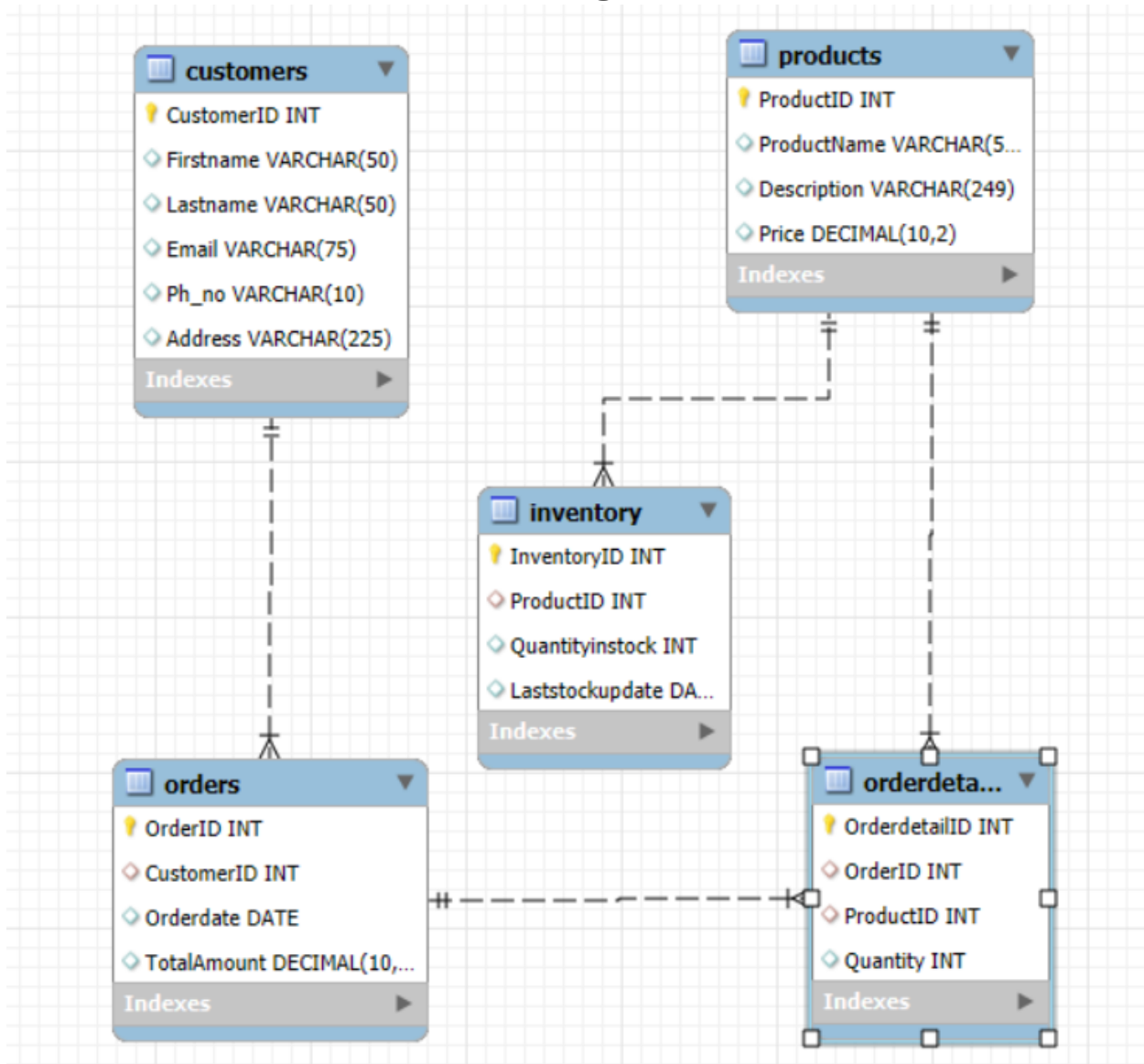


# Tech-Shop

an electronic gadgets shop

Task:1. Database Design:

## ER Diagram



#### **4. Create appropriate Primary Key and Foreign Key constraints for referential integrity.**

**Ans:-**

```
CREATE TABLE Customers (  
    CustomerID int(3) PRIMARY KEY,  
    Firstname varchar(50),  
    Lastname varchar(50),  
    Email varchar(75),  
    Ph_no varchar(10),  
    Address varchar(225)  
);
```

```
CREATE TABLE Products (  
    ProductID int(3) PRIMARY KEY,  
    ProductName varchar(50),  
    Description varchar(249),  
    Price decimal(10,2)  
);
```

```
CREATE TABLE Orders (  
    OrderID int PRIMARY KEY,  
    CustomerID int(3),  
    Orderdate date,  
    TotalAmount decimal(10, 2),  
    FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID)  
);
```

```
CREATE TABLE Orderdetails (  
    OrderdetailID int(3) PRIMARY KEY,  
    OrderID int(3),  
    ProductID int(3),  
    Quantity int(5),  
    FOREIGN KEY (OrderID) REFERENCES Orders(OrderID),  
    FOREIGN KEY (ProductID) REFERENCES Products(ProductID)  
);
```

```
CREATE TABLE Inventory (  
    InventoryID int(5) PRIMARY KEY,  
    ProductID int(3),  
    Quantityinstock int(5),  
    Laststockupdate date,  
    FOREIGN KEY (ProductID) REFERENCES Products(ProductID)  
);
```

## OUTPUT:-

```
mysql> desc customers;
```

Field	Type	Null	Key	Default	Extra
CustomerID	int	NO	PRI	NULL	
Firstname	varchar(50)	YES		NULL	
Lastname	varchar(50)	YES		NULL	
Email	varchar(75)	YES		NULL	
Ph_no	varchar(10)	YES		NULL	
Address	varchar(225)	YES		NULL	

```
6 rows in set (0.00 sec)
```

```
mysql> desc products;
```

Field	Type	Null	Key	Default	Extra
ProductID	int	NO	PRI	NULL	
ProductName	varchar(50)	YES		NULL	
Description	varchar(249)	YES		NULL	
Price_INR	decimal(10,2)	YES		NULL	

```
4 rows in set (0.00 sec)
```

```
mysql> desc orders;
```

Field	Type	Null	Key	Default	Extra
OrderID	int	NO	PRI	NULL	
CustomerID	int	YES	MUL	NULL	
Orderdate	date	YES		NULL	
TotalAmount	decimal(10,2)	YES		NULL	

```
4 rows in set (0.00 sec)
```

```
mysql> desc orderdetails;
```

Field	Type	Null	Key	Default	Extra
OrderdetailID	int	NO	PRI	NULL	
OrderID	int	YES	MUL	NULL	
ProductID	int	YES	MUL	NULL	
Quantity	int	YES		NULL	

```
4 rows in set (0.00 sec)
```

```
mysql> desc inventory;
```

Field	Type	Null	Key	Default	Extra
InventoryID	int	NO	PRI	NULL	
ProductID	int	YES	MUL	NULL	
Quantityinstock	int	YES		NULL	
Laststockupdate	date	YES		NULL	

```
4 rows in set (0.00 sec)
```

## 5. Insert at least 10 sample records into each of the following tables.

### Customers

```
INSERT INTO Customers (CustomerID,Firstname,Lastname,Email,Ph_no,Address)
```

```
VALUES
```

```
(101, 'Eshwar', 'V', 'eshwar@gmail.com', '9782154201', '32,JP nagar,banglore-49'),
(102, 'Reddy', 'V', 'reddy123@gmail.com', '9587412368', '45,JJ nagar,banglore'),
(103, 'Tom', 'Son', 'tom143@gmail.com', '9586741230', '36,LB nagar,banglore-49'),
(104, 'Jhon', 'Son', 'jhon456@gmail.com', '9513687421', '97,NR layout,hyd-07'),
(105, 'King', 'Simth', 'king956@gmail.com', '6365987412', '54,JP nagar,banglore-49'),
(106, 'NTR', 'Anna', 'ntrfans@gmail.com', '7898745621', '9,NR layout,hyd-07'),
(107, 'Pavan', 'Kumar', 'pavan@gmail.com', '7775648921', '13,RR nagar,hyd-04'),
(108, 'Pavi', 'Sharma', 'ravis123@gmail.com', '9694562100', '49,MR layout,banglore-48'),
(109, 'Hunk', 'Kumar', 'kumar123@gmail.com', '6457871188', '876 jp nagar,banglore-49'),
(110, 'Muni', 'Reddy', 'muni23@gmail.com', '8364942155', '24,PK nagar,banglore-04');
```

### Customers OUTPUT: -

CustomerID	Firstname	Lastname	Email	Ph_no	Address
101	Eshwar	V	eshwar@gmail.com	9782154201	32,JP nagar,banglore-49
102	Reddy	V	reddy123@gmail.com	9587412368	45,JJ nagar,banglore
103	Tom	Son	tom143@gmail.com	9586741230	36,LB nagar,banglore-49
104	Jhon	Son	jhon456@gmail.com	9513687421	97,NR layout,hyd-07
105	King	Simth	king956@gmail.com	6365987412	54,JP nagar,banglore-49
106	NTR	Anna	ntrfans@gmail.com	7898745621	9,NR layout,hyd-07
107	Pavan	Kumar	pavan@gmail.com	7775648921	13,RR nagar,hyd-04
108	Pavi	Sharma	ravis123@gmail.com	9694562100	49,MR layout,banglore-48
109	Hunk	Kumar	kumar123@gmail.com	6457871188	876 jp nagar,banglore-49
110	Muni	Reddy	muni23@gmail.com	8364942155	24,PK nagar,banglore-04

## Products

```
INSERT INTO Products (ProductID, Productname, Description, Price_INR)
VALUES
(111, 'HP Gaming Laptop', 'High-performance and Best Display laptop', 55999.00),
(112, 'Nothing Phone(2a)', 'Latest Model with Glyph Ligthing ', 45999.99),
(113, 'Boat 161 ANC Headphones', 'ANC with 4mics Wireless Headphones', 1499.99),
(114, 'Asus Monitor', '4K Curved Display', 85299.00),
(115, 'Acer Keyboard', 'gaming keyboard with RCB Light', 19499.99),
(116, 'Asus Mouse', 'Best Wireless Mouse for Gaming', 8999.99),
(117, 'HP Printer', 'All-in-one Printer', 15549.90),
(118, 'Apple Adopter', 'With 120w Fast Charging',9399.99),
(119, 'Apple Series 8Watch', 'With Two Finger tap Opreating', 35599.99),
(120, 'Apple 16 pro max', 'With New Action Button Feature', 169499.99);
```

## Products OUTPUT: -

ProductID	ProductName	Description	Price_INR
111	HP Gaming Laptop	High-performance and Best Display laptop	55999.00
112	Nothing Phone(2a)	Latest Model with Glyph Ligthing	45999.99
113	Boat 161 ANC Headphones	ANC with 4mics Wireless Headphones	1499.99
114	Asus Monitor	4K Curved Display	85299.00
115	Acer Keyboard	gaming keyboard with RCB Light	19499.99
116	Asus Mouse	Best Wireless Mouse for Gaming	8999.99
117	HP Printer	All-in-one Printer	15549.90
118	Apple Adopter	With 120w Fast Charging	9399.99
119	Apple Series 8Watch	With Two Finger tap Opreating	35599.99
120	Apple 16 pro max	With New Action Button Feature	169499.99

## Orders

```
INSERT INTO Orders (OrderID, CustomerID, Orderdate, TotalAmount)
VALUES
(201, 101, '2024-09-26', 55999.00),
(202, 102, '2024-09-24', 1499.99),
(203, 103, '2024-09-29', 45999.99),
(204, 104, '2024-09-27', 169499.99),
(205, 104, '2024-09-27', 9399.99),
(206, 106, '2024-09-28', 85299.00),
(207, 101, '2024-09-26', 15549.90),
(208, 108, '2024-09-25', 19499.99),
(209, 104, '2024-09-27', 35599.99),
(210, 106, '2024-09-28', 8999.99);
```

### Order OUTPUT: -

OrderID	CustomerID	Orderdate	TotalAmount
201	101	2024-09-26	55999.00
202	102	2024-09-24	1499.99
203	103	2024-09-29	45999.99
204	104	2024-09-27	169499.99
205	104	2024-09-27	9399.99
206	106	2024-09-28	85299.00
207	101	2024-09-26	15549.90
208	108	2024-09-25	19499.99
209	104	2024-09-27	35599.99
210	106	2024-09-28	8999.99

### OrderDetails

INSERT INTO Orderdetails (OrderdetailID, OrderID, ProductID, Quantity)  
VALUES

(211, 201, 111, 1),  
(212, 202, 113, 3),  
(213, 203, 112, 1),  
(214, 204, 120, 1),  
(215, 205, 118, 2),  
(216, 206, 114, 4),  
(217, 207, 117, 2),  
(218, 208, 115, 1),  
(219, 209, 119, 1),  
(220, 210, 116, 1);

### Order details OUTPUT: -

OrderdetailID	OrderID	ProductID	Quantity
211	201	111	1
212	202	113	3
213	203	112	1
214	204	120	1
215	205	118	2
216	206	114	4
217	207	117	2
218	208	115	1
219	209	119	1
220	210	116	1

## Inventory

```
INSERT INTO Inventory (InventoryID, ProductID, Quantityinstock, Laststockupdate)
VALUES
```

```
(301, 111, 15, '2024-09-16'),
(302, 112, 25, '2024-09-18'),
(303, 113, 90, '2024-09-20'),
(304, 114, 15, '2024-09-19'),
(305, 115, 80, '2024-09-22'),
(306, 116, 75, '2024-09-19'),
(307, 117, 10, '2024-09-16'),
(308, 118, 50, '2024-09-21'),
(309, 119, 20, '2024-09-21'),
(310, 120, 10, '2024-09-21');
```

**Inventory OUTPUT: -**

InventoryID	ProductID	Quantityinstock	Laststockupdate
301	111	15	2024-09-16
302	112	25	2024-09-18
303	113	90	2024-09-20
304	114	15	2024-09-19
305	115	80	2024-09-22
306	116	75	2024-09-19
307	117	10	2024-09-16
308	118	50	2024-09-21
309	119	20	2024-09-21
310	120	10	2024-09-21

## Tasks 2

1. Write an SQL query to retrieve the names and emails of all customers.

**Ans :** SELECT Firstname, Lastname, Email FROM customers;

Firstname	Lastname	Email
Eshwar	V	eshwar@gmail.com
Reddy	V	reddy123@gmail.com
Tom	Son	tom143@gmail.com
Jhon	Son	jhon456@gmail.com
King	Simth	king956@gmail.com
NTR	Anna	ntrfans@gmail.com
Pavan	Kumar	pavan@gmail.com
Pavi	Sharma	ravis123@gmail.com
Hunk	Kumar	kumar123@gmail.com
Muni	Reddy	muni23@gmail.com

2. Write an SQL query to list all orders with their order dates and corresponding customer names.

**Ans** SELECT o.OrderDate, c.Firstname, c.Lastname FROM orders o,Customers c  
WHERE o.CustomerID=c.CustomerID;

OrderDate	Firstname	Lastname
2024-09-26	Eshwar	V
2024-09-24	Reddy	V
2024-09-29	Tom	Son
2024-09-27	Jhon	Son
2024-09-27	Jhon	Son
2024-09-28	NTR	Anna
2024-09-26	Eshwar	V
2024-09-25	Pavi	Sharma
2024-09-27	Jhon	Son
2024-09-28	NTR	Anna



3. Write an SQL query to insert a new customer record into the "Customers" table. Include customer information such as name, email, and address.

**Ans:-** Not possible because CustomerID should have a value as it is primary key but in question CustomerID is not mentioned.

```
mysql> INSERT INTO Customers (Firstname,Lastname,Email,Address)VALUES ('Tim ', 'Cook', 'tim789@gmail.com', 'Bangalore');
ERROR 1364 (HY000): Field 'CustomerID' doesn't have a default value
mysql>
```

4. Write an SQL query to update the prices of all electronic gadgets in the "Products" table by increasing them by 10%.

**Ans:-** UPDATE Products SET Price\_INR = Price\_INR \* 1.10;

ProductID	ProductName	Description	Price_INR
111	HP Gaming Laptop	High-performance and Best Display laptop	61598.90
112	Nothing Phone(2a)	Latest Model with Glyph Lighting	50599.99
113	Boat 161 ANC Headphones	ANC with 4mics Wireless Headphones	1649.99
114	Asus Monitor	4K Curved Display	93828.90
115	Acer Keyboard	gaming keyboard with RCB Light	21449.99
116	Asus Mouse	Best Wireless Mouse for Gaming	9899.99
117	HP Printer	All-in-one Printer	17104.89
118	Apple Adopater	With 120w Fast Charging	10339.99
119	Apple Series 8Watch	With Two Finger tap Operating	39159.99
120	Apple 16 pro max	With New Action Button Feature	186449.99

5. Write an SQL query to delete a specific order and its associated order details from the "Orders" and "OrderDetails" tables. Allow users to input the order ID as a parameter.

**Ans:-** DELETE from Orderdetails WHERE OrderID=203; DELETE from Order WHERE OrderID=203;

OrderID	CustomerID	Orderdate	TotalAmount	OrderdetailID	OrderID	ProductID	Quantity
201	101	2024-09-26	55999.00	211	201	111	1
202	102	2024-09-24	1499.99	212	202	113	3
204	104	2024-09-27	169499.99	214	204	120	1
205	104	2024-09-27	9399.99	215	205	118	2
206	106	2024-09-28	85299.00	216	206	114	4
207	101	2024-09-26	15549.90	217	207	117	2
208	108	2024-09-25	19499.99	218	208	115	1
209	104	2024-09-27	35599.99	219	209	119	1
210	106	2024-09-28	8999.99	220	210	116	1

9 rows in set (0.00 sec)                      9 rows in set (0.00 sec)

6. Write an SQL query to insert a new order into the "Orders" table. Include the customer ID, order date, and any other necessary information.

**Ans:-** INSERT INTO Orders (OrderID, CustomerID, Orderdate, TotalAmount)  
VALUES (211, 105, '2024-09-30', 45999.99);

OrderID	CustomerID	Orderdate	TotalAmount
201	101	2024-09-26	55999.00
202	102	2024-09-24	1499.99
204	104	2024-09-27	169499.99
205	104	2024-09-27	9399.99
206	106	2024-09-28	85299.00
207	101	2024-09-26	15549.90
208	108	2024-09-25	19499.99
209	104	2024-09-27	35599.99
210	106	2024-09-28	8999.99
211	105	2024-09-30	45999.99

10 rows in set (0.00 sec)

7. Write an SQL query to update the contact information (e.g., email and address) of a specific customer in the "Customers" table. Allow users to input the customer ID and new contact information.

**Ans:-** UPDATE Customers SET email = 'hunkkumar@hotmail.com', address =  
'99 ,RR nagar,banglore-57' WHERE customerid=109;

CustomerID	Firstname	Lastname	Email	Ph_no	Address
101	Eshwar	V	eshwar@gmail.com	9782154201	32,JP nagar,banglore-49
102	Reddy	V	reddy123@gmail.com	9587412368	45,JJ nagar,banglore
103	Tom	Son	tom143@gmail.com	9586741230	36,LB nagar,banglore-49
104	Jhon	Son	jhon456@gmail.com	9513687421	97,NR layout,hyd-07
105	King	Simth	king956@gmail.com	6365987412	54,JP nagar,banglore-49
106	NTR	Anna	ntrfans@gmail.com	7898745621	9,NR layout,hyd-07
107	Pavan	Kumar	pavan@gmail.com	7775648921	13,RR nagar,hyd-04
108	Pavi	Sharma	ravis123@gmail.com	9694562100	49,MR layout,banglore-48
109	Hunk	Kumar	hunkkumar@hotmail.com	6457871188	99 ,RR nagar,banglore-57
110	Muni	Reddy	muni23@gmail.com	8364942155	24,PK nagar,banglore-04

8. Write an SQL query to recalculate and update the total cost of each order in the "Orders" table based on the prices and quantities in the "OrderDetails" table.

**Ans** SELECT od.Orderid, SUM(od.Quantity \* p.price\_INR) AS TotalAmount  
FROM Orderdetails od, Products p WHERE od.ProductID = p.ProductID  
GROUP BY od.OrderID;

Orderid	TotalAmount
201	61598.90
202	4949.97
204	186449.99
205	20679.98
206	375315.60
207	34209.78
208	21449.99
209	39159.99
210	9899.99

9. Write an SQL query to delete all orders and their associated order details for a specific customer from the "Orders" and "OrderDetails" tables. Allow users to input the customer ID as a parameter.

**Ans:-** DELETE FROM Orderdetails WHERE OrderID IN( SELECT OrderID FROM  
Orders WHERE CustomerID = 103);  
DELETE FROM Orders WHERE CustomerID = 103;

OrderID	CustomerID	Orderdate	TotalAmount
201	101	2024-09-26	55999.00
202	102	2024-09-24	1499.99
204	104	2024-09-27	169499.99
205	104	2024-09-27	9399.99
206	106	2024-09-28	85299.00
207	101	2024-09-26	15549.90
208	108	2024-09-25	19499.99
209	104	2024-09-27	35599.99
210	106	2024-09-28	8999.99
211	105	2024-09-30	45999.99

OrderdetailID	OrderID	ProductID	Quantity
211	201	111	1
212	202	113	3
214	204	120	1
215	205	118	2
216	206	114	4
217	207	117	2
218	208	115	1
219	209	119	1
220	210	116	1

10. Write an SQL query to insert a new electronic gadget product into the "Products" table, including product name, category, price, and any other relevant details.

**Ans:-** INSERT INTO Products (ProductID, Productname, Description, Price\_INR)  
VALUES (121, 'Samsung Galaxy s23', 'Latest model with AI features', 69999.00);

ProductID	ProductName	Description	Price_INR
111	HP Gaming Laptop	High-performance and Best Display laptop	61598.90
112	Nothing Phone(2a)	Latest Model with Glyph Ligthing	50599.99
113	Boat 161 ANC Headphones	ANC with 4mics Wireless Headphones	1649.99
114	Asus Monitor	4K Curved Display	93828.90
115	Acer Keyboard	gaming keyboard with RCB Light	21449.99
116	Asus Mouse	Best Wireless Mouse for Gaming	9899.99
117	HP Printer	All-in-one Printer	17104.89
118	Apple Adopter	With 120w Fast Charging	10339.99
119	Apple Series 8Watch	With Two Finger tap Opreating	39159.99
120	Apple 16 pro max	With New Action Button Feature	186449.99
121	Samsung Galaxy s23	Latest Model With AI Features	68999.00

11. Write an SQL query to update the status of a specific order in the "Orders" table (e.g., from "Pending" to "Shipped"). Allow users to input the order ID and the new status.

**Ans:-** ALTER TABLE Orders ADD status VARCHAR(20);

UPDATE Orders SET Status = CASE

WHEN customerID=104 THEN 'Shipped'

ELSE 'Not Shipped'

END;

OrderID	CustomerID	Orderdate	TotalAmount	status
201	101	2024-09-26	55999.00	Not Shipped
202	102	2024-09-24	1499.99	Not Shipped
204	104	2024-09-27	169499.99	Shipped
205	104	2024-09-27	9399.99	Shipped
206	106	2024-09-28	85299.00	Not Shipped
207	101	2024-09-26	15549.90	Not Shipped
208	108	2024-09-25	19499.99	Not Shipped
209	104	2024-09-27	35599.99	Shipped
210	106	2024-09-28	8999.99	Not Shipped
211	105	2024-09-30	45999.99	Not Shipped

12. Write an SQL query to calculate and update the number of orders placed by each customer in the "Customers" table based on the data in the "Orders" table.

**Ans:-** ALTER TABLE Customers ADD Ordercount INT DEFAULT 0;

UPDATE Customers c SET Ordercount=(SELECT COUNT(DISTINCT od.OrderID)

FROM Orderdetails od

JOIN Order o ON od.OrderID=o.OrderID WHERE o.CustomerID=c.CustomerID);

CustomerID	Firstname	Lastname	Email	Ph_no	Address	Ordercount
101	Eshwar	V	eshwar@gmail.com	9782154201	32,JP nagar,banglore-49	2
102	Reddy	V	reddy123@gmail.com	9587412368	45,JJ nagar,banglore	1
103	Tom	Son	tom143@gmail.com	9586741230	36,LB nagar,banglore-49	0
104	Jhon	Son	jhon456@gmail.com	9513687421	97,NR layout,hyd-07	3
105	King	Simth	king956@gmail.com	6365987412	54,JP nagar,banglore-49	0
106	NTR	Anna	ntrfans@gmail.com	7898745621	9,NR layout,hyd-07	2
107	Pavan	Kumar	pavan@gmail.com	7775648921	13,RR nagar,hyd-04	0
108	Pavi	Sharma	ravis123@gmail.com	9694562100	49,MR layout,banglore-48	1
109	Hunk	Kumar	hunkkumar@hotmail.com	6457871188	99 ,RR nagar,banglore-57	0
110	Muni	Reddy	muni23@gmail.com	8364942155	24,PK nagar,banglore-04	0

## Tasks 3

1. Write an SQL query to retrieve a list of all orders along with customer information (e.g., customer name) for each order.

**Ans:-** SELECT o.OrderID ,o.CustomerID,o.OrderDate , o.TotalAmount ,c.Firstname ,c.Lastname FROM Orders o INNER JOIN Customers c WHERE o.customerID=c.customerID;

OrderID	CustomerID	OrderDate	TotalAmount	Firstname	Lastname
201	101	2024-09-26	55999.00	Eshwar	V
202	102	2024-09-24	1499.99	Reddy	V
204	104	2024-09-27	169499.99	Jhon	Son
205	104	2024-09-27	9399.99	Jhon	Son
206	106	2024-09-28	85299.00	NTR	Anna
207	101	2024-09-26	15549.90	Eshwar	V
208	108	2024-09-25	19499.99	Pavi	Sharma
209	104	2024-09-27	35599.99	Jhon	Son
210	106	2024-09-28	8999.99	NTR	Anna
211	105	2024-09-30	45999.99	King	Simth

2. Write an SQL query to find the total revenue generated by each electronic gadget product. Include the product name and the total revenue.

**Ans:-** SELECT p.Productname,SUM(od.Quantity\*p.Price\_INR) AS TotalRevenue FROM Products p JOIN Orderdetails od WHERE p.ProductID = od.ProductID GROUP BY Productname;

Productname	TotalRevenue
HP Gaming Laptop	61598.90
Boat 161 ANC Headphones	4949.97
Apple 16 pro max	186449.99
Apple Adopter	20679.98
Asus Monitor	375315.60
HP Printer	34209.78
Acer Keyboard	21449.99
Apple Series 8Watch	39159.99
Asus Mouse	9899.99

3. Write an SQL query to list all customers who have made at least one purchase. Include their names and contact information.

**Ans:** SELECT DISTINCT c.Firstname,c.Lastname,c.Ph\_no from Customers c  
JOIN Orders o WHERE c.CustomerID = o.CustomerID;

Firstname	Lastname	Ph_no
Eshwar	V	9782154201
Reddy	V	9587412368
Jhon	Son	9513687421
King	Simth	6365987412
NTR	Anna	7898745621
Pavi	Sharma	9694562100

4. Write an SQL query to find the most popular electronic gadget, which is the one with the highest total quantity ordered. Include the product name and the total quantity ordered.

**Ans:-** SELECT p.Productname, od.Quantity from Products p  
INNER JOIN Orderdetails od WHERE p.productID=od.productID  
ORDER BY od.Quantity desc limit 1;

Productname	Quantity
Asus Monitor	4

5. Write an SQL query to retrieve a list of electronic gadgets along with their corresponding categories.

**Ans :-** SELECT Productname, Description from products;

Productname	Description
HP Gaming Laptop	High-performance and Best Display laptop
Nothing Phone(2a)	Latest Model with Glyph Ligthing
Boat 161 ANC Headphones	ANC with 4mics Wireless Headphones
Asus Monitor	4K Curved Display
Acer Keyboard	gaming keyboard with RCB Light
Asus Mouse	Best Wireless Mouse for Gaming
HP Printer	All-in-one Printer
Apple Adopter	With 120w Fast Charging
Apple Series 8Watch	With Two Finger tap Opreating
Apple 16 pro max	With New Action Button Feature
Samsung Galaxy s23	Latest Model With AI Features

6. Write an SQL query to calculate the average order value for each customer. Include the customer's name and their average order value.

**Ans:-** SELECT c.Firstname, c.Lastname, AVG (o.TotalAmount) AS Avg\_order\_value  
FROM Orders o INNER JOIN Customers c WHERE o.CustomerID = c.CustomerID  
GROUP BY c.Firstname, c.Lastname ORDER BY Avg\_order\_value desc;

Firstname	Lastname	Avg_order_value
Jhon	Son	71499.990000
NTR	Anna	47149.495000
King	Simth	45999.990000
Eshwar	V	35774.450000
Pavi	Sharma	19499.990000
Reddy	V	1499.990000

7. Write an SQL query to find the order with the highest total revenue. Include the order ID, customer information, and the total revenue.

**Ans** SELECT o.OrderID,c.Firstname, c.Lastname, c.Ph\_no, o.TotalAmount AS  
TotalRevenue FROM Orders o  
JOIN Customers c WHERE o.CustomerID = c.CustomerID  
ORDER BY o.TotalAmount DESC LIMIT 1;

OrderID	Firstname	Lastname	Ph_no	TotalRevenue
204	Jhon	Son	9513687421	169499.99

8. Write an SQL query to list electronic gadgets and the number of times each product has been ordered.

**Ans:-** SELECT p.Productname ,od.Quantity AS No\_of\_times\_ordered from Products p  
INNER JOIN Orderdetails od WHERE p.ProductID=od.ProductID ;

Productname	No_of_times_ordered
HP Gaming Laptop	1
Boat 161 ANC Headphones	3
Apple 16 pro max	1
Apple Adopter	2
Asus Monitor	4
HP Printer	2
Acer Keyboard	1
Apple Series 8Watch	1
Asus Mouse	1



9. Write an SQL query to find customers who have purchased a specific electronic gadget product. Allow users to input the product name as a parameter.

**Ans:-** SELECT c.Firstname, c.Lastname FROM orders o

JOIN Customers c ON o.CustomerID = c.CustomerID

JOIN Orderdetails od ON o.OrderID = od.OrderID

JOIN Products p ON od.ProductID = p.ProductID

WHERE p.Productname = 'HP Printer';

FirstName	LastName
Eshwar	V

10. Write an SQL query to calculate the total revenue generated by all orders placed within a specific time period. Allow users to input the start and end dates as parameters.

**Ans :-** SELECT SUM(o.TotalAmount) Totalrevenu FROM Orders o

WHERE o.Orderdate BETWEEN '2024-09-26' AND '2024-09-30';

Totalrevenu
426347.85

## Tasks 4

1. Write an SQL query to find out which customers have not placed any orders.

**Ans:-** SELECT c.CustomerID,c.Firstname,c.Lastname FROM Customers c  
WHERE c.CustomerID NOT IN (SELECT o.CustomerID FROM Orders o);

CustomerID	Firstname	Lastname
103	Tom	Son
107	Pavan	Kumar
109	Hunk	Kumar
110	Muni	Reddy

2. Write an SQL query to find the total number of products available for sale.

**Ans:-** SELECT SUM(Quantityinstock) TotalProductsAvailable FROM Inventory;

TotalProductsAvailable
390

3. Write an SQL query to calculate the total revenue generated by TechShop.

**Ans:-** SELECT SUM(totalamount) TotalRevenue FROM Orders;

TotalRevenue
447347.83

4. Write an SQL query to calculate the average quantity ordered for products in a specific category. Allow users to input the category name as a parameter.

**Ans** SELECT p.Productname, AVG(od.Quantity) Avg\_Quantity\_Order FROM  
Orderdetails od INNER JOIN Products p ON od.ProductID = p.ProductID  
GROUP BY p.Productname;

Productname	Avg_Quantity_Order
HP Gaming Laptop	1.0000
Boat 161 ANC Headphones	3.0000
Apple 16 pro max	1.0000
Apple Adopter	2.0000
Asus Monitor	4.0000
HP Printer	2.0000
Acer Keyboard	1.0000
Apple Series 8Watch	1.0000
Asus Mouse	1.0000

5. Write an SQL query to calculate the total revenue generated by a specific customer. Allow users to input the customer ID as a parameter.

**Ans** SELECT CustomerID,SUM(TotalAmount) AS Totalrevenue FROM Orders  
WHERE OrderID IN (SELECT OrderID FROM Orders WHERE CustomerID = 104)  
GROUP BY CustomerID;

CustomerID	Totalrevenue
104	214499.97

6. Write an SQL query to find the customers who have placed the most orders. List their names and the number of orders they've placed.

**Ans:-** SELECT c.Firstname, c.Lastname, COUNT(o.OrderID) AS Num\_of\_orders  
FROM Customers c INNER JOIN Orders o WHERE c.CustomerID = o.CustomerID  
GROUP BY c.CustomerID, c.Firstname, c.Lastname  
ORDER BY Num\_of\_orders desc;

FirstName	LastName	Num_of_orders
jhon	son	3
eshwar	V	2
ntr	fan	2
reddy	V	1
king	baby	1
ravi	sharma	1

7. Write an SQL query to find the most popular product category, which is the one with the highest total quantity ordered across all orders.

**Ans:-** SELECT p.Productname AS ProductCategory,SUM(od.Quantity)  
AS Total\_Quantity\_ordered FROM OrderDetails od  
JOIN Products p WHERE od.ProductID = p.ProductID  
GROUP BY p.Productname  
ORDER BY Total\_Quantity\_ordered desc LIMIT 1;

ProductCategory	Total_Quantity_ordered
Asus Monitor	4

8. Write an SQL query to find the customer who has spent the most money (highest total revenue) on electronic gadgets. List their name and total spending.

**Ans** SELECT c.Firstname,c.Lastname, (od.Quantity \* p.Price\_INR) AS  
Total\_Amt\_Spent FROM Orderdetails od JOIN Products p ON od.ProductID =  
p.ProductID JOIN Orders o ON od.OrderID = o.OrderID  
JOIN Customers c ON o.CustomerID = c.CustomerID  
ORDER BY Total\_Amt\_Spent desc LIMIT 1;

FirstName	LastName	TotalSpent
NTR	Anna	375315.60

9. Write an SQL query to calculate the average order value (total revenue divided by the number of orders) for all customers.

**Ans** SELECT c.CustomerID, SUM(o.TotalAmount) / COUNT(o.OrderID) AS  
Avg\_order\_value FROM Customers c  
LEFT JOIN Orders o ON c.CustomerID =o.CustomerID  
GROUP BY c.CustomerID ORDER BY Avg\_order\_value desc;

CustomerID	Avg_order_value
104	71499.990000
106	47149.495000
105	45999.990000
101	35774.450000
108	19499.990000
102	1499.990000
103	NULL
107	NULL
109	NULL
110	NULL

10. Write an SQL query to find the total number of orders placed by each customer and list their names along with the order count.

Ans:- SELECT c.Firstname, c.Lastname, (SELECT COUNT(o.OrderID)

FROM Orders o WHERE o.CustomerID = c.CustomerID)

AS Order\_count FROM Customers c ORDER BY Order\_count desc;

Firstname	Lastname	Order_count
Jhon	Son	3
Eshwar	V	2
NTR	Anna	2
Reddy	V	1
King	Simth	1
Pavi	Sharma	1
Tom	Son	0
Pavan	Kumar	0
Hunk	Kumar	0
Muni	Reddy	0