



AMERICAN INTERNATIONAL UNIVERSITY- BANGLADESH

FACULTY OF SCIENCE & TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

INTRODUCTION TO DATABASE

FALL 2022-2023

SECTION: P

PROJECT REPORT ON

Food Delivery Application

INSTRUCTOR

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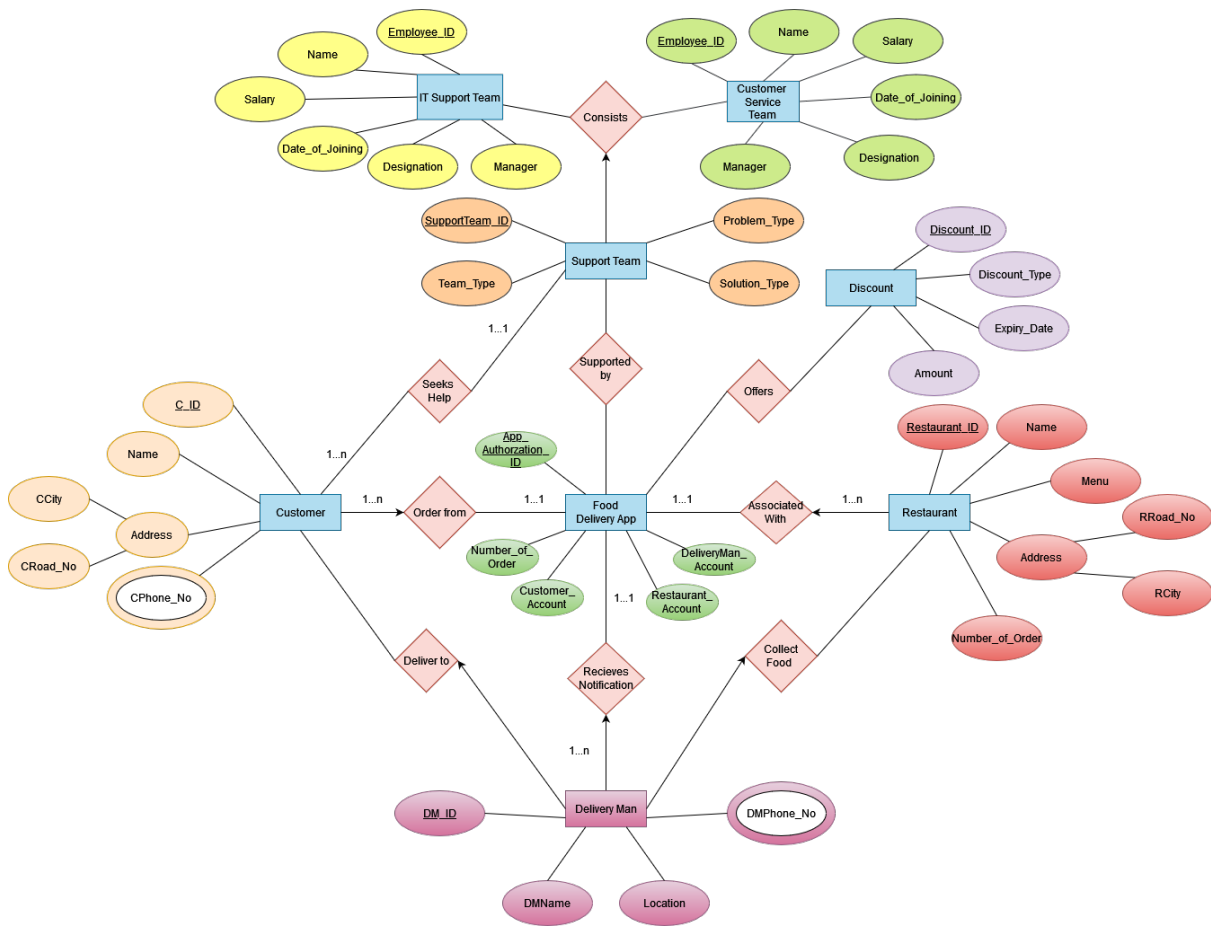
Introduction:

A food delivery app has been working since the year 2016. This database project will help the food delivery app to gather, manage, optimize and use security data to identify threats and vulnerabilities, and take action to protect the application.

Scenario:

The food delivery app has an unique App_Authorization_ID, Number_of_order, Customer_account, Restaurant_account, DeliveryMan_account. Customer order from the application. Customer has an unique C_ID, Name, Address of Road_No and City, Phone_No. Restaurants are associated with the food delivery app. Restaurant has unique Restaurant_ID, Menu, Number_of_Orders, Address of Road_No and City. Delivery Man is notified from the app about the order, collect food from the ordered restaurant and deliver the food to the customer. Delivery man has an unique DM_ID, Name, Phone_No, Location. The app is supported by support team from where customer seeks help if they face any problem. Support Team has unique SupportTeam_ID, Team_type, Problem_Type, Solution_Type. Support team contains 2 type of support team, Customer-Service Team and IT-Support Team. Both of the team contains the info of unique Employee_ID, Name, Salary, Date_of_joining, Designation and Manager. The app also offers discount sometimes to the customers. Discounts has Discount_ID, Discount_Type, Expiry_Date and Amount.

ER-Diagram



Normalization

Order from:

UNF:

1st: C_ID, Name, CRoad_No, CCity, CPhone_No, App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account

1NF:

1st: C_ID, Name, CRoad_No, CCity, CPhone_No, App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account

(CPhone_No is a multivalued attribute)

2NF:

1st: C_ID, Name, CRoad_No, CCity, CPhone_ID

2nd: CPhone_ID, CPhone_No

3rd: App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account

3NF:

1st: C_ID, Name, CRoad_No, CPhone_ID

2nd: CPhone_ID, CPhone_No

3rd: App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account

4th: CRoad_No, CCity

Deliver_to:

UNF:

1st: DM_ID, DMName, Location, DMPhone_No, C_ID, Name, CRoad_No, CCity, CPhone_No

1NF:

1st: DM_ID, DMName, Location, DMPhone_No, C_ID, Name, CRoad_No, CCity, CPhone_No

(DMPhone_No and CPhone_No are multivalued attributes)

2NF:

1st: DM_ID, DMName, Location, DMPhone_ID

2nd: C_ID, Name, CRoad_No, CCity, CPhone_ID

3rd: CPhone_ID, CPhone_No

4th: DMPhone_ID, DMPhone_No

3NF:

1st: DM_ID, DMName, Location, DMPhone_ID

2nd: C_ID, Name, CRoad_No, CPhone_ID

3rd: CPhone_ID, CPhone_No

4th: DMPhone_ID, DMPhone_No

5th: CRoad_No, CCity

Collect Food:

UNF:

1st: Restaurant_ID, Name, Menu, RRoad_No, RCity, Number_of_Order, DM_ID, DMName, Location, DMPhone_No

1NF:

1st: Restaurant_ID, Name, Menu, RRoad_No, RCity, Number_of_Order, DM_ID, DMName, Location, DMPhone_No

(DMPhone_No is a multivalued attribute)

2NF:

1st: Restaurant_ID, Name, Menu, RRoad_No, RCity, Number_of_Order

2nd: DM_ID, DMName, Location, DMPhone_ID

3rd: DMPhone_ID, DMPhone_No

3NF:

1st: Restaurant_ID, Name, Menu, RRoad_No, Number_of_Order

2nd: DM_ID, DMName, Location, DMPhone_ID

3rd: DMPhone_ID, DMPhone_No

4th: RRoad_No, RCity

Associated With:

UNF:

1st: Restaurant_ID, Name, Menu, RRoad_No, RCity, Number_of_Order, App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account

1NF:

1st: Restaurant_ID, Name, Menu, RRoad_No, RCity, Number_of_Order, App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account

(No Multivalued Attribute)

2NF:

1st: Restaurant_ID, Name, Menu, RRoad_No, RCity, Number_of_Order

2nd: App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account

3NF:

1st: Restaurant_ID, Name, Menu, RRoad_No, Number_of_Order

2nd: App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account

3rd: RRoad_No, RCity

Receives Notification:

UNF:

1st: App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account, DM_ID, DMName, Location, DMPhone_No

1NF:

1st: App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account, DM_ID, DMName, Location, DMPhone_No

(DMPhone_No is a multivalued attribute)

2NF:

1st: App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account

2nd: DM_ID, DMName, Location, DMPhone_ID

3rd: DMPhone_ID, DMPhone_No

3NF:

1st: App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account

2nd: DM_ID, DMName, Location, DMPhone_ID

3rd: DMPhone_ID, DMPhone_No

Offers:

UNF:

1st: Discount_ID, Discount_Type, Expiry_Date, Amount, App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account

1NF:

1st: Discount_ID, Discount_Type, Expiry_Date, Amount, App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account

(No Multivalued Attribute)

2NF:

1st: Discount_ID, Discount_Type, Expiry_Date, Amount

2nd: App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account

3NF:

1st: Discount_ID, Discount_Type, Expiry_Date, Amount

2nd: App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account

Supported by:

UNF:

1st: SupportTeam_ID, Team_Type, Problem_Type, Solution_Type, App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account

1NF:

1st: SupportTeam_ID, Team_Type, Problem_Type, Solution_Type, App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account

(No Multivalued Attribute)

2NF:

1st: SupportTeam_ID, Team_Type, Problem_Type, Solution_Type

2nd: App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account

3NF:

1st: SupportTeam_ID, Team_Type, Problem_Type, Solution_Type

2nd: App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account

Consists(Support Team, IT Support Team):

UNF:

1st: SupportTeam_ID, Team_Type, Problem_Type, Solution_Type, Employee_ID, Name, Salary, Date_of_Joining

1NF:

1st: SupportTeam_ID, Team_Type, Problem_Type, Solution_Type, Employee_ID, Name, Salary, Date_of_Joining

(No Multivalued Attribute)

2NF:

1st: SupportTeam_ID, Team_Type, Problem_Type, Solution_Type

2nd: Employee_ID, Name, Salary, Date_of_Joining

3NF:

1st: SupportTeam_ID, Team_Type, Problem_Type, Solution_Type

2nd: Employee_ID, Name, Salary, Date_of_Joining, SupportTeam_ID

Consists(Support Team, Customer Service Team):

UNF:

1st: SupportTeam_ID, Team_Type, Problem_Type, Solution_Type, Employee_ID, Name, Salary, Date_of_Joining

1NF:

1st: SupportTeam_ID, Team_Type, Problem_Type, Solution_Type, Employee_ID, Name, Salary, Date_of_Joining

(No Multivalued Attribute)

2NF:

1st: SupportTeam_ID, Team_Type, Problem_Type, Solution_Type

2nd: Employee_ID, Name, Salary, Date_of_Joining

3NF:

1st: SupportTeam_ID, Team_Type, Problem_Type, Solution_Type

2nd: Employee_ID, Name, Salary, Date_of_Joining, SupportTeam_ID

Final:

1st: C_ID, Name, Croad_No, CPhone_ID

2nd: CPhone_ID, CPhone_No

3rd: CRoad_No, CCity

4th: App_Authorization_ID, Number_of_Order, Customer_Account, Restaurant_Account, DeliveryMan_Account

5th: DM_ID, DMName, Location, DMPhone_ID

6th: DMPhone_ID, DMPhone_No

7th: Restaurant_ID, Name, Menu, RRoad_No, Number_of_Order

8^h: RRoad_No, RCity

9th: SupportTeam_ID, Team_Type, Problem_Type, Solution_Type

10th: Employee_ID, Name, Salary, Date_of_Joining, SupportTeam_ID

11th: Employee_ID, Name, Salary, Date_of_Joining, SupportTeam_ID

12th: Discount_ID, Discount_Type, Expiry_Date, Amount

Table Creation and Insertion

```
CREATE TABLE CUSTOMER(C_ID INT NOT NULL, NAME CHAR(50), CROAD_NO CHAR(50), CPHONE_ID  
INT NOT NULL, PRIMARY KEY(C_ID));
```

```
INSERT INTO CUSTOMER(C_ID, NAME, CROAD_NO, CPHONE_ID)
```

```
VALUES(01, 'Md. Akib Shahrier', 7, 1);
```

```
INSERT INTO CUSTOMER(C_ID, NAME, CROAD_NO, CPHONE_ID)
```

```
VALUES(02, 'Maria Nawar', 8, 2);
```

```
INSERT INTO CUSTOMER(C_ID, NAME, CROAD_NO, CPHONE_ID)
```

```
VALUES(03, 'Hasin Anjum', 1, 3);
```

```
INSERT INTO CUSTOMER(C_ID, NAME, CROAD_NO, CPHONE_ID)
```

```
VALUES(04, 'Meher Ab Ekhn', 2, 4);
```

```
CREATE TABLE CUSTOMER(C_ID INT NOT NULL, NAME CHAR(50), CROAD_NO CHAR(50), CPHONE_ID INT NOT NULL, PRIMARY KEY(C_ID));  
INSERT INTO CUSTOMER(C_ID, NAME, CROAD_NO, CPHONE_ID)  
VALUES(01, 'Md. Akib Shahrier', 7, 1);  
INSERT INTO CUSTOMER(C_ID, NAME, CROAD_NO, CPHONE_ID)  
VALUES(02, 'Maria Nawar', 8, 2);  
INSERT INTO CUSTOMER(C_ID, NAME, CROAD_NO, CPHONE_ID)  
VALUES(03, 'Hasin Anjum', 1, 3);  
INSERT INTO CUSTOMER(C_ID, NAME, CROAD_NO, CPHONE_ID)  
VALUES(04, 'Meher Ab Ekhn', 2, 4);  
SELECT * FROM CUSTOMER;
```

Results Explain Describe Saved SQL History

C_ID	NAME	CROAD_NO	CPHONE_ID
1	Md. Akib Shahrier	7	1
2	Maria Nawar	8	2
3	Hasin Anjum	1	3
4	Meher Ab Ekhn	2	4

```
CREATE SEQUENCE CPPHONE
```

```
INCREMENT BY 1
```

```
START WITH 1
```

```
MAXVALUE 100
```

```
NOCACHE
```

```
NOCYCLE;
```

```
CREATE TABLE CPHONE(CPHONE_ID INT NOT NULL, CPHONE_NO CHAR(11) NOT NULL, PRIMARY  
KEY(CPHONE_ID));
```

```
INSERT INTO CPHONE(CPHONE_ID,CPHONE_NO)
```

```
VALUES(CPPHONE.NEXTVAL,'01731846464');
```

```
INSERT INTO CPHONE(CPHONE_ID,CPHONE_NO)
```

```
VALUES(CPPHONE.NEXTVAL,'01704758565');

INSERT INTO CPHONE(CPHONE_ID,CPHONE_NO)

VALUES(CPPHONE.NEXTVAL,'01626846921');

INSERT INTO CPHONE(CPHONE_ID,CPHONE_NO)

VALUES(CPPHONE.NEXTVAL,'01926433645');
```

```
CREATE SEQUENCE CPPHONE
INCREMENT BY 1
START WITH 1
MAXVALUE 100
NOCACHE
NOCYCLE;
CREATE TABLE CPHONE(CPHONE_ID INT NOT NULL, CPHONE_NO CHAR(11) NOT NULL, PRIMARY KEY(CPHONE_ID));
INSERT INTO CPHONE(CPHONE_ID,CPHONE_NO)
VALUES(CPPHONE.NEXTVAL,'01731846464');
INSERT INTO CPHONE(CPHONE_ID,CPHONE_NO)
VALUES(CPPHONE.NEXTVAL,'01704758565');
INSERT INTO CPHONE(CPHONE_ID,CPHONE_NO)
VALUES(CPPHONE.NEXTVAL,'01626846921');
```

Results Explain Describe Saved SQL History

CPHONE_ID	CPHONE_NO
1	01731846464
2	01704758565
3	01626846921
4	01926433645

4 rows returned in 0.00 seconds

[CSV Export](#)

```
CREATE TABLE CROAD(CROAD_NO INT NOT NULL, CCITY CHAR(20), PRIMARY KEY(CROAD_NO));

INSERT INTO CROAD(CROAD_NO, CCITY)

VALUES( 1, 'DHAKA');

INSERT INTO CROAD(CROAD_NO, CCITY)

VALUES( 2, 'DHAKA');

INSERT INTO CROAD(CROAD_NO, CCITY)

VALUES( 7, 'DHAKA');

INSERT INTO CROAD(CROAD_NO, CCITY)

VALUES( 8, 'DHAKA');
```

```
CREATE TABLE CROAD(CROAD_NO INT NOT NULL, CCITY CHAR(20), PRIMARY KEY(CROAD_NO));
INSERT INTO CROAD(CROAD_NO, CCITY)
VALUES( 1, 'DHAKA');
INSERT INTO CROAD(CROAD_NO, CCITY)
VALUES( 2, 'DHAKA');
INSERT INTO CROAD(CROAD_NO, CCITY)
VALUES( 7, 'DHAKA');
INSERT INTO CROAD(CROAD_NO, CCITY)
VALUES( 8, 'DHAKA');
SELECT * FROM CROAD;
```

Results Explain Describe Saved SQL History

CROAD_NO	CCITY
1	DHAKA
2	DHAKA
7	DHAKA
8	DHAKA

```
CREATE TABLE FOOD_DELIVERY_APP(APP_AUTHORIZATION_ID INT NOT NULL, NUMBER_OF_ORDER
INT NOT NULL, CUSTOMER_ACCOUNT INT, RESTAURANT_ACCOUNT INT, DELIVERYMAN_ACCOUNT
INT, PRIMARY KEY(APP_AUTHORIZATION_ID));
```

```
INSERT INTO FOOD_DELIVERY_APP(APP_AUTHORIZATION_ID, NUMBER_OF_ORDER,
CUSTOMER_ACCOUNT, RESTAURANT_ACCOUNT, DELIVERYMAN_ACCOUNT)
```

```
VALUES(9176, 122, 30, 5, 10);
```

```
CREATE TABLE FOOD_DELIVERY_APP(APP_AUTHORIZATION_ID INT NOT NULL, NUMBER_OF_ORDER INT NOT NULL, CUSTOMER_ACCOUNT INT, RESTAURANT_ACCOUNT INT, DELIVERYMAN_ACCOUNT INT, PRIMARY
KEY(APP_AUTHORIZATION_ID));
INSERT INTO FOOD_DELIVERY_APP(APP_AUTHORIZATION_ID, NUMBER_OF_ORDER, CUSTOMER_ACCOUNT, RESTAURANT_ACCOUNT, DELIVERYMAN_ACCOUNT)
VALUES(9176, 122, 30, 5, 10);
SELECT * FROM FOOD_DELIVERY_APP;
```

Results Explain Describe Saved SQL History

APP_AUTHORIZATION_ID	NUMBER_OF_ORDER	CUSTOMER_ACCOUNT	RESTAURANT_ACCOUNT	DELIVERYMAN_ACCOUNT
9176	122	30	5	10

```
CREATE TABLE DELIVERY_MAN(DM_ID INT NOT NULL, DMNAME CHAR(20), LOCATION CHAR(50),
DMPHONE_ID INT NOT NULL, PRIMARY KEY(DM_ID));
```

```
INSERT INTO DELIVERY_MAN(DM_ID, DMNAME, LOCATION, DMPHONE_ID)
```

```
VALUES(11, 'ABIR', 'BASHUNDHARA R/A', 100);
```

```
INSERT INTO DELIVERY_MAN(DM_ID, DMNAME, LOCATION, DMPHONE_ID)
```

```
VALUES(12, 'AYUB', 'KHILGAON', 99);
```

```
INSERT INTO DELIVERY_MAN(DM_ID, DMNAME, LOCATION, DMPHONE_ID)
```

```
VALUES(13, 'JOSHIM', 'MOHAMMADPUR', 98);
```

```

INSERT INTO DELIVERY_MAN(DM_ID, DMNAME, LOCATION, DMPHONE_ID)

VALUES(14, 'KABIR', 'MOTIJHEEL', 97);

INSERT INTO DELIVERY_MAN(DM_ID, DMNAME, LOCATION, DMPHONE_ID)

VALUES(15, 'NOOR', 'KURIL', 96);

```

```

CREATE TABLE DELIVERY_MAN(DM_ID INT NOT NULL, DMNAME CHAR(20), LOCATION CHAR(50), DMPHONE_ID INT NOT NULL,PRIMARY KEY(DM_ID));
INSERT INTO DELIVERY_MAN(DM_ID, DMNAME, LOCATION, DMPHONE_ID)
VALUES(11, 'ABIR', 'BASHUNDHARA R/A', 100);
INSERT INTO DELIVERY_MAN(DM_ID, DMNAME, LOCATION, DMPHONE_ID)
VALUES(12, 'AYUB', 'KHILGAON', 99);
INSERT INTO DELIVERY_MAN(DM_ID, DMNAME, LOCATION, DMPHONE_ID)
VALUES(13, 'JOSHIM', 'MOHAMMADPUR', 98);
INSERT INTO DELIVERY_MAN(DM_ID, DMNAME, LOCATION, DMPHONE_ID)
VALUES(14, 'KABIR', 'MOTIJHEEL', 97);
INSERT INTO DELIVERY_MAN(DM_ID, DMNAME, LOCATION, DMPHONE_ID)
VALUES(15, 'NOOR', 'KURIL', 96);
SELECT * FROM DELIVERY_MAN;

```

Results Explain Describe Saved SQL History

DM_ID	DMNAME	LOCATION	DMPHONE_ID
11	ABIR	BASHUNDHARA R/A	100
12	AYUB	KHILGAON	99
13	JOSHIM	MOHAMMADPUR	98
14	KABIR	MOTIJHEEL	97
15	NOOR	KURIL	96

```

CREATE SEQUENCE DMPPHONE

```

```

INCREMENT BY 1

```

```

START WITH 96

```

```

MAXVALUE 120

```

```

NOCACHE

```

```

NOCYCLE;

```

```

CREATE TABLE DMPHONE(DMPHONE_ID INT NOT NULL, DMPHONE_NO CHAR(11) NOT NULL,
PRIMARY KEY(DMPHONE_ID));

```

```

INSERT INTO DMPHONE(DMPHONE_ID,DMPHONE_NO)

```

```

VALUES(DMPPHONE.NEXTVAL,'01649457464');

```

```

INSERT INTO DMPHONE(DMPHONE_ID,DMPHONE_NO)

```

```

VALUES(DMPPHONE.NEXTVAL,'01937734840');

```

```

INSERT INTO DMPHONE(DMPHONE_ID,DMPHONE_NO)

```

```

VALUES(DMPPHONE.NEXTVAL,'01648393937');

```

```

INSERT INTO DMPHONE(DMPHONE_ID,DMPHONE_NO)

```

```

VALUES(DMPPHONE.NEXTVAL,'01484394849');

```

```

INSERT INTO DMPHONE(DMPHONE_ID,DMPHONE_NO)

```

```

VALUES(DMPPHONE.NEXTVAL,'01638493949');

```

```

CREATE SEQUENCE DMPPHONE
INCREMENT BY 1
START WITH 96
MAXVALUE 120
NOCACHE
NOCYCLE;
CREATE TABLE DMPHONE(DMPHONE_ID INT NOT NULL, DMPHONE_NO CHAR(11) NOT NULL, PRIMARY KEY(DMPHONE_ID));
INSERT INTO DMPHONE(DMPHONE_ID,DMPHONE_NO)
VALUES(DMPPHONE.NEXTVAL,'01649457464');
INSERT INTO DMPHONE(DMPHONE_ID,DMPHONE_NO)
VALUES(DMPPHONE.NEXTVAL,'01937734840');
INSERT INTO DMPHONE(DMPHONE_ID,DMPHONE_NO)
VALUES(DMPPHONE.NEXTVAL,'01648393937');

```

Results Explain Describe Saved SQL History

<u>DMPHONE_ID</u>	<u>DMPHONE_NO</u>
96	01649457464
97	01937734840
98	01648393937
99	01484394849
100	01638493949

```

CREATE TABLE RESTAURANT(RESTAURANT_ID INT NOT NULL, NAME CHAR(30), MENU CHAR(50),
RROAD_NO INT NOT NULL, NUMBER_OF_ORDER INT,PRIMARY KEY(RESTAURANT_ID));

```

```

INSERT INTO RESTAURANT(RESTAURANT_ID, NAME, MENU, RROAD_NO, NUMBER_OF_ORDER)
VALUES(21, 'CHILLOX', 'BURGER', 5, 135);

```

```

INSERT INTO RESTAURANT(RESTAURANT_ID, NAME, MENU, RROAD_NO, NUMBER_OF_ORDER)
VALUES(22, 'KO TE KACCHI', 'KACCHI', 2, 12);

```

```

INSERT INTO RESTAURANT(RESTAURANT_ID, NAME, MENU, RROAD_NO, NUMBER_OF_ORDER)
VALUES(23, 'CHEEZ', 'PIZZA', 3, 18);

```

```

INSERT INTO RESTAURANT(RESTAURANT_ID, NAME, MENU, RROAD_NO, NUMBER_OF_ORDER)
VALUES(24, 'DHAKAIYA', 'CHAAP', 5, 74);

```

```

INSERT INTO RESTAURANT(RESTAURANT_ID, NAME, MENU, RROAD_NO, NUMBER_OF_ORDER)
VALUES(25, 'AL-FRESCO', 'PASTA', 2, 39);

```

```

CREATE TABLE RESTAURANT(RESTAURANT_ID INT NOT NULL, NAME CHAR(30), MENU CHAR(50), RROAD_NO INT NOT NULL, NUMBER_OF_ORDER INT,PRIMARY KEY(RESTAURANT_ID));
INSERT INTO RESTAURANT(RESTAURANT_ID, NAME, MENU, RROAD_NO, NUMBER_OF_ORDER)
VALUES(21, 'CHILLOX', 'BURGER', 5, 135);
INSERT INTO RESTAURANT(RESTAURANT_ID, NAME, MENU, RROAD_NO, NUMBER_OF_ORDER)
VALUES(22, 'KO TE KACCHI', 'KACCHI', 2, 12);
INSERT INTO RESTAURANT(RESTAURANT_ID, NAME, MENU, RROAD_NO, NUMBER_OF_ORDER)
VALUES(23, 'CHEEZ', 'PIZZA', 3, 18);
INSERT INTO RESTAURANT(RESTAURANT_ID, NAME, MENU, RROAD_NO, NUMBER_OF_ORDER)
VALUES(24, 'DHAKAIYA', 'CHAAP', 5, 74);
INSERT INTO RESTAURANT(RESTAURANT_ID, NAME, MENU, RROAD_NO, NUMBER_OF_ORDER)
VALUES(25, 'AL-FRESCO', 'PASTA', 2, 39);

```

Results Explain Describe Saved SQL History

<u>RESTAURANT_ID</u>	NAME	MENU	<u>RROAD_NO</u>	NUMBER_OF_ORDER
21	CHILLOX	BURGER	5	135
22	KO TE KACCHI	KACCHI	2	12
23	CHEEZ	PIZZA	3	18
24	DHAKAIYA	CHAAP	5	74
25	AL-FRESCO	PASTA	2	39

```
CREATE TABLE RROAD(RROAD_NO INT NOT NULL, RCITY CHAR(20), PRIMARY KEY(RROAD_NO));

INSERT INTO RROAD(RROAD_NO, RCITY)

VALUES( 2, 'DHAKA');

INSERT INTO RROAD(RROAD_NO, RCITY)

VALUES( 5, 'DHAKA');

INSERT INTO RROAD(RROAD_NO, RCITY)

VALUES( 3, 'DHAKA');
```

```
CREATE TABLE RROAD(RROAD_NO INT NOT NULL, RCITY CHAR(20), PRIMARY KEY(RROAD_NO));
INSERT INTO RROAD(RROAD_NO, RCITY)
VALUES( 2, 'DHAKA');
INSERT INTO RROAD(RROAD_NO, RCITY)
VALUES( 5, 'DHAKA');
INSERT INTO RROAD(RROAD_NO, RCITY)
VALUES( 3, 'DHAKA');
SELECT * FROM RROAD;
```

Results Explain Describe Saved SQL History

RROAD_NO	RCITY
2	DHAKA
5	DHAKA
3	DHAKA

```
CREATE TABLE SUPPORT_TEAM(SUPPORTTEAM_ID INT NOT NULL, TEAM_TYPE CHAR(30),
PROBLEM_TYPE CHAR(50), SOLUTION_TYPE CHAR(50), PRIMARY KEY(SUPPORTTEAM_ID));

INSERT INTO SUPPORT_TEAM(SUPPORTTEAM_ID, TEAM_TYPE, PROBLEM_TYPE, SOLUTION_TYPE)

VALUES(101, 'IT_SUPPORT', 'IT BASED', 'CONNECT ONLINE');

INSERT INTO SUPPORT_TEAM(SUPPORTTEAM_ID, TEAM_TYPE, PROBLEM_TYPE, SOLUTION_TYPE)

VALUES(121, 'CUSTOMER CARE', 'FOOD RELATED', 'REFUND AFTER ASSURING BY CALL');

INSERT INTO SUPPORT_TEAM(SUPPORTTEAM_ID, TEAM_TYPE, PROBLEM_TYPE, SOLUTION_TYPE)

VALUES(111, 'ON-FIELD', 'DELIVERY RELATED', 'CHECK PHYSICALLY');
```



```
CREATE TABLE SUPPORT_TEAM(SUPPORTTEAM_ID INT NOT NULL, TEAM_TYPE CHAR(30), PROBLEM_TYPE CHAR(50), SOLUTION_TYPE CHAR(50), PRIMARY KEY(SUPPORTTEAM_ID));
INSERT INTO SUPPORT_TEAM(SUPPORTTEAM_ID, TEAM_TYPE, PROBLEM_TYPE, SOLUTION_TYPE)
VALUES(101, 'IT_SUPPORT', 'IT BASED', 'CONNECT ONLINE');
INSERT INTO SUPPORT_TEAM(SUPPORTTEAM_ID, TEAM_TYPE, PROBLEM_TYPE, SOLUTION_TYPE)
VALUES(121, 'CUSTOMER CARE', 'FOOD RELATED', 'REFUND AFTER ASSURING BY CALL');
INSERT INTO SUPPORT_TEAM(SUPPORTTEAM_ID, TEAM_TYPE, PROBLEM_TYPE, SOLUTION_TYPE)
VALUES(111, 'ON-FIELD', 'DELIVERY RELATED', 'CHECK PHYSICALLY');
SELECT * FROM SUPPORT_TEAM;
```

Results Explain Describe Saved SQL History

SUPPORTTEAM_ID	TEAM_TYPE	PROBLEM_TYPE	SOLUTION_TYPE
101	IT_SUPPORT	IT BASED	CONNECT ONLINE
121	CUSTOMER CARE	FOOD RELATED	REFUND AFTER ASSURING BY CALL
111	ON-FIELD	DELIVERY RELATED	CHECK PHYSICALLY

```
CREATE TABLE IT_SUPPORT_TEAM(EMPLOYEE_ID INT NOT NULL,NAME CHAR(50), SALARY INT NOT NULL, DATE_OF_JOINING DATE, SUPPORTTEAM_ID INT NOT NULL, DESIGNATION CHAR(50),
MANAGER INT, PRIMARY KEY(EMPLOYEE_ID));
```

```
INSERT INTO IT_SUPPORT_TEAM(EMPLOYEE_ID, NAME, SALARY, DATE_OF_JOINING,
SUPPORTTEAM_ID, DESIGNATION, MANAGER)
```

```
VALUES(1001, 'SAZZAD', 15000, '03-JAN-2016', 101, 'MANAGER', '');
```

```
INSERT INTO IT_SUPPORT_TEAM(EMPLOYEE_ID, NAME, SALARY, DATE_OF_JOINING,
SUPPORTTEAM_ID, DESIGNATION, MANAGER)
```

```
VALUES(1002, 'AMIR', 5000, '03-JAN-2016', 101, 'CLERK', 1001);
```

```
INSERT INTO IT_SUPPORT_TEAM(EMPLOYEE_ID, NAME, SALARY, DATE_OF_JOINING,
SUPPORTTEAM_ID, DESIGNATION, MANAGER)
```

```
VALUES(1003, 'SAKIB', 8000, '01-APRIL-2018', 101, 'JUNIOR ANALYST', 1001);
```

```
INSERT INTO IT_SUPPORT_TEAM(EMPLOYEE_ID, NAME, SALARY, DATE_OF_JOINING,
SUPPORTTEAM_ID, DESIGNATION, MANAGER)
```

```
VALUES(1004, 'BABUL', 12000, '01-DEC-2016', 101, 'SENIOR CONSULTANT', 1001);
```

```
CREATE TABLE IT_SUPPORT_TEAM(EMPLOYEE_ID INT NOT NULL,NAME CHAR(50), SALARY INT NOT NULL, DATE_OF_JOINING DATE, SUPPORTTEAM_ID INT NOT NULL, DESIGNATION CHAR(50), MANAGER
INT, PRIMARY KEY(EMPLOYEE_ID));
INSERT INTO IT_SUPPORT_TEAM(EMPLOYEE_ID, NAME, SALARY, DATE_OF_JOINING, SUPPORTTEAM_ID, DESIGNATION, MANAGER)
VALUES(1001, 'SAZZAD', 15000, '03-JAN-2016', 101, 'MANAGER', '');
INSERT INTO IT_SUPPORT_TEAM(EMPLOYEE_ID, NAME, SALARY, DATE_OF_JOINING, SUPPORTTEAM_ID, DESIGNATION, MANAGER)
VALUES(1002, 'AMIR', 5000, '03-JAN-2016', 101, 'CLERK', 1001);
INSERT INTO IT_SUPPORT_TEAM(EMPLOYEE_ID, NAME, SALARY, DATE_OF_JOINING, SUPPORTTEAM_ID, DESIGNATION, MANAGER)
VALUES(1003, 'SAKIB', 8000, '01-APRIL-2018', 101, 'JUNIOR ANALYST', 1001);
INSERT INTO IT_SUPPORT_TEAM(EMPLOYEE_ID, NAME, SALARY, DATE_OF_JOINING, SUPPORTTEAM_ID, DESIGNATION, MANAGER)
VALUES(1004, 'BABUL', 12000, '01-DEC-2016', 101, 'SENIOR CONSULTANT', 1001);
SELECT * FROM IT_SUPPORT_TEAM;
```

Results Explain Describe Saved SQL History

EMPLOYEE_ID	NAME	SALARY	DATE_OF_JOINING	SUPPORTTEAM_ID	DESIGNATION	MANAGER
1001	SAZZAD	15000	03-JAN-16	101	MANAGER	-
1002	AMIR	5000	03-JAN-16	101	CLERK	1001
1003	SAKIB	8000	01-APR-18	101	JUNIOR ANALYST	1001
1004	BABUL	12000	01-DEC-16	101	SENIOR CONSULTANT	1001

```
CREATE TABLE CUSTOMER_CARE_TEAM(EMPLOYEE_ID INT NOT NULL,NAME CHAR(50), SALARY INT NOT NULL, DATE_OF_JOINING DATE, SUPPORTTEAM_ID INT NOT NULL, DESIGNATION CHAR(50),
MANAGER INT, PRIMARY KEY(EMPLOYEE_ID));
```

```
INSERT INTO CUSTOMER_CARE_TEAM(EMPLOYEE_ID, NAME, SALARY, DATE_OF_JOINING,
SUPPORTTEAM_ID, DESIGNATION, MANAGER)
```

```
VALUES(2001, 'RAFIQ', 7000, '03-JAN-2016', 121, 'JUNIOR OFFICER', 2003);
```



```
INSERT INTO CUSTOMER_CARE_TEAM(EMPLOYEE_ID, NAME, SALARY, DATE_OF_JOINING,
SUPPORTTEAM_ID, DESIGNATION, MANAGER)
```

```
VALUES(2002, 'SANJANA', 9000, '01-APR-2017', 121, 'SENIOR CONSULTANT', 2003);
```

```
INSERT INTO CUSTOMER_CARE_TEAM(EMPLOYEE_ID, NAME, SALARY, DATE_OF_JOINING,
SUPPORTTEAM_ID, DESIGNATION, MANAGER)
```

```
VALUES(2003, 'BADHON', 9000, '01-APR-2017', 121, 'MANAGER', '');
```

```
INSERT INTO CUSTOMER_CARE_TEAM(EMPLOYEE_ID, NAME, SALARY, DATE_OF_JOINING,
SUPPORTTEAM_ID, DESIGNATION, MANAGER)
```

```
VALUES(2004, 'MUNIM', 9000, '01-APR-2017', 121, 'CLERK', 2003);
```

```
CREATE TABLE CUSTOMER_CARE_TEAM(EMPLOYEE_ID INT NOT NULL, NAME CHAR(50), SALARY INT NOT NULL, DATE_OF_JOINING DATE, SUPPORTTEAM_ID INT NOT NULL, DESIGNATION CHAR(50),
MANAGER INT, PRIMARY KEY(EMPLOYEE_ID));
INSERT INTO CUSTOMER_CARE_TEAM(EMPLOYEE_ID, NAME, SALARY, DATE_OF_JOINING, SUPPORTTEAM_ID, DESIGNATION, MANAGER)
VALUES(2001, 'RAFIQ', 7000, '03-JAN-2016', 121, 'JUNIOR OFFICER', 2003);
INSERT INTO CUSTOMER_CARE_TEAM(EMPLOYEE_ID, NAME, SALARY, DATE_OF_JOINING, SUPPORTTEAM_ID, DESIGNATION, MANAGER)
VALUES(2002, 'SANJANA', 9000, '01-APR-2017', 121, 'SENIOR CONSULTANT', 2003);
INSERT INTO CUSTOMER_CARE_TEAM(EMPLOYEE_ID, NAME, SALARY, DATE_OF_JOINING, SUPPORTTEAM_ID, DESIGNATION, MANAGER)
VALUES(2003, 'BADHON', 9000, '01-APR-2017', 121, 'MANAGER', '');
INSERT INTO CUSTOMER_CARE_TEAM(EMPLOYEE_ID, NAME, SALARY, DATE_OF_JOINING, SUPPORTTEAM_ID, DESIGNATION, MANAGER)
VALUES(2004, 'MUNIM', 9000, '01-APR-2017', 121, 'CLERK', 2003);
SELECT * FROM CUSTOMER_CARE_TEAM;
```

Results Explain Describe Saved SQL History

EMPLOYEE_ID	NAME	SALARY	DATE_OF_JOINING	SUPPORTTEAM_ID	DESIGNATION	MANAGER
2001	RAFIQ	7000	03-JAN-16	121	JUNIOR OFFICER	2003
2002	SANJANA	9000	01-APR-17	121	SENIOR CONSULTANT	2003
2003	BADHON	9000	01-APR-17	121	MANAGER	-
2004	MUNIM	9000	01-APR-17	121	CLERK	2003

```
CREATE TABLE DISCOUNT(DISCOUNT_ID INT NOT NULL, DISCOUNT_TYPE CHAR(50), EXPIRY_DATE
DATE, AMOUNT INT NOT NULL, PRIMARY KEY(DISCOUNT_ID));
```

```
INSERT INTO DISCOUNT(DISCOUNT_ID, DISCOUNT_TYPE, EXPIRY_DATE, AMOUNT)
```

```
VALUES(55, 'CHRISTMAS', '25-DEC-2022', 150);
```

```
INSERT INTO DISCOUNT(DISCOUNT_ID, DISCOUNT_TYPE, EXPIRY_DATE, AMOUNT)
```

```
VALUES(66, 'NEW YEAR', '01-JAN-2023', 100);
```

```
CREATE TABLE DISCOUNT(DISCOUNT_ID INT NOT NULL, DISCOUNT_TYPE CHAR(50), EXPIRY_DATE DATE, AMOUNT INT NOT NULL, PRIMARY KEY(DISCOUNT_ID));
INSERT INTO DISCOUNT(DISCOUNT_ID, DISCOUNT_TYPE, EXPIRY_DATE, AMOUNT)
VALUES(55, 'CHRISTMAS', '25-DEC-2022', 150);
INSERT INTO DISCOUNT(DISCOUNT_ID, DISCOUNT_TYPE, EXPIRY_DATE, AMOUNT)
VALUES(66, 'NEW YEAR', '01-JAN-2023', 100);
```

Results

Explain

Describe

Saved SQL

History

DISCOUNT_ID	DISCOUNT_TYPE	EXPIRY_DATE	AMOUNT
55	CHRISTMAS	25-DEC-22	150
66	NEW YEAR	01-JAN-23	100

View

```
CREATE OR REPLACE VIEW DM(DM_ID, LOCATION) AS SELECT DM_ID, LOCATION FROM  
DELIVERY_MAN;
```

```
CREATE OR REPLACE VIEW DM(DM_ID, LOCATION) AS SELECT DM_ID, LOCATION FROM DELIVERY_MAN;  
SELECT * FROM DM;
```

Results	Explain	Describe	Saved SQL	History
DM_ID	LOCATION			
11	BASHUNDHARA R/A			
12	KHILGAON			
13	MOHAMMADPUR			
14	MOTIJHEEL			
15	KURIL			

```
CREATE OR REPLACE VIEW IT_SUPPORT AS SELECT EMPLOYEE_ID, NAME, SUPPORTTEAM_ID FROM  
IT_SUPPORT_TEAM;
```

```
CREATE OR REPLACE VIEW IT_SUPPORT AS SELECT EMPLOYEE_ID, NAME, SUPPORTTEAM_ID FROM IT_SUPPORT_TEAM;  
SELECT * FROM IT_SUPPORT;
```

Results	Explain	Describe	Saved SQL	History
EMPLOYEE_ID	NAME	SUPPORTTEAM_ID		
1001	SAZZAD	101		
1002	AMIR	101		
1003	SAKIB	101		
1004	BABUL	101		

```
CREATE OR REPLACE VIEW CUSTOMER_CARE AS SELECT EMPLOYEE_ID, NAME, SUPPORTTEAM_ID  
FROM CUSTOMER_CARE_TEAM;
```

```
CREATE OR REPLACE VIEW CUSTOMER_CARE AS SELECT EMPLOYEE_ID, NAME, SUPPORTTEAM_ID FROM CUSTOMER_CARE_TEAM;  
SELECT * FROM CUSTOMER_CARE;
```

Results	Explain	Describe	Saved SQL	History
EMPLOYEE_ID	NAME	SUPPORTTEAM_ID		
2001	RAFIQ	121		
2002	SANJANA	121		

Sub Query

```
SELECT * FROM CUSTOMER_CARE_TEAM WHERE SALARY<(SELECT SALLARY FROM  
CUSTOMER_CARE_TEAM WHERE EMPLOYEE_ID=2002);
```

```
SELECT * FROM CUSTOMER_CARE_TEAM WHERE SALARY<(SELECT SALARY FROM CUSTOMER_CARE_TEAM WHERE EMPLOYEE_ID=2002);
```

Results	Explain	Describe	Saved SQL	History
EMPLOYEE_ID	NAME	SALARY	DATE_OF_JOINING	SUPPORTTEAM_ID
2001	RAFIQ	7000	03-JAN-16	121

Join

Equi-Join:

```
SELECT CC.EMPLOYEE_ID, CC.NAME, ST.TEAM_TYPE FROM CUSTOMER_CARE_TEAM CC, SUPPORT_TEAM ST WHERE CC.SUPPORTTEAM_ID= ST.SUPPORTTEAM_ID;
```

Results Explain Describe Saved SQL History

EMPLOYEE_ID	NAME	TEAM_TYPE
2001	RAFIQ	CUSTOMER CARE
2002	SANJANA	CUSTOMER CARE
2003	BADHON	CUSTOMER CARE
2004	MUNIM	CUSTOMER CARE

Self Join:

```
SELECT IT1.EMPLOYEE_ID, IT1.NAME EMPLOYEE, IT1.DESIGNATION, IT2.NAME FROM IT_SUPPORT_TEAM IT1, IT_SUPPORT_TEAM IT2 WHERE IT1.MANAGER=IT2.EMPLOYEE_ID;
```

Results Explain Describe Saved SQL History

EMPLOYEE_ID	EMPLOYEE	DESIGNATION	NAME
1004	BABUL	SENIOR CONSULTANT	SAZZAD
1003	SAKIB	JUNIOR ANALYST	SAZZAD
1002	AMIR	CLERK	SAZZAD

Outer Join:

```
SELECT IT.EMPLOYEE_ID, IT.NAME, ST.PROBLEM_TYPE FROM IT_SUPPORT_TEAM IT,  
SUPPORT_TEAM ST WHERE IT.SUPPORTTEAM_ID(+)= ST.SUPPORTTEAM_ID;
```

```
SELECT IT.EMPLOYEE_ID, IT.NAME, ST.PROBLEM_TYPE FROM IT_SUPPORT_TEAM IT, SUPPORT_TEAM ST WHERE IT.SUPPORTTEAM_ID(+)=ST.SUPPORTTEAM_ID;
```

Results Explain Describe Saved SQL History

EMPLOYEE_ID	NAME	PROBLEM_TYPE
1001	SAZZAD	IT BASED
1002	AMIR	IT BASED
1003	SAKIB	IT BASED
1004	BABUL	IT BASED
-	-	DELIVERY RELATED
-	-	FOOD RELATED