash
                       3
    3
                             26
    5
       Anuj
                       8
                             30
                    NULL
    6
       Aayush
                             25
    6 Aryan
                    7 NULL
 rows in set (0.00 sec)
```

6. Create a table called reserves table.

Name	Туре
Boat id	integer
sid	integer
day	integer

- a. Insert values into the reserves table.
- b. Add column time to the reserves table.
- c. Alter the column day data type to date.
- d. Drop the column time in the table.
- e. Delete the row of the table wih some condition.

Solution:

```
mysql> create table reserves(Boatid int,Sid int,Day int);
Query OK, 0 rows affected (0.13 sec)
```

a. Insert values into the reserves table.

```
mysql> insert into reserves value(1,101,2);
Query OK, 1 row affected (0.06 sec)
mysql> insert into reserves value(2,102,4);
Query OK, 1 row affected (0.06 sec)
mysql> insert into reserves value(3,103,5);
Query OK, 1 row affected (0.04 sec)
mysql> select * from reserves;
| Boatid | Sid | Day
      1 |
          101
                    2
      2
          102
                    4
      3
                    5
          103
3 rows in set (0.00 sec)
```

b. Add column time to the reserves table.

```
mysql> alter table reserves add time int;
Query OK, 0 rows affected (0.06 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> desc reserves;
 Field | Type | Null | Key | Default | Extra |
 Boatid | int
                 YES
                              NULL
                 YES
 Sid
          int
                              NULL
                 YES
                              NULL
 Day
          int
 time
         int
                YES
                              NULL
4 rows in set (0.00 sec)
```

c. Drop the column time in the table.

```
mysql> alter table reserves drop column time;
Query OK, 0 rows affected (0.06 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> desc reserves;
 Field | Type | Null | Key | Default | Extra |
 Boatid | int
                 YES
                              NULL
 Sid
          int
                 YES
                              NULL
 Day
         int
                YES
                              NULL
 rows in set (0.00 sec)
```

d. Delete the row of the table wih some condition.

```
mysql> delete from reserves where Sid=102;
Query OK, 1 row affected (0.06 sec)

mysql> select * from reserves;
+-----+
| Boatid | Sid | Day |
+----+---+
| 1 | 101 | -2032 |
| 3 | 103 | -2022 |
+-----+-----+
2 rows in set (0.00 sec)
```