**Database Systems**

**Final Exam Notes**

111221007 – REDDY

**Mayur Indian Kitchen Business Ecommerce Database Design**

Mayur Indian Kitchen have a chain of Indian restaurants in Taiwan.

They’re already in offline Indian grocery business where people visit MIK stores to buy groceries. Now the business wants to go online with an E-commerce website and mobile applications. 🡪 <http://www.cmrlabs.com>

To achieve this business goal, we need a database where we can manage products, customers, orders, payments etc.,

**Tables in the database.**

* Seller 🡪 Seller details
* Product 🡪 Product listed by Seller
* Buyer 🡪 Buyer details
* Orders 🡪 Orders placed by customers
* Payment 🡪 Customers credit card details & billing address
* Order\_Details 🡪 Relation between products and orders

**Seller** (**SellerID**, CompanyName, Address, City, State, Zipcode, Country, ContactPerson, ContactNumber, ContactEmail)

***SellerID*** *🡪 CompanyName, Address, City, State, Zipcode, Country, ContactPerson, ContactNumber, ContactEmail*

**Product** (**ProductID**, ProductName, SellerID, Category, UnitPrice, Color, QuantityOnHand)

***ProductID 🡪*** *ProductName, Category, UnitPrice, Color, QuantityOnHand*

***SellerID 🡪*** *Foreign Key*

**Buyer** (**BuyerID**, TelNumber, Email, UserName, ShipAdress, ShipCity, ShipState, ShipCountry, ShipZipcode)

***BuyerID 🡪*** *TelNumber, Email, UserName, ShipAdress, ShipCity, ShipState, ShipCountry, ShipZipcode*

**Orders** (**OrderID**, BuyerID, TotalAmount, TotalQuantity, PaymentID, PaymentDate, OrderDate, Cancel, Paid, ShippingID)

**OrderID 🡪** TotalAmount, TotalQuantity, PaymentDate, OrderDate, Cancel, Paid

***BuyerID 🡪*** *Foreign Key*

***PaymentID 🡪*** *Foreign Key*

***ShippingID 🡪*** *Foreign Key*

**Payment** (**PaymentID**, CardHolderName, CardType, CreditCard, CredExpMo, CardExpYr, BillingAddress, BillingCity, BillingState, BillingZipcode, BillCountry)

***PaymentID 🡪*** *CardHolderName, CardType, CreditCard, CredExpMo, CardExpYr, BillingAddress, BillingCity, BillingState, BillingZipcode, BillCountry*

**Order\_Details (OrderID, ProductID**, ItemQuantity**)**

***OrderID, ProductID 🡪*** *ItemQuantity*

**Non-trivial queries**

**Scenario: Seller wants to know**

1. **Sum of total sales in a city (Ex.Bengaluru) on each day in the 2nd Quarter of 2022 in descending order.**

Graphical user interface, text, application, email

Description automatically generated

*SELECT buyer.shipCity, SUM(total\_amount) FROM orders,buyer WHERE orders.OrderDate BETWEEN '2022-04-01' AND '2022-06-30' AND buyer.ShipCity ='Bengaluru'*

*SELECT buyer.shipCity, SUM(total\_amount), orders.orderDate FROM orders, buyer WHERE orders.OrderDate BETWEEN '2022-04-01' AND '2022-06-30' AND buyer.ShipCity ='Bengaluru' GROUP BY OrderDate;*

*SELECT buyer.shipCity, SUM(total\_amount), orders.orderDate FROM orders, buyer WHERE orders.OrderDate BETWEEN '2022-04-01' AND '2022-06-30' AND buyer.ShipCity ='Bengaluru' GROUP BY OrderDate ORDER BY OrderDate DESC;*

1. **Find the BuyerName, ProductName, OrderQuantity using orderID (Ex. 89878325779)?**

**Text, whiteboard

Description automatically generated**

*SELECT Buyer.UserName, Products.ProductName FROM Buyer LEFT JOIN Orders ON Buyer.BuyerID = Orders.BuyerID LEFT JOIN Order\_Details ON Orders.OrderID = Order\_Details.OrderID LEFT JOIN Products ON Order\_Details.ProductID = Products.ProductID WHERE Orders.OrderID = '89878325779';*

1. **Finding the buyers whose credit card is expiring this year.**

**Graphical user interface, application

Description automatically generated**

*SELECT UserName, Email FROM BUYER LEFT JOIN ORDERS ON BUYER.BUYERID = ORDERS.BUYERID LEFT JOIN PAYMENT ON PAYMENT.PaymentID = ORDERS.PAYMENTID WHERE Payment.CardExpYr <= YEAR(CURDATE());*

1. **Find the address of a buyer based on the shippingID.**

*Text, letter, whiteboard

Description automatically generated*

*SELECT UserName,TelNumber, ShipAdress, ShipCity, ShipZipcode FROM Buyer RIGHT JOIN ORDERS ON Buyer.BuyerID = Orders.BuyerID RIGHT JOIN Shipment ON Orders.ShippingID = Shipment.ShippingID WHERE Shipment.ShippingID = '73874731131';*

SELECT

SUM

FROM

WHERE

BETWEEN

AND

GROUP BY

ORDER BY

DESC

ASC

ON

LEFT JOIN

RIGHT JOIN