DBMS PROJECT

ONLINE FOOD DELIVERY SYSTEM

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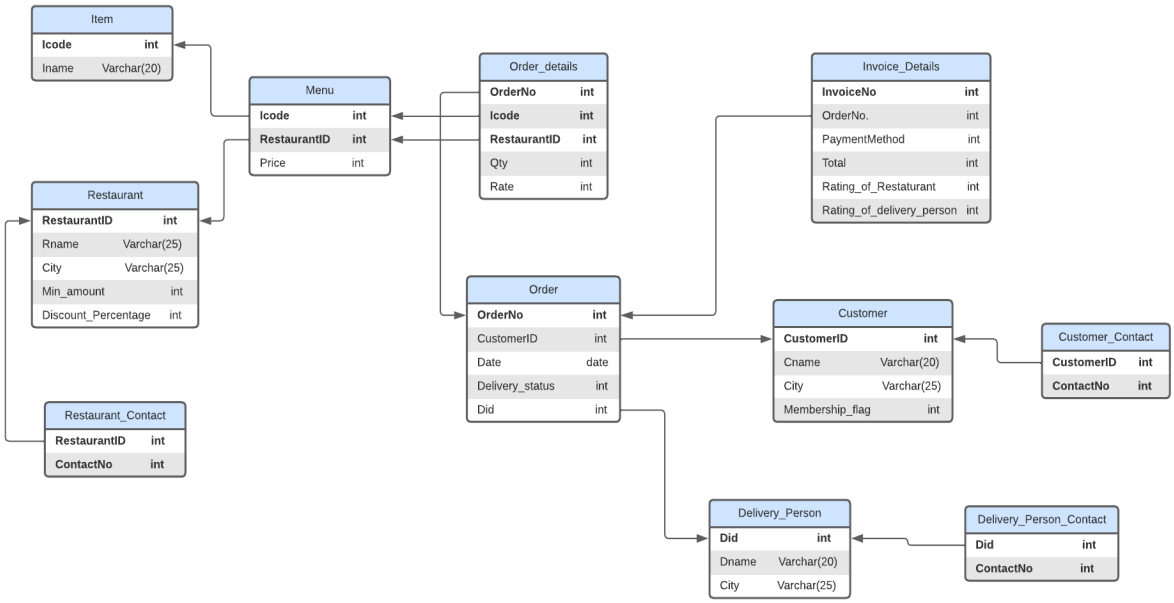
1)Relational Schema



2)Minimal FD set

CustomerID → Cname

CustomerID → City

CustomerID → Membership_flag

OrderNo → Date

OrderNo → Delivery_status

OrderNo → Did

OrderNo → CustomerID

{OrderNo,Icode,RestaurantID} → Qty

{OrderNo,Icode,RestaurantID} → Rate

InvoiceNo → OrderNo

InvoiceNo → PaymentMethod

InvoiceNo → Total

InvoiceNo → Rating_of_Restaurant

InvoiceNo → Rating_of_delivery_person

Did → Dname

Did → City

{Icode, RestaurantID} → Price

Icode → Iname

RestaurantID → Rname

RestaurantID → City

RestaurantID → Min_amount

RestaurantID → Discount_Percentage

3)Project FD and BCNF

- ***For Customer***

Primary Key :- CustomerID

CustomerID →{Customer_Name,City,Membership_flag}

Here, CustomerID serves as the Customer table's primary key and determines all of its attributes. Other FDs do not violate BCNF requirements.We can therefore state that the Customer table is in BCNF Form.

- ***For Order***

Primary Key :- OrderNo

OrderNo →{CustomerID, Date, Delivarystatus, Did}

Here, OrderNo serves as the Order table's primary key and determines all of its attributes. Other FDs do not violate BCNF requirements.We can therefore state that the Order table is in BCNF Form.

- ***For Order_Details***

Primary Key :- { OrderNo,Icode,RestaurantID}

{ OrderNo,Icode,RestaurantID} → {Qty,Rate}

Here, {OrderNo,Icode,RestaurantID} serves as the Order_Details table's primary key and determines all of its attributes. Other FDs do not violate BCNF requirements.We can therefore state that the Order_Details table is in BCNF Form.

- ***For InvoiceDetails***

Primary Key :- InvoiceNo

InvoiceNo → {OrderNo, PaymentMethod, Total, Rating_of_Restaurant,

Rating_of_delivery_person}

Here, InvoiceNo serves as the Invoice_Details table's primary key and determines all of its attributes. Other FDs do not violate BCNF requirements.We can therefore state that the Invoice_Details table is in BCNF Form.

- ***For Delivary_person***

Primary Key :- Did

Did →{Dname,City}

Here, Did serves as the Delivery_person table's primary key and determines all of its attributes. Other FDs do not violate BCNF requirements.We can therefore state that the Delivery_person table is in BCNF Form.

- ***For Menu***

  Primary Key :- {Icode, RestaurantID}

  {Icode, RestaurantID}→ Price

  Here, {Icode, RestaurantID} serves as the Menu table's primary key and determines all of its attributes. Other FDs do not violate BCNF requirements.We can therefore state that the Menu table is in BCNF Form.

- ***For Item***

  Primary key :- Icode

  Icode → Iname

  Here, Icode serves as the Item table's primary key and determines all of its attributes. Other FDs do not violate BCNF requirements.We can therefore state that the Item table is in BCNF Form.

- ***For Restaurant***

  Primary Key :- RestaurantID

RestaurantID →{Rname, City,Min_amount, Discount_Percentage}

Here, RestaurantID serves as the Restaurant table's primary key and determines all of its attributes. Other FDs do not violate BCNF requirements.We can therefore state that the Restaurant table is in BCNF Form.

4)DDL Script

- ***For Item***

```
Create table Item(
        Icode int,
        Iname Varchar(20),
        PRIMARY KEY(Icode)
        );
```

- ***For Restaurant***

```
Create table Restaurant(
        RestaurantID int,
        Rname Varchar(25),
        City Varchar(25),
        Min_amount int,
        Discount_percentage int,
        PRIMARY KEY(RestaurantID)
        );
```

- ***For Restaurant Contact***

```
Create table Restaurant_Contact(
        RestaurantID int,
        ContactNo int,
        PRIMARY KEY(RestaurantID,ContactNo),
        FOREIGN KEY (RestaurantID) references from
        Restaurant(RestaurantID),
                ON UPDATE CASCADE ON DELETE CASCADE
        );
```

- ***For Menu***

```
Create table Menu(
        Icode int,
        RestaurantID int,
        Price int,
        PRIMARY KEY(Icode,RestaurantID),
        FOREIGN KEY (Icode) references from Item(Icode)
                ON UPDATE CASCADE ON DELETE CASCADE,
        FOREIGN KEY (RestaurantID) references from
        Restaurant(RestaurantID)
                ON UPDATE CASCADE ON DELETE CASCADE
        );
```

- ***For Order***

```
Create table Order(
        OrderNo Int,
        CustomerID int,
```

```
Date date,
Delivery_status int,
Did int,
PRIMARY KEY(OrderNo),
FOREIGN KEY (CustomerID) references from Customer(CustomerID)
        ON DELETE NO ACTION,
FOREIGN KEY (Did) references from DeliveryPerson(Did)
        ON UPDATE CASCADE ON DELETE SET NULL
);
```

- ***For Order Details***

```
Create table Order_details(
        OrderNo Int,
        Icode int DEFAULT 0,
        RestaurantID int DEFAULT 0,
        Qty int,
        Rate int,
        PRIMARY KEY(OrderNo,Icode,RestaurantID),
        FOREIGN KEY (OrderNo) references from Order(OrderNo)
                ON UPDATE CASCADE ON DELTE NO ACTION,
        FOREIGN KEY (Icode) references from Item(Icode)
                ON UPDATE CASCADE ON DELETE SET DEFAULT,
        FOREIGN KEY (RestaurantID) references from Restaurant(RestaurantID)
                ON UPDATE CASCADE ON DELETE SET DEFAULT
        );
```

- ***For Customer***

```
Create table Customer(
        CustomerID int,
        Cname Varchar(20),
        City Varchar(25),
        Membership_flag int,
        PRIMARY KEY(CustomerID)
        );
```

- ***For Customer Contact***

```
Create table Customer_Contact(
        CustomerID int,
        ContactNo int,
        PRIMARY KEY(CustomerID,ContactNo),
        FOREIGN KEY (CustomerID) references from
        Customer(CustomerID)
                ON DELETE NO ACTION
        );
```

- ***For Delivery Person***

```
Create table Delivery_Person(
        Did int,
        Dname Varchar(20),
        City Varchar(25),
        PRIMARY KEY(Did)
        );
```

- ***For Delivery Person Contact***

```
Create table Delivery_Person_Contact(
        Did int,
        ContactNo int,
        PRIMARY KEY(Did,ContactNo),
        FOREIGN KEY (Did) references from Delivery(Did)
                ON UPDATE CASCADE ON DELETE CASCADE
        );
```

- ***For Invoice details***

```
Create table Invoice_Details(
        InvoiceNo int,
        OrderNo int,
        Payment_method int,
        Total int,
        Rating_to_Restaurant int,
        Rating_to_delivery_Person int,
        PRIMARY KEY(InvoiceNo),
        FOREIGN KEY (OrderNo) references from Order(OrderNo)
                ON UPDATE CASCADE ON DELETE NO ACTION
        );
```

Note :-

While making Relational Diagram, we found some corrections in the submitted ER-diagram. So this submission is based on Updated ER-diagram.