

ASSIGNMENT-1

TECHSHOP

K.MUBEENA

```
create database Assignment1TechShop1;
use Assignment1TechShop1;

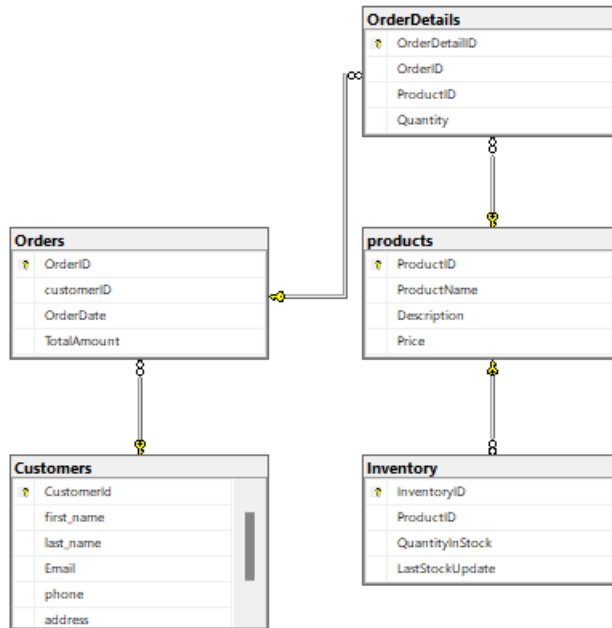
create table Customers(CustomerId int primary key,
                        first_name varchar(40),
                        last_name varchar(40),
                        Email varchar(30),
                        phone Bigint,
                        address varchar(20));

CREATE TABLE products (
    ProductID INT PRIMARY KEY,
    ProductName VARCHAR(255) NOT NULL,
    Description TEXT,
    Price DECIMAL(10, 2) NOT NULL
);

CREATE TABLE Orders (
    OrderID INT PRIMARY KEY,
    customerID INT,
    OrderDate DATE NOT NULL,
    TotalAmount DECIMAL(10, 2) NOT NULL,
    FOREIGN KEY (customerID) REFERENCES Customers(CustomerID)
);

CREATE TABLE OrderDetails (
    OrderDetailID INT PRIMARY KEY,
    OrderID INT,
    ProductID INT,
    Quantity INT NOT NULL,
    FOREIGN KEY (OrderID) REFERENCES Orders(OrderID),
    FOREIGN KEY (ProductID) REFERENCES Products(ProductID)
);

CREATE TABLE Inventory (
    InventoryID INT PRIMARY KEY,
    ProductID INT,
    QuantityInStock INT,
    LastStockUpdate DATE NOT NULL,
    FOREIGN KEY (ProductID) REFERENCES Products(ProductID)
);
```



ALTER table Customers Alter column phone BIGINT;

```

INSERT INTO Customers VALUES(1, 'Mubeena', 'Katika',
'mubeenakatika07@gmail.com', 7815863498, 'UK'),
(2, 'Mallika', 's', 'pradeepthi@gmail.com', 8915863496, 'AP India'),
(3, 'sneha', 'sree', 'snehasree@gmail.com', 9915863416, 'TN India'),
(4, 'mellow', 'cupid', 'mellowcupid@gmail.com', 9315863496, 'AP India'),
(5, 'sahil', 'shaik', 'sahilshaik@gmail.com', 9963038968, 'UK'),
(6, 'Srija', 'Rushmitha', 'rsreeja@gmail.com', 9432108980, 'MP India'),
(7, 'reddy', 'Divya', 'divyareddy89@gmail.com', 8400231178, 'USA'),
(8, 'Javed', 'Shaik', 'javedsahik097@gmail.com', 9701863202, 'Delhi India'),
(9, 'Thanuja', 'sree', 'thanujasree@gmail.com', 7304438828, 'UP India'),
(10, 'renee', 'sharon', 'reneesharon@gmail.com', 7813902314, 'MP India');
  
```

```

INSERT INTO Products VALUES
(1, 'Laptop', '15-inch screen, 8GB RAM, 256GB SSD', 8999.99),
(3, 'Smartphone', '6.5-inch display, 128GB storage, 5G', 799.99),
(2, 'Headphones', 'Wireless noise-canceling over-ear headphones', 199.99),
(4, 'Smartwatch', 'Fitness tracking and notifications, 40mm case', 249.99),
(5, 'Tablet', '10-inch display, 64GB storage', 329.99),
(6, 'TV', '32-inch led display', 1200.32),
(7, 'iphone', '7-inch ', 249.99),
(8, 'Headphones', 'Wireless noise-canceling over-ear headphones', 199.99),
(9, 'TV', '43-inch led display', 1200.32),
(10, 'Laptop', '15-inch screen, 16GB RAM, 256GB SSD', 40999.99);
  
```

```

INSERT INTO Orders VALUES
(1, 1, '2024-11-01', 1099.99),
(2, 2, '2024-08-02', 799.99),
(3, 3, '2024-09-06', 449.98),
(4, 4, '2024-12-04', 529.99),
(5, 5, '2024-08-27', 899.99),
  
```

```
(6, 6, '2024-05-08', 459.99),
(7, 7, '2024-06-07', 9099.99),
(8, 8, '2024-03-06', 899.99),
(9, 9, '2024-08-08', 3299.99),
(10, 10, '2024-01-21', 2009.99);
```

```
INSERT INTO OrderDetails VALUES
```

```
(1, 1, 1, 3),
(2, 2, 2, 2),
(3, 3, 3, 4),
(4, 4, 5, 6),
(5, 5, 1, 5),
(6, 6, 6, 6),
(7, 7, 7, 8),
(8, 8, 8, 9),
(9, 9, 9, 4),
(10, 10, 10, 3);
```

```
INSERT INTO Inventory VALUES
```

```
(1, 1, 50, '2024-07-17'),
(2, 2, 500, '2024-08-04'),
(3, 3, 200, '2024-09-03'),
(4, 4, 60, '2024-05-04'),
(5, 5, 120, '2024-09-05'),
(6, 6, 80, '2024-09-06'),
(7, 7, 90, '2024--4-07'),
(8, 8, 60, '2024-08-08'),
(9, 9, 78, '2024-09-09'),
(10, 10, 56, '2024-11-14');
```

--Task 2: Queries

--1

```
select first_name, last_name, email
from Customers;
```

OUTPUT

	first_name	last_name	email
1	Mubeena	Katika	mubeenakatika07@gmail.com
2	Mallika	s	pradeepthi@gmail.com
3	sneha	sree	snehasree@gmail.com
4	mellow	cupid	mellowcupid@gmail.com
5	sahil	shaik	sahilshaik@gmail.com
6	Srija	Rushmitha	rsreeja@gmail.com
7	reddy	Divya	divyareddy89@gmail.com
8	Javed	Shaik	javedsahik097@gmail.com
9	Thanuja	sree	thanujasree@gmail.com
10	renee	sharon	reneesharon@gmail.com

--2

```
SELECT O.OrderID, O.OrderDate, C.first_name, C.last_name
FROM Orders O
JOIN Customers C ON O.CustomerID = C.CustomerID;
```

OUTPUT

	OrderID	OrderDate	first_name	last_name
1	1	2024-11-01	Mubeena	Katika
2	2	2024-08-02	Mallika	s
3	3	2024-09-06	sneha	sree
4	4	2024-12-04	mellow	cupid
5	5	2024-08-27	sahil	shaik
6	6	2024-05-08	Srija	Rushmitha
7	7	2024-06-07	reddy	Divya
8	8	2024-03-06	Javed	Shaik
9	9	2024-08-08	Thanuja	sree
10	10	2024-01-21	renee	sharon

--3

```
Insert into Customers(CustomerId, first_name, last_name, Email, phone, address)
values(11, 'shifa', 'shaik', 'shifashaik@gmail.com',
8904876887, 'AP India');
select * from Customers
```

OUTPUT

	CustomerId	first_name	last_name	Email	phone	address
1	1	Mubeena	Katika	mubeenakatika07@gmail.com	7815863498	UK
2	2	Mallika	s	pradeepthi@gmail.com	8915863496	AP India
3	3	sneha	sree	snehasree@gmail.com	9915863416	TN India
4	4	mellow	cupid	mellowcupid@gmail.com	9315863496	AP India
5	5	sahil	shaik	sahilshaik@gmail.com	9963038968	UK
6	6	Srija	Rushmitha	rsreeja@gmail.com	9432108980	MP India
7	7	reddy	Divya	divyareddy89@gmail.com	8400231178	USA
8	8	Javed	Shaik	javedsahik097@gmail.com	9701863202	Delhi India
9	9	Thanuja	sree	thanujasree@gmail.com	7304438828	UP India
10	10	renee	sharon	reneesharon@gmail.com	7813902314	MP India
11	11	shifa	shaik	shifashaik@gmail.com	8904876887	AP India

--4

```
UPDATE Products
SET Price = Price * 1.10
select * from Products
```

--5

```
DELETE FROM OrderDetails
WHERE OrderID = 3
select * from OrderDetails
DELETE FROM Orders
WHERE OrderID = 3
select * from Orders
select description,ProductName from products
```

OUTPUT

	ProductID	ProductName	Description	Price
1	1	Laptop	15-inch screen, 8GB RAM, 256GB SSD	8999.99
2	2	Headphones	Wireless noise-canceling over-ear headphones	199.99
3	3	Smartphone	6.5-inch display, 128GB storage, 5G	799.99
4	4	Smartwatch	Fitness tracking and notifications, 40mm case	249.99
5	5	Tablet	10-inch display, 64GB storage	329.99
6	6	TV	32-inch led display	1200.32
7	7	iphone	7-inch	249.99
8	8	Headphones	Wireless noise-canceling over-ear headphones	199.99
9	9	TV	43-inch led display	1200.32
10	10	Laptop	15-inch screen, 16GB RAM, 256GB SSD	40999.99

--6

```
INSERT INTO Orders(OrderID,customerID, OrderDate, TotalAmount)
VALUES(12, 14, '2024-12-31', 1999.90);
```

--7

```
UPDATE Customers
SET Email='sana74@gmail.com'
WHERE CustomerId = 4;
```

```
select * from Customers
```

OUTPUT

	CustomerId	first_name	last_name	Email	phone	address
1	1	Mubeena	Katika	mubeenakatika07@gmail.com	7815863498	UK
2	2	Mallika	s	pradeepthi@gmail.com	8915863496	AP India
3	3	sneha	sree	snehasree@gmail.com	9915863416	TN India
4	4	mellow	cupid	sana74@gmail.com	9315863496	AP India
5	5	sahil	shaik	sahilshaik@gmail.com	9963038968	UK
6	6	Srija	Rushmitha	rsreeja@gmail.com	9432108980	MP India
7	7	reddy	Divya	divyareddy89@gmail.com	8400231178	USA
8	8	Javed	Shaik	javedsahik097@gmail.com	9701863202	Delhi India
9	9	Thanuja	sree	thanujasree@gmail.com	7304438828	UP India
10	10	renee	sharon	reneesharon@gmail.com	7813902314	MP India
11	11	shifa	shaik	shifashaik@gmail.com	8904876887	AP India

--8

```
UPDATE Orders
SET Orders.TotalAmount = (
    SELECT SUM(od.Quantity * p.Price)
    FROM OrderDetails od
    JOIN Products p ON od.ProductID = p.ProductID
    WHERE od.OrderID = Orders.OrderID
);
select * from Orders
```

OUTPUT

	OrderID	customerID	OrderDate	TotalAmount
1	1	1	2024-11-01	26999.97
2	2	2	2024-08-02	399.98
3	4	4	2024-12-04	1979.94
4	5	5	2024-08-27	44999.95
5	6	6	2024-05-08	7201.92
6	7	7	2024-06-07	1999.92
7	8	8	2024-03-06	1799.91
8	9	9	2024-08-08	4801.28
9	10	10	2024-01-21	122999.97

--9

```
DELETE FROM OrderDetails
WHERE OrderID IN (
    SELECT OrderID FROM Orders WHERE CustomerID = 7
);
```

```
DELETE FROM Orders
WHERE CustomerID = 7;
select * from OrderDetails
select * from Orders
```

OUTPUT

	OrderDetailID	OrderID	ProductID	Quantity
1	1	1	1	3
2	2	2	2	2
3	4	4	5	6
4	5	5	1	5
5	6	6	6	6
6	8	8	8	9
7	9	9	9	4
8	10	10	10	3

	OrderID	customerID	OrderDate	TotalAmount
1	1	1	2024-11-01	26999.97
2	2	2	2024-08-02	399.98
3	4	4	2024-12-04	1979.94
4	5	5	2024-08-27	44999.95
5	6	6	2024-05-08	7201.92
6	8	8	2024-03-06	1799.91
7	9	9	2024-08-08	4801.28
8	10	10	2024-01-21	122999.97

--10

```
INSERT INTO Products(ProductID, ProductName, Description, Price)
VALUES
(11, 'iphone16', '8-inch screen, 12GB RAM, 256GB SSD', 43000.99);
```

```
SELECT * FROM PRODUCTS
```

--11.

```
ALTER table Orders
ADD Status varchar(20) DEFAULT 'Pending';
```

```
UPDATE Orders
SET Status = 'Shipped'
where OrderID = 4;
SELECT * FROM ORDERS
ALTER TABLE Customers
ADD NumberOfOrders INT DEFAULT 0;

UPDATE Customers
SET Customers.NumberOfOrders = (
    SELECT COUNT(o.OrderID)
    FROM Orders o
    WHERE o.CustomerID = Customers.CustomerID
);
```

--Task-3

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

```
SELECT Orders.OrderID, Customers.first_name, Customers.last_name,
Orders.OrderDate, Orders.TotalAmount
FROM Orders
JOIN Customers ON Orders.CustomerID = Customers.CustomerID;
```

OUTPUT

	OrderID	first_name	last_name	OrderDate	TotalAmount
1	1	Mubeena	Katika	2024-11-01	26999.97
2	2	Mallika	s	2024-08-02	399.98
3	4	mellow	cupid	2024-12-04	1979.94
4	5	sahil	shaik	2024-08-27	44999.95
5	6	Srija	Rushmitha	2024-05-08	7201.92
6	8	Javed	Shaik	2024-03-06	1799.91
7	9	Thanuja	sree	2024-08-08	4801.28
8	10	renee	sharon	2024-01-21	122999.97

--2. Find the total revenue generated by each electronic gadget product. Include the product name and the total revenue.

```
SELECT Products.ProductName, SUM(OrderDetails.Quantity * Products.Price) AS
TotalRevenue
FROM OrderDetails
JOIN Products ON OrderDetails.ProductID = Products.ProductID
GROUP BY Products.ProductName;
```

OUTPUT

	ProductName	TotalRevenue
1	Headphones	2419.89
2	Laptop	214499.89
3	Tablet	2177.94
4	TV	13203.50

--3. List all customers who have made at least one purchase. Include their names and contact information.

```
SELECT DISTINCT Customers.first_name, Customers.last_name, Customers.Email,
Customers.Phone
FROM Customers
JOIN Orders ON Customers.CustomerID = Orders.CustomerID;
```

OUTPUT

	first_name	last_name	Email	Phone
1	Javed	Shaik	javedsahik097@gmail.com	9701863202
2	Mallika	s	pradeepthi@gmail.com	8915863496
3	mellow	cupid	sana74@gmail.com	9315863496
4	Mubeena	Katika	mubeenakatika07@gmail.com	7815863498
5	renee	sharon	reneesharon@gmail.com	7813902314
6	sahil	shaik	sahilshaik@gmail.com	9963038968
7	Srija	Rushmitha	rsreeja@gmail.com	9432108980
8	Thanuja	sree	thanujasree@gmail.com	7304438828

--4. Find the most popular electronic gadget (the one with the highest total quantity ordered). Include the product name and total quantity ordered.

```
SELECT Products.ProductName, SUM(OrderDetails.Quantity) AS TotalQuantityOrdered
FROM OrderDetails
JOIN Products ON OrderDetails.ProductID = Products.ProductID
GROUP BY Products.ProductName
ORDER BY TotalQuantityOrdered DESC;
```

OUTPUT

	ProductName	TotalQuantityOrdered
1	Headphones	11
2	Laptop	11
3	TV	10
4	Tablet	6

--5. Retrieve a list of electronic gadgets along with their corresponding categories.

```
select description,ProductName from products
```

```
SELECT ProductName,
CASE
    WHEN ProductName LIKE '%Laptop%' THEN 'Laptop'
    WHEN ProductName LIKE '%Smartphone%' THEN 'Smartphone'
    WHEN ProductName LIKE '%Headphones%' THEN 'Accessories'
    WHEN ProductName LIKE '%Smartwatch%' THEN 'Wearable'
    WHEN ProductName LIKE '%Tablet%' THEN 'Tablet'
    WHEN ProductName LIKE '%TV%' THEN 'Television'
    ELSE 'Other'
END AS Category
FROM Products;
```

OUTPUT

	description	ProductName
3	6.5-inch display, 128GB storage, 5G	Smartphone
4	Fitness tracking and notifications, 40mm case	Smartwatch
5	10-inch display, 64GB storage	Tablet
6	32-inch led display	TV
7	7-inch	iphone
8	Wireless noise-canceling over-ear headphones	Headphones
9	43-inch led display	TV
10	15-inch screen, 16GB RAM, 256GB SSD	Laptop
11	8-inch screen, 12GB RAM, 256GB SSD	iphone16

	ProductName	Category
1	Laptop	Laptop
2	Headphones	Accessories
3	Smartphone	Smartphone
4	Smartwatch	Wearable
5	Tablet	Tablet
6	TV	Television
7	iphone	Other
8	Headphones	Accessories
9	TV	Television
10	Laptop	Laptop
11	iphone16	Other

--6. Calculate the average order value for each customer. Include the customer's name and their average order value.

```
SELECT Customers.CustomerID, Customers.first_name, Customers.last_name,
AVG(Orders.TotalAmount) AS AverageOrderValue
FROM Customers
JOIN Orders ON Customers.CustomerID = Orders.customerID
GROUP BY Customers.CustomerID, Customers.first_name, Customers.last_name;
OUTPUT
```

	CustomerID	first_name	last_name	AverageOrderValue
1	1	Mubeena	Katika	26999.970000
2	2	Mallika	s	399.980000
3	4	mellow	cupid	1979.940000
4	5	sahil	shaik	44999.950000
5	6	Srija	Rushmitha	7201.920000
6	8	Javed	Shaik	1799.910000
7	9	Thanuja	sree	4801.280000
8	10	renee	sharon	122999.970000

--7. Find the order with the highest total revenue.

```
SELECT Orders.OrderID, Customers.first_name, Customers.last_name,
Customers.Email, Orders.TotalAmount
FROM Orders
JOIN Customers ON Orders.customerID = Customers.CustomerID
ORDER BY Orders.TotalAmount DESC;
OUTPUT
```

	OrderID	first_name	last_name	Email	TotalAmount
1	10	renee	sharon	reneesharon@gmail.com	122999.97
2	5	sahil	shaik	sahilshaik@gmail.com	44999.95
3	1	Mubeena	Katika	mubeenakatika07@gmail.com	26999.97
4	6	Srija	Rushmitha	rsreeja@gmail.com	7201.92
5	9	Thanuja	sree	thanujasree@gmail.com	4801.28
6	4	mellow	cupid	sana74@gmail.com	1979.94
7	8	Javed	Shaik	javedsahik097@gmail.com	1799.91
8	2	Mallika	s	pradeepthi@gmail.com	399.98

--8. List electronic gadgets and the number of times each product has been ordered.

```
SELECT Products.ProductName, COUNT(OrderDetails.OrderDetailID) AS
NumberOfOrders
FROM Products
JOIN OrderDetails ON Products.ProductID = OrderDetails.ProductID
GROUP BY Products.ProductName;
```


OUTPUT

	ProductName	NumberOfOrders
1	Headphones	2
2	Laptop	3
3	Tablet	1
4	TV	2

--9. Find customers who have purchased a specific electronic gadget product.

```
SELECT Customers.CustomerID, Customers.first_name, Customers.last_name,
Customers.Email, Customers.phone
FROM Customers
JOIN Orders ON Customers.CustomerID = Orders.customerID
JOIN OrderDetails ON Orders.OrderID = OrderDetails.OrderID
JOIN Products ON OrderDetails.ProductID = Products.ProductID
WHERE Products.ProductName = 'laptop';
```

OUTPUT

	CustomerID	first_name	last_name	Email	phone
1	1	Mubeena	Katika	mubeenakatika07@gmail.com	7815863498
2	5	sahil	shaik	sahilshaik@gmail.com	9963038968
3	10	renee	sharon	reneesharon@gmail.com	7813902314

--10. Calculate the total revenue generated by all orders within a specific time period

```
SELECT SUM(TotalAmount) AS TotalRevenue
FROM Orders
WHERE OrderDate BETWEEN '2024-01-01' AND '2024-12-31';
```

OUTPUT

	TotalRevenue
1	211182.92

--Task-4

--1. Find out which customers have not placed any orders.

```
SELECT CustomerID, first_name, last_name, Email
FROM Customers
WHERE CustomerID NOT IN (SELECT customerID FROM Orders);
```

OUTPUT

	CustomerID	first_name	last_name	Email
1	3	sneha	sree	snehasree@gmail.com
2	7	reddy	Divya	divyareddy89@gmail.com
3	11	shifa	shaik	shifashaik@gmail.com

--2. Find the total number of products available for sale.

```
SELECT COUNT(ProductID) AS TotalProductsAvailable
FROM Products;
```

OUTPUT

	TotalProductsAvailable
1	11

--3. Calculate the total revenue generated by TechShop.

```
SELECT SUM(TotalAmount) AS TotalRevenue FROM Orders;
```

OUTPUT

	TotalRevenue
1	211182.92

--4. Calculate the average quantity ordered for products in a specific category.

```
SELECT AVG(OrderDetails.Quantity) AS AverageQuantityOrdered
FROM OrderDetails
```

```
JOIN Products ON OrderDetails.ProductID = Products.ProductID
WHERE Products.ProductName LIKE '%Laptop%';
```

OUTPUT

	AverageQuantityOrdered
1	3

--5. Calculate the total revenue generated by a specific customer.

```
SELECT Customers.CustomerID, Customers.first_name, Customers.last_name,
SUM(Orders.TotalAmount) AS TotalRevenue
FROM Orders
JOIN Customers ON Orders.customerID = Customers.CustomerID
WHERE Customers.CustomerID = 3
GROUP BY Customers.CustomerID, Customers.first_name, Customers.last_name;
```

OUTPUT

CustomerID	first_name	last_name	TotalRevenue
------------	------------	-----------	--------------

--6. Find the customers who have placed the most orders.

```
SELECT Customers.CustomerID, Customers.first_name, Customers.last_name,
COUNT(Orders.OrderID) AS NumberOfOrders
FROM Customers
JOIN Orders ON Customers.CustomerID = Orders.customerID
GROUP BY Customers.CustomerID, Customers.first_name, Customers.last_name
ORDER BY NumberOfOrders DESC;
```

OUTPUT

	CustomerID	first_name	last_name	NumberOfOrders
1	1	Mubeena	Katika	1
2	2	Mallika	s	1
3	4	mellow	cupid	1
4	5	sahil	shaik	1
5	6	Srija	Rushmitha	1
6	8	Javed	Shaik	1
7	9	Thanuja	sree	1
8	10	renee	sharon	1

--7. Find the most popular product category with the highest total quantity ordered.

```
SELECT Products.ProductName, SUM(OrderDetails.Quantity) AS TotalQuantityOrdered
FROM OrderDetails
JOIN Products ON OrderDetails.ProductID = Products.ProductID
GROUP BY Products.ProductName
ORDER BY TotalQuantityOrdered DESC;
```

OUTPUT

	ProductName	TotalQuantityOrdered
1	Headphones	11
2	Laptop	11
3	TV	10
4	Tablet	6

--8. Find the customer who has spent the most money on electronic gadgets.

```
SELECT Customers.CustomerID, Customers.first_name, Customers.last_name,
SUM(Orders.TotalAmount) AS TotalSpending
FROM Orders
JOIN Customers ON Orders.customerID = Customers.CustomerID
GROUP BY Customers.CustomerID, Customers.first_name, Customers.last_name
ORDER BY TotalSpending DESC;
```

OUTPUT

	CustomerID	first_name	last_name	TotalSpending
1	10	renee	sharon	122999.97
2	5	sahil	shaik	44999.95
3	1	Mubeena	Katika	26999.97
4	6	Srija	Rushmitha	7201.92
5	9	Thanuja	sree	4801.28
6	4	mellow	cupid	1979.94
7	8	Javed	Shaik	1799.91
8	2	Mallika	s	399.98

--9.Calculate the average order value for all customers.

```
SELECT AVG(TotalAmount) AS AverageOrderValue
FROM Orders;
```

OUTPUT

	AverageOrderValue
1	26397.865000

--10.Find the total number of orders placed by each customer.

```
SELECT Customers.CustomerID, Customers.first_name, Customers.last_name,
COUNT(Orders.OrderID) AS OrderCount
FROM Customers
JOIN Orders ON Customers.CustomerID = Orders.customerID
GROUP BY Customers.CustomerID, Customers.first_name, Customers.last_name;
```

OUTPUT

	CustomerID	first_name	last_name	OrderCount
1	1	Mubeena	Katika	1
2	2	Mallika	s	1
3	4	mellow	cupid	1
4	5	sahil	shaik	1
5	6	Srija	Rushmitha	1
6	8	Javed	Shaik	1
7	9	Thanuja	sree	1
8	10	renee	sharon	1