EX.NO:2 DDL WITH CONSTRAINTS

AIM:

To execute the Data Definition Languages (DDL) with constraints in SQL for Online Food Ordering System.

SQL COMMANDS

The Constraints are 1.PRIMARY KEY 2.FOREIGN KEY 3.UNIQUE KEY 4.CHECK CONSTRAINT 5.NOT NULL CONSTRAINT 6.DEFAULT CONSTRAINT 7.NULL CONSTRAINT

1.PRIMARY KEY

A. Creating a primary key

```
SQL> CREATE TABLE Restaurant_Info (
   RestaurantID NUMBER(10),
   Name VARCHAR(50) NOT NULL,
   Address VARCHAR(100) NOT NULL,
   Phone VARCHAR(15) UNIQUE,
   Cuisine VARCHAR(30),
   CONSTRAINT res_pk PRIMARY KEY(RestaurantID, Phone)
);

Table created.

SQL> DESC Restaurant_Info;

Name              Null?    Type
------------------ -------- ---------------
RestaurantID               NUMBER(10)
Name              NOT NULL  VARCHAR2(50)
Address           NOT NULL  VARCHAR2(100)
Phone                      VARCHAR2(15)
```

```
Cuisine                    VARCHAR2(30)
```

```
SQL> INSERT INTO Restaurant_Info VALUES (1, 'Pizza Palace', '12 Elm
Street', '9123456780', 'Italian');
1 row created.

SQL> INSERT INTO Restaurant_Info VALUES (2, 'Sushi World', '34
Cedar Avenue', '9123456781', 'Japanese');
1 row created.

SQL> INSERT INTO Restaurant_Info VALUES (3, 'Burger Hub', '56 Birch
Road', '9123456782', 'Fast Food');
1 row created.
```

B. Using an alter table statement to Drop a primary key

```
SQL> ALTER TABLE Restaurant_Info DROP CONSTRAINT res_pk;
Table altered.
```

C. Add a primary key

```
SQL> ALTER TABLE Restaurant_Info ADD CONSTRAINT res_pk2
PRIMARY KEY(RestaurantID);
Table altered.
```

D. Disable a primary key

```
SQL> ALTER TABLE Restaurant_Info DISABLE CONSTRAINT res_pk2;
Table altered.
```

E. Enable a primary key

```
SQL> ALTER TABLE Restaurant_Info ENABLE CONSTRAINT res_pk2;
Table altered.
```

```
SQL> SELECT * FROM Restaurant_Info;

RestaurantID   Name         Address         Phone        Cuisine
------------   ------------  ---------------- ------------  --------
1            Pizza Palace  12 Elm Street    9123456780    Italian
2            Sushi World   34 Cedar Avenue  9123456781    Japanese
3            Burger Hub    56 Birch Road    9123456782    Fast Food
```

2. FOREIGN KEY

A. Creating a foreign key

```
SQL> CREATE TABLE Menu_Info (
   Item_Code VARCHAR(10),
   Restaurant_ID NUMBER(10) NOT NULL,
   Price NUMBER,
   CONSTRAINT menu_fk FOREIGN KEY(Restaurant_ID)
      REFERENCES Restaurant_Info(RestaurantID)
);
Table created.

SQL> INSERT INTO Menu_Info VALUES ('I1', 1, 250);
1 row created.
SQL> INSERT INTO Menu_Info VALUES ('I2', 2, 300);
1 row created.
SQL> INSERT INTO Menu_Info VALUES ('I3', 3, 180);
1 row created.
```

B. Using an alter table statement to Drop a foreign key

```
SQL> ALTER TABLE Menu_Info DROP CONSTRAINT menu_fk;
Table altered.
```

C. Add a foreign key

```
SQL> ALTER TABLE Menu_Info ADD CONSTRAINT menu_fk1
FOREIGN KEY(Restaurant_ID)
```

```
REFERENCES Restaurant_Info(RestaurantID);
Table altered.
```

D. Disable a foreign key

```
SQL> ALTER TABLE Menu_Info DISABLE CONSTRAINT menu_fk1;
Table altered.
```

E. Enable a foreign key

```
SQL> ALTER TABLE Menu_Info ENABLE CONSTRAINT menu_fk1;
Table altered.

SQL> SELECT * FROM Menu_Info;

Item_Code  Restaurant_ID  Price
---------- ------------- ------
I1         1             250
I2         2             300
I3         3             180
```

3. NOT NULL CONSTRAINT

A. Creating a not null constraint

```
SQL> CREATE TABLE Menu_Items (
   Item_ID NUMBER CONSTRAINT mn NOT NULL,
   Food_Name VARCHAR2(20) CONSTRAINT mn1 NOT NULL,
   Price NUMBER,
   Category VARCHAR2(20) CONSTRAINT mn2 NOT NULL
);
Table created.

SQL> INSERT INTO Menu_Items VALUES (101, 'Pizza', 250, 'Main
Course');
1 row created.
SQL> INSERT INTO Menu_Items VALUES (102, 'Burger', 180, 'Snacks');
1 row created.
```

B. Using an alter table statement to Drop a not null constraint

```
SQL> ALTER TABLE Menu_Items DROP CONSTRAINT mn2;
Table altered.
```

C. Add a not null constraint

```
SQL> ALTER TABLE Menu_Items ADD Quantity NUMBER
CONSTRAINT mn3 NOT NULL;
Table altered.
```

D. Disable a not null constraint

```
SQL> ALTER TABLE Menu_Items DISABLE CONSTRAINT mn1;
Table altered.
```

E. Enable a not null constraint

```
SQL> ALTER TABLE Menu_Items ENABLE CONSTRAINT mn1;
Table altered.
```

4. CHECK CONSTRAINT

A. Creating a check constraint

```
SQL> CREATE TABLE Payment (
   BillNo VARCHAR(10) NOT NULL,
   P_Name VARCHAR(20),
   PID NUMBER NOT NULL,
   Amount NUMBER,
   CONSTRAINT bc CHECK(PID >= 100 AND Amount > 100)
);
Table created.

SQL> INSERT INTO Payment VALUES('B1', 'John', 101, 500);
1 row created.

SQL> INSERT INTO Payment VALUES('B2', 'Mary', 99, 400);
ERROR at line 1: ORA-02290: check constraint violated
```

B. Using an alter table statement to Drop a check constraint

```
SQL> ALTER TABLE Payment DROP CONSTRAINT bc;
Table altered.
```

C. Add a check constraint

```
SQL> ALTER TABLE Payment ADD CONSTRAINT bc1 CHECK(PID >=
100 AND Amount >= 200);
Table altered.
```

D. Disable a check constraint

```
SQL> ALTER TABLE Payment DISABLE CONSTRAINT bc1;
Table altered.
```

E. Enable a check constraint

```
SQL> ALTER TABLE Payment ENABLE CONSTRAINT bc1;
Table altered.
```

```
SQL> SELECT * FROM Payment;
BillNo  P_Name  PID  Amount
------- ------- ---- -------
B1      John    101  500
```

5. DEFAULT CONSTRAINT

```
SQL> CREATE TABLE Order_Info (
   Order_Name VARCHAR(20),
   Order_ID NUMBER,
   User_ID VARCHAR(20)
);
Table created.
```

```
SQL> ALTER TABLE Order_Info MODIFY Order_Name DEFAULT
'INDIAN';
Table altered.
```

```
SQL> INSERT INTO Order_Info VALUES (DEFAULT, 101, 'U001');
1 row created.
SQL> INSERT INTO Order_Info VALUES (DEFAULT, 102, 'U002');
1 row created.

SQL> SELECT * FROM Order_Info;

Order_Name  Order_ID  User_ID
----------- ---------- -------
INDIAN      101       U001
INDIAN      102       U002
```