CSE302 (Section 2)
[Spring 2022]

Lab Assignment Submission Report

Assignment Title: LAB 02

Submitted by:
Rizvee Hassan Prito
2019-3-60-041

1. Screenshots

Problem 1(i):

```
SQL> CREATE TABLE account(
  2  account_no CHAR(5),
  3  balance NUMBER NOT NULL,
  4  constraint accountNo_PK primary key(account_no),
  5  constraint account_baln CHECK(balance>=0)
  6  );

Table created.
```

Problem 1(ii):

```
SQL> CREATE TABLE customer(
  2  customer_no CHAR(5),
  3  customer_name VARCHAR2(20) NOT NULL,
  4  customer_city VARCHAR2(10),
  5  constraint customerNo_PK primary key(customer_no)
  6  );

Table created.
```

Problem 1(iii):

```
SQL> CREATE TABLE depositor(
  2  account_no CHAR(5),
  3  customer_no CHAR(5),
  4  constraint deposit_PK primary key(account_no,customer_no)
  5  );

Table created.
```

Problem 2(i):

```
SQL> ALTER TABLE customer ADD date_of_birth DATE;

Table altered.

SQL> desc customer
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 CUSTOMER_NO                               NOT NULL CHAR(5)
 CUSTOMER_NAME                             NOT NULL VARCHAR2(20)
 CUSTOMER_CITY                                      VARCHAR2(10)
 DATE_OF_BIRTH                                      DATE
```

Problem 2(ii):

```
SQL> ALTER TABLE customer DROP COLUMN date_of_birth;

Table altered.

SQL> desc customer
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 CUSTOMER_NO                               NOT NULL CHAR(5)
 CUSTOMER_NAME                             NOT NULL VARCHAR2(20)
 CUSTOMER_CITY                                      VARCHAR2(10)
```

Problem 2(iii):

```
SQL> ALTER TABLE depositor RENAME COLUMN account_no TO a_no;

Table altered.

SQL> ALTER TABLE depositor RENAME COLUMN customer_no TO c_no;

Table altered.

SQL> desc depositor
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 A_NO                                      NOT NULL CHAR(5)
 C_NO                                      NOT NULL CHAR(5)
```

Problem 2(iv):

```
SQL> ALTER TABLE depositor ADD CONSTRAINT depositor_fk1 FOREIGN KEY(a_no) REFERENCES account;

Table altered.

SQL> ALTER TABLE depositor ADD CONSTRAINT depositor_fk2 FOREIGN KEY(c_no) REFERENCES customer;

Table altered.

SQL> desc depositor
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 A_NO                                      NOT NULL CHAR(5)
 C_NO                                      NOT NULL CHAR(5)
```

Problem 3:

```
SQL> INSERT INTO account VALUES('A-101',12000);

1 row created.

SQL> INSERT INTO account VALUES('A-102',6000);

1 row created.

SQL> INSERT INTO account VALUES('A-103',2500);

1 row created.
```

```
SQL> INSERT INTO customer VALUES('C-101','Alice','Dhaka');

1 row created.

SQL> INSERT INTO customer VALUES('C-102','Annie','Dhaka');

1 row created.

SQL> INSERT INTO customer VALUES('C-103','Bob','Chittagong');

1 row created.

SQL> INSERT INTO customer VALUES('C-104','Charlie','Khulna');

1 row created.
```

```
SQL> INSERT INTO depositor VALUES('A-101','C-101');

1 row created.

SQL> INSERT INTO depositor VALUES('A-103','C-102');

1 row created.

SQL> INSERT INTO depositor VALUES('A-103','C-104');

1 row created.

SQL> INSERT INTO depositor VALUES('A-102','C-103');

1 row created.
```

Problem 4(i):

```
SQL> SELECT customer_name,customer_city
  2  from customer;

CUSTOMER_NAME        CUSTOMER_C
-------------------- ----------
Alice                Dhaka
Annie                Dhaka
Bob                  Chittagong
Charlie              Khulna
```

Problem 4(ii):

```
SQL> SELECT DISTINCT customer_city
  2  from customer;

CUSTOMER_C
----------
Dhaka
Khulna
Chittagong
```

Problem 4(iii):

```
SQL> SELECT account_no
  2  FROM account
  3  WHERE balance>7000;

ACCOU
-----
A-101
```

Problem 4(iv):

```
SQL> SELECT customer_no,customer_name
  2  FROM customer
  3  WHERE customer_city='Khulna';

CUSTO CUSTOMER_NAME
----- --------------------
C-104 Charlie
```

Problem 4(v):

```
SQL> SELECT customer_no,customer_name
  2  FROM customer
  3  WHERE customer_city != 'Dhaka';

CUSTO CUSTOMER_NAME
----- --------------------
C-103 Bob
C-104 Charlie
```

Problem 4(vi):

```
SQL> SELECT customer_name, customer_city
  2  FROM  customer C, account A, depositor D
  3  WHERE C.customer_no=D.c_no and D.a_no=A.account_no and balance>7000;

CUSTOMER_NAME        CUSTOMER_C
-------------------- ----------
Alice                Dhaka
```

Problem 4(vii):

```
SQL> SELECT customer_name, customer_city
  2  FROM  customer C, account A, depositor D
  3  WHERE C.customer_no=D.c_no and D.a_no=A.account_no and balance>7000 and C.customer_city!='Khulna';

CUSTOMER_NAME        CUSTOMER_C
-------------------- ----------
Alice                Dhaka
```

Problem 4(viii):

```
SQL> SELECT account_no,balance
  2  FROM account A, depositor D
  3  WHERE D.c_no='C-102' and D.a_no=A.account_no;

ACCOU    BALANCE
----- ----------
A-103       2500
```

Problem 4(ix):

```
SQL> SELECT DISTINCT account_no, balance
  2  FROM  account A, customer C, depositor D
  3  WHERE C.customer_no=D.c_no and D.a_no=A.account_no and (customer_city='Dhaka' or customer_city='Khulna');

ACCOU    BALANCE
----- ----------
A-101      12000
A-103       2500
```

Problem 4(x):

```
SQL> SELECT customer_name
  2  FROM  customer C, account A, depositor D
  3  WHERE C.customer_no=D.c_no and D.a_no=NULL;

no rows selected
```

2. Learning Outcomes:

By doing this lab, I have learned how to create table with constraints like primary key, foreign key attributes and check with condition. I have learned how to alter table like adding attribute, dropping a column, modifying data type of an attribute and renaming an attribute or column etc in a table. I have also learned the process of doing multi-table queries from this lab.