



DBMS PROJECT

ONLINE FOOD DELIVERY SYSTEM

Group ID : 1

Lab Group : 4

Group Details :

Bindiya Bhalani (202101233)

Shrey Andharia (202101238)

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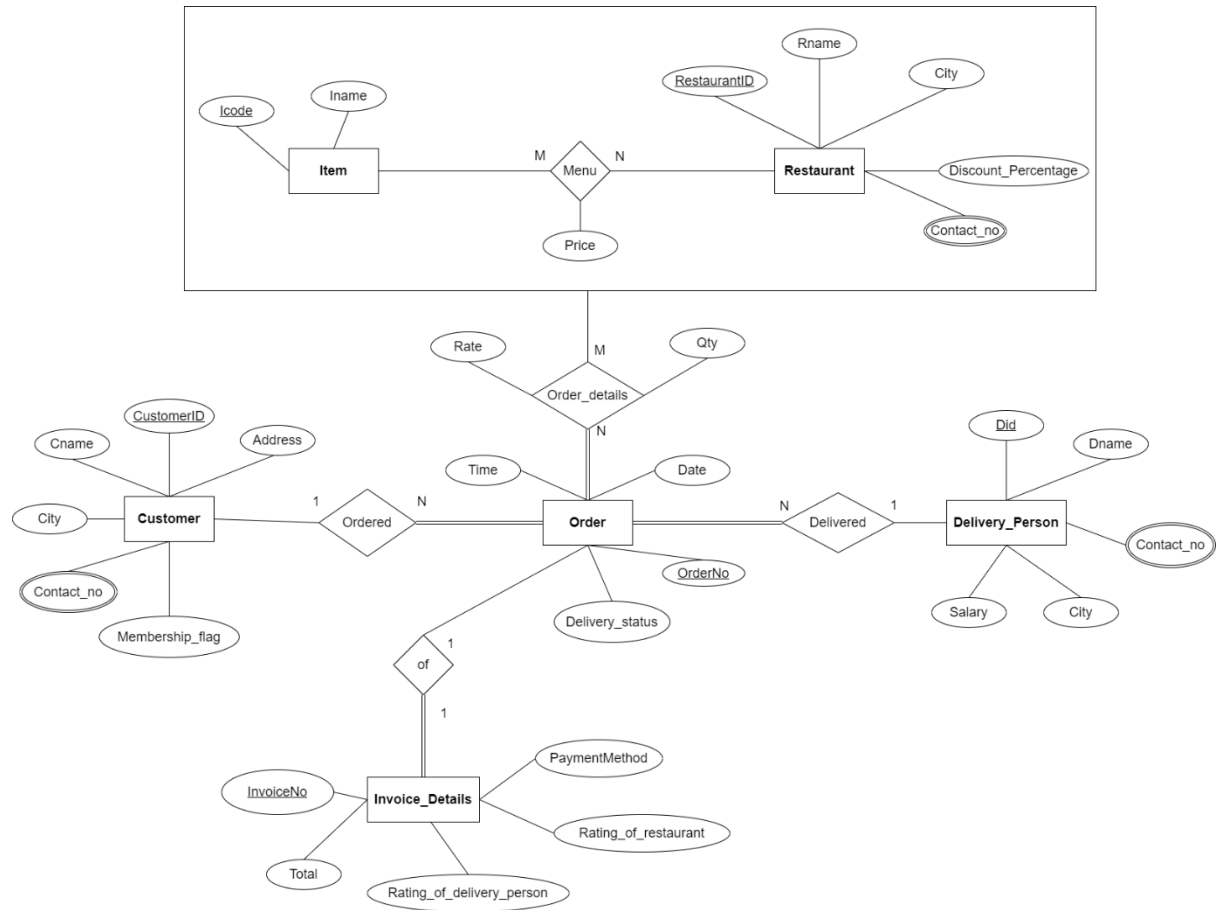
Yash Panasara (202101519)

Group Representative :

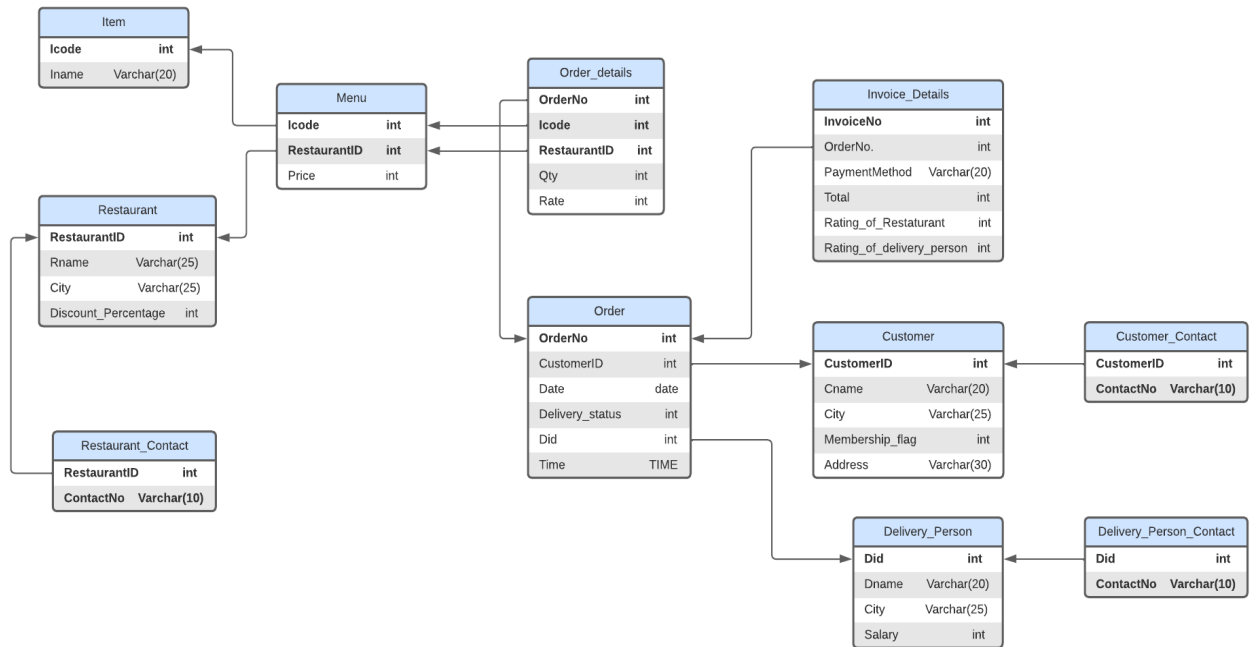
Shrey Andharia (202101238)

Contact No. : 9265579400

ER Diagram:



Relational Schema:



Normalization Proofs:

1. For Relation Item:

FD set:

$Icode \rightarrow Iname$

Key: Icode

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 relation is in BCNF Form.

2. For Relation Restaurant:

FD set:

$RestaurantID \rightarrow Rname$

$RestaurantID \rightarrow city$

$RestaurantID \rightarrow Discount_percentage$

Key: RestaurantID

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 relation is in BCNF Form.

3. For Relation Restaurant_contact:

Here both attributes are combined primary key, so relation is in BCNF form.

4. For Relation Menu:

FD set:

$\{\text{RestaurantID}, \text{Icode}\} \rightarrow \text{Price}$

Key: $\{\text{RestaurantID}, \text{Icode}\}$

Here, $\{\text{RestaurantID}, \text{Icode}\}$ 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 relation is in BCNF Form.

5. For Relation Order_details:

FD set:

$\{\text{OrderNo}, \text{RestaurantID}, \text{Icode}\} \rightarrow \text{Qty}$

$\{\text{OrderNo}, \text{RestaurantID}, \text{Icode}\} \rightarrow \text{Rate}$

Key: $\{\text{OrderNo}, \text{RestaurantID}, \text{Icode}\}$

Here, $\{\text{OrderNo}, \text{RestaurantID}, \text{Icode}\}$ 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 relation is in BCNF Form.

6. For Relation Order:

FD set:

$\text{OrderNo} \rightarrow \text{CustomerID}$

$\text{OrderNo} \rightarrow \text{Date}$

$\text{OrderNo} \rightarrow \text{Delivery_status}$

$\text{OrderNo} \rightarrow \text{Did}$

Key: $\{\text{OrderNo}\}$

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 relation is in BCNF Form.

7. For Relation Invoice_Details:

FD set:

InvoiceNo \rightarrow OrderNo

InvoiceNo \rightarrow PaymentMethod

InvoiceNo \rightarrow Total

InvoiceNo \rightarrow Rating_of_restaurant

InvoiceNo \rightarrow Rating_of_delivery_person

Key: InvoiceNo

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 relation is in BCNF Form.

8. For Relation Delivery_Person:

FD set:

Did \rightarrow Dname

Did \rightarrow city

Key: Did

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 relation is in BCNF Form.

9. For Relation Delivery_Person_Contact:

Here both attributes are combined primary key, so relation is in BCNF form.

10. For Relation Customer_Contact:

Here both attributes are combined primary key, so relation is in BCNF form.

11. For Relation Customer:

FD set:

CustomerID \rightarrow Cname

CustomerID \rightarrow city

CustomerID \rightarrow Membership_flag

Key: CustomerID

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 relation is in BCNF Form.