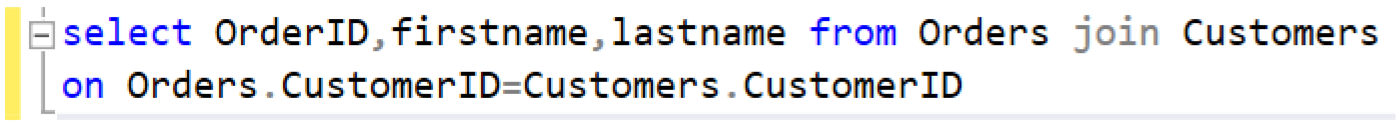
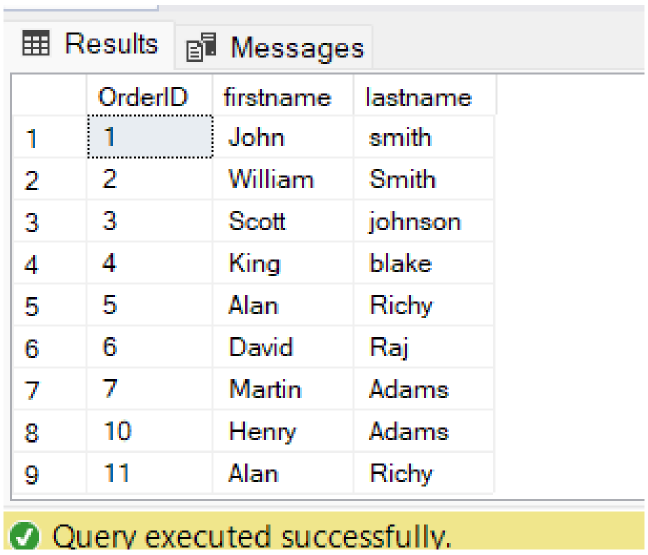
TASK 3. AGGREGATE FUNCTIONS, HAVING, ORDER BY, GROUPBY AND JOINS

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



```sql
select OrderID,firstname,lastname from Orders join Customers
on Orders.CustomerID=Customers.CustomerID
```

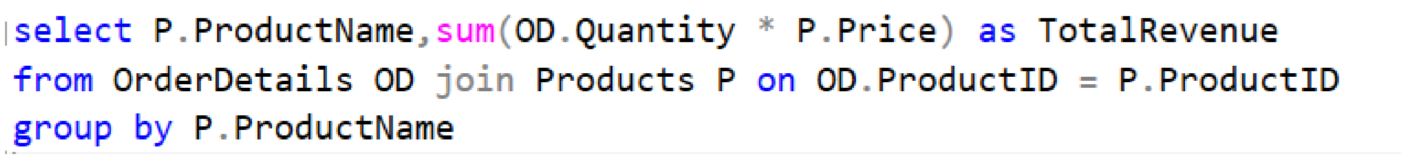
OUTPUT:



	OrderID	firstname	lastname
1	1	John	smith
2	2	William	Smith
3	3	Scott	johnson
4	4	King	blake
5	5	Alan	Richy
6	6	David	Raj
7	7	Martin	Adams
8	10	Henry	Adams
9	11	Alan	Richy

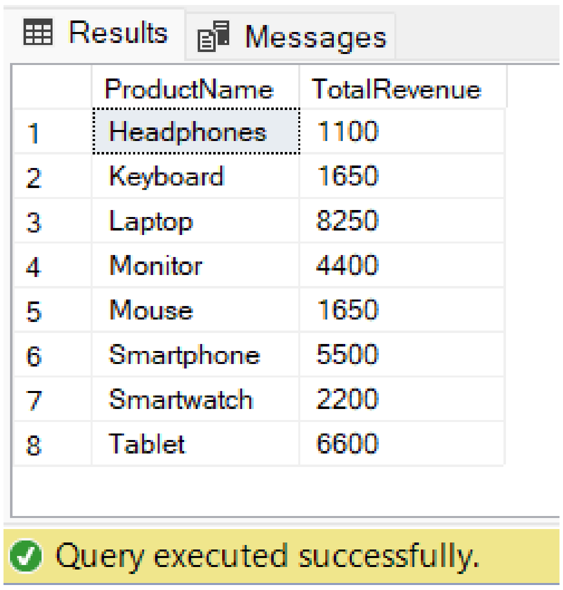
Query executed successfully.

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



```sql
select P.ProductName,sum(OD.Quantity * P.Price) as TotalRevenue
from OrderDetails OD join Products P on OD.ProductID = P.ProductID
group by P.ProductName
```

OUTPUT:



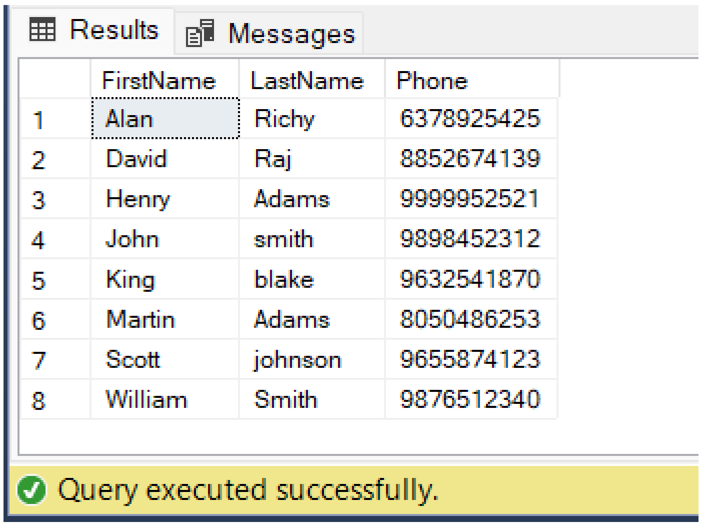
	ProductName	TotalRevenue
1	Headphones	1100
2	Keyboard	1650
3	Laptop	8250
4	Monitor	4400
5	Mouse	1650
6	Smartphone	5500
7	Smartwatch	2200
8	Tablet	6600

Query executed successfully.

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

```sql
select FirstName,LastName,Phone from Customers join Orders
on Customers.CustomerID=Orders.CustomerID
group by FirstName,LastName,Phone
```

OUTPUT:



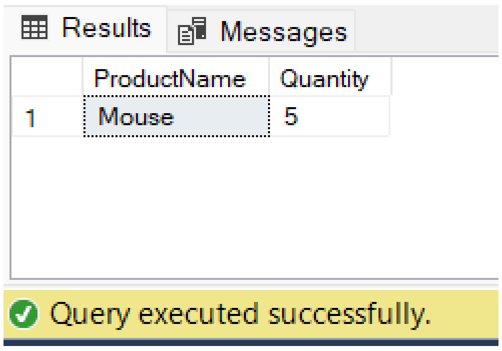
	FirstName	LastName	Phone
1	Alan	Richy	6378925425
2	David	Raj	8852674139
3	Henry	Adams	9999952521
4	John	smith	9898452312
5	King	blake	9632541870
6	Martin	Adams	8050486253
7	Scott	johnson	9655874123
8	William	Smith	9876512340

Query executed successfully.

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.

```sql
select top 1 ProductName,Quantity from products join OrderDetails
on Products.ProductID = OrderDetails.ProductID
order by quantity desc
```

OUTPUT:

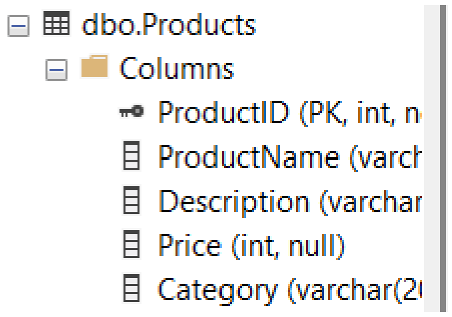


	ProductName	Quantity
1	Mouse	5

Query executed successfully.

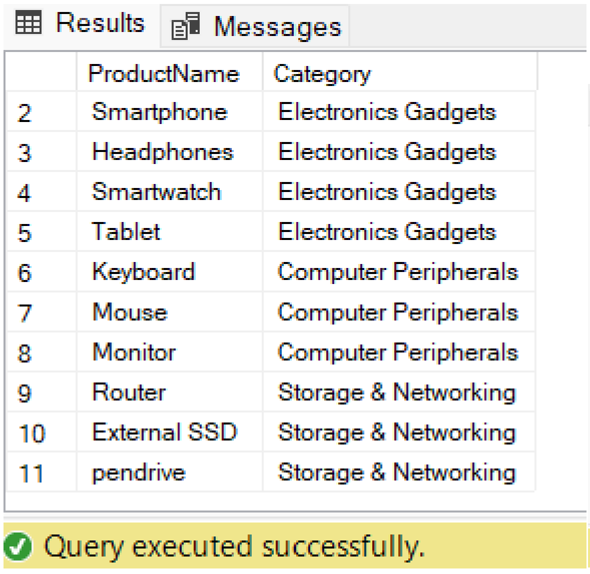
5. Write an SQL query to retrieve a list of electronic gadgets along with their corresponding categories.

```sql
alter table Products add Category varchar(20)
update Products set Category = 'Electronics Gadgets'
where ProductName in ('Laptop', 'SmartPhone', 'Tablet', 'SmartWatch','Headphones')
update Products set Category = 'Computer Peripherals'
where ProductName in ('Mouse', 'Keyboard', 'Monitor')
update Products set Category  ='Storage & Networking'
where ProductName in ('External SSD','Router','pendrive')
select ProductName,Category from Products
```



```
dbo.Products
  Columns
    ProductID (PK, int, n
    ProductName (varch
    Description (varchar
    Price (int, null)
    Category (varchar(2(
```

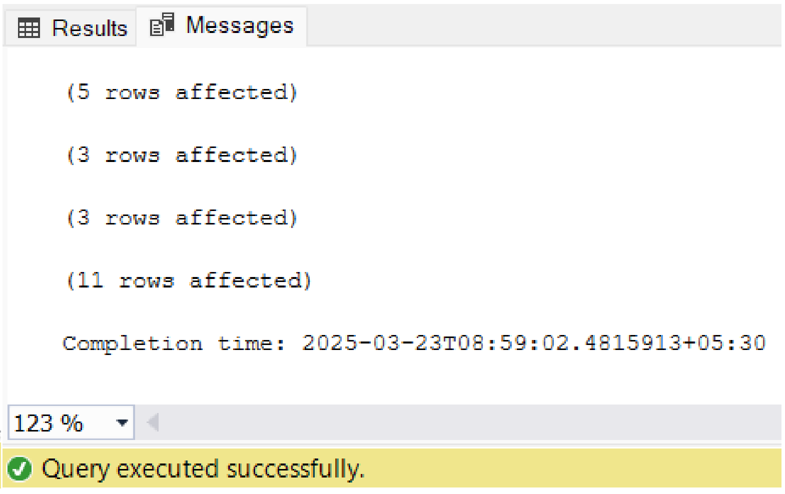
OUTPUT:



Results | Messages

	ProductName	Category
2	Smartphone	Electronics Gadgets
3	Headphones	Electronics Gadgets
4	Smartwatch	Electronics Gadgets
5	Tablet	Electronics Gadgets
6	Keyboard	Computer Peripherals
7	Mouse	Computer Peripherals
8	Monitor	Computer Peripherals
9	Router	Storage & Networking
10	External SSD	Storage & Networking
11	pendrive	Storage & Networking

Query executed successfully.



Results | Messages

```
(5 rows affected)

(3 rows affected)

(3 rows affected)

(11 rows affected)

Completion time: 2025-03-23T08:59:02.4815913+05:30
```

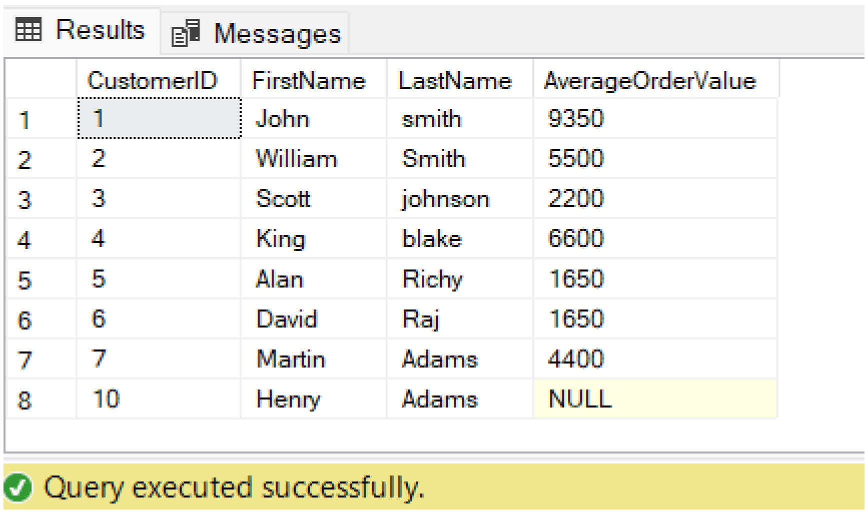
123 %

Query executed successfully.

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

```sql
select Customers.CustomerID,Customers.FirstName,Customers.LastName,
avg(Orders.TotalAmount) as AverageOrderValue from Customers
join Orders on Customers.CustomerID = Orders.CustomerID
group by Customers.CustomerID, Customers.FirstName, Customers.LastName
```

OUTPUT:

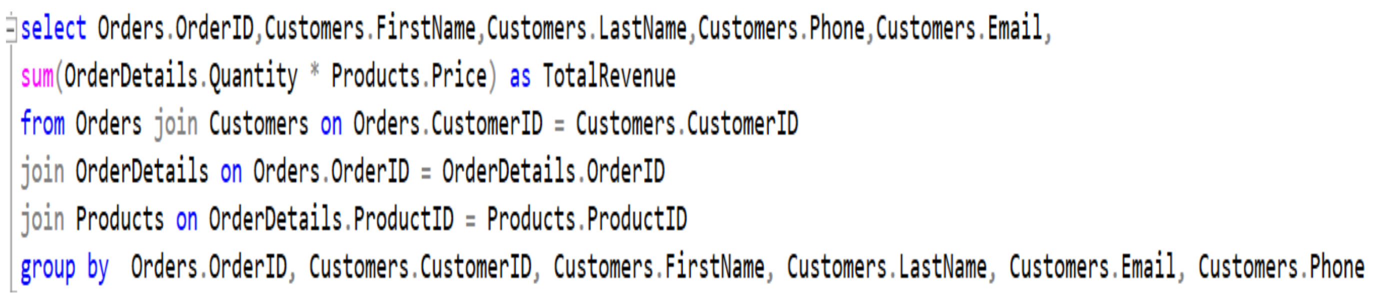


Results | Messages

	CustomerID	FirstName	LastName	AverageOrderValue
1	1	John	smith	9350
2	2	William	Smith	5500
3	3	Scott	johnson	2200
4	4	King	blake	6600
5	5	Alan	Richy	1650
6	6	David	Raj	1650
7	7	Martin	Adams	4400
8	10	Henry	Adams	NULL

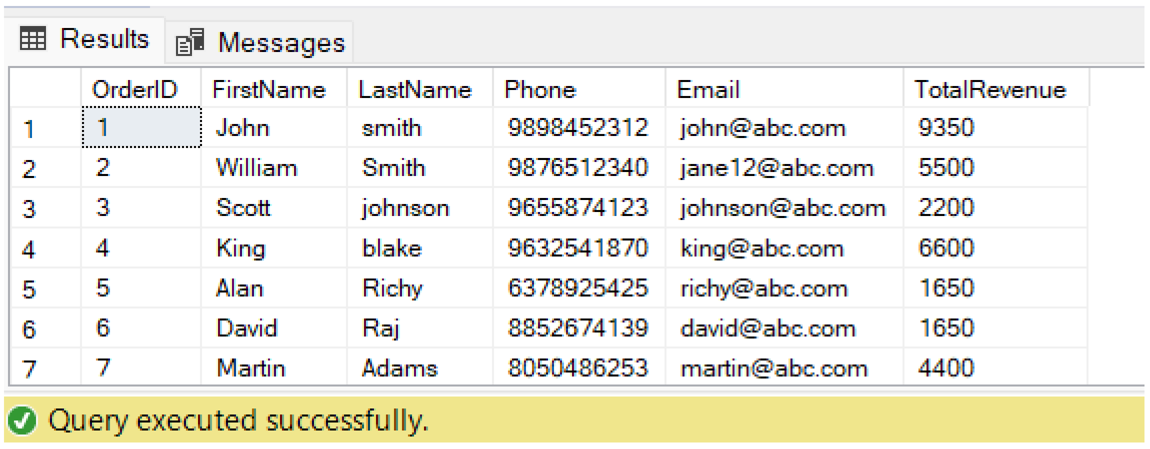
Query executed successfully.

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



```sql
select Orders.OrderID,Customers.FirstName,Customers.LastName,Customers.Phone,Customers.Email,
sum(OrderDetails.Quantity * Products.Price) as TotalRevenue
from Orders join Customers on Orders.CustomerID = Customers.CustomerID
join OrderDetails on Orders.OrderID = OrderDetails.OrderID
join Products on OrderDetails.ProductID = Products.ProductID
group by  Orders.OrderID, Customers.CustomerID, Customers.FirstName, Customers.LastName, Customers.Email, Customers.Phone
```

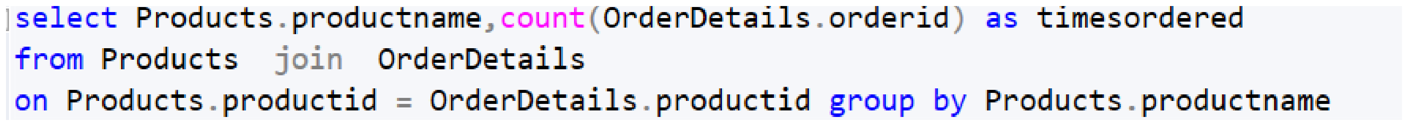
OUTPUT:



	OrderID	FirstName	LastName	Phone	Email	TotalRevenue
1	1	John	smith	9898452312	john@abc.com	9350
2	2	William	Smith	9876512340	jane12@abc.com	5500
3	3	Scott	johnson	9655874123	johnson@abc.com	2200
4	4	King	blake	9632541870	king@abc.com	6600
5	5	Alan	Richy	6378925425	richy@abc.com	1650
6	6	David	Raj	8852674139	david@abc.com	1650
7	7	Martin	Adams	8050486253	martin@abc.com	4400

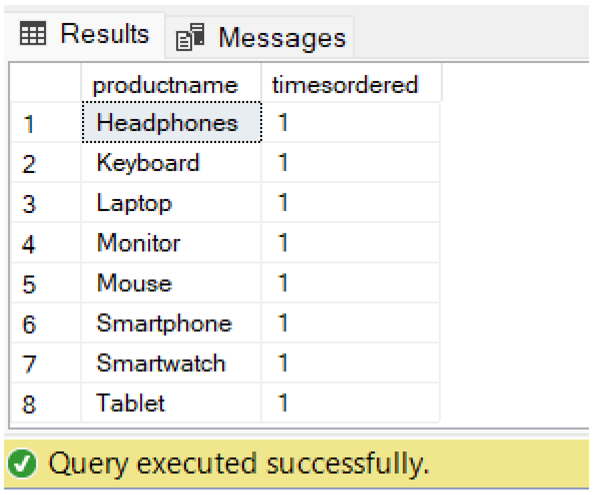
Query executed successfully.

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



```sql
select Products.productname,count(OrderDetails.orderid) as timesordered
from Products  join  OrderDetails
on Products.productid = OrderDetails.productid group by Products.productname
```

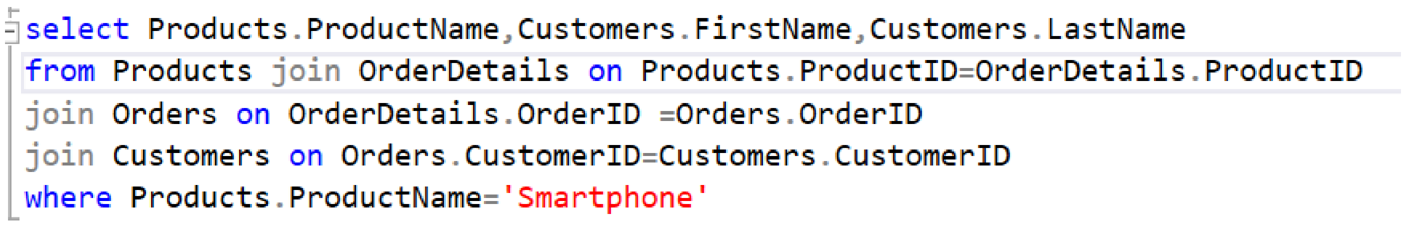
OUTPUT:



	productname	timesordered
1	Headphones	1
2	Keyboard	1
3	Laptop	1
4	Monitor	1
5	Mouse	1
6	Smartphone	1
7	Smartwatch	1
8	Tablet	1

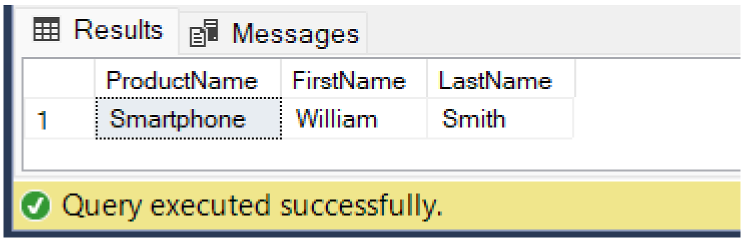
Query executed successfully.

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.



```sql
select Products.ProductName,Customers.FirstName,Customers.LastName
from Products join OrderDetails on Products.ProductID=OrderDetails.ProductID
join Orders on OrderDetails.OrderID =Orders.OrderID
join Customers on Orders.CustomerID=Customers.CustomerID
where Products.ProductName='Smartphone'
```

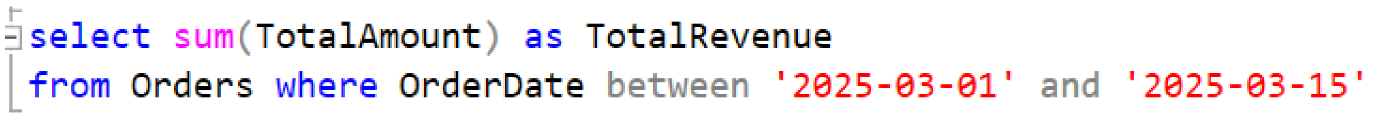
OUTPUT:



	ProductName	FirstName	LastName
1	Smartphone	William	Smith

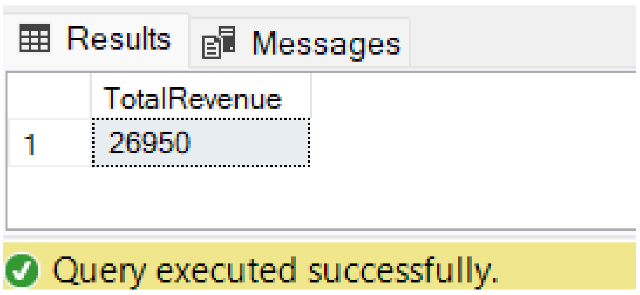
Query executed successfully.

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.



```sql
select sum(TotalAmount) as TotalRevenue
from Orders where OrderDate between '2025-03-01' and '2025-03-15'
```

OUTPUT:



	TotalRevenue
1	26950

Query executed successfully.