

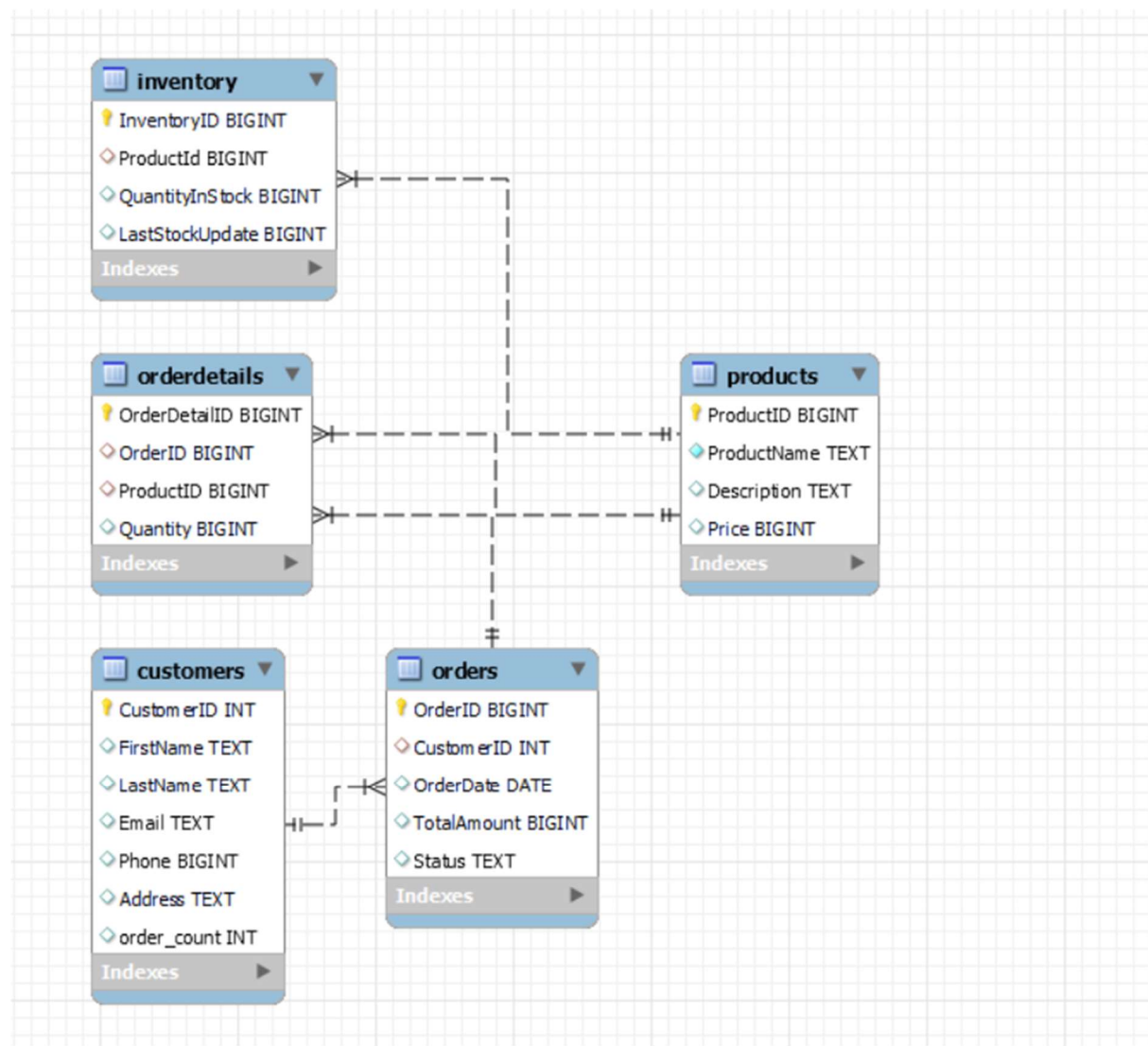
TASK-1

Query:1 and 2

```
mysql> show databases;
+-----+
| Database |
+-----+
| ak       |
| information_schema |
| mysql    |
| org      |
| performance_schema |
| sys      |
| techshop |
| tm       |
+-----+
8 rows in set (0.00 sec)

mysql> use techshops;
ERROR 1049 (42000): Unknown database 'techshops'
mysql> use techShop;
Database changed
mysql> show tables;
+-----+
| Tables_in_techshop |
+-----+
| customers           |
| inventory            |
| orderdetails         |
| orders              |
| products            |
+-----+
```

Query:3



Query:5

```
mysql> select * from Customers;
```

CustomerID	FirstName	LastName	Email	Phone	Address
1	John	Doe	john.doe@example.com	1234567890	123 Main St
2	Jane	Smith	jane.smith@example.com	9876543210	456 Oak St
3	Alice	Johnson	alice.johnson@example.com	5551234567	789 Pine St
4	Bob	Williams	bob.williams@example.com	9998887777	101 Elm St
5	Eva	Davis	eva.davis@example.com	1112223333	202 Maple St
6	Chris	Miller	chris.miller@example.com	4445556666	303 Cedar St
7	Olivia	Taylor	olivia.taylor@example.com	7778889999	404 Birch St
8	Daniel	White	daniel.white@example.com	3334445555	505 Walnut St
9	Sophia	Martin	sophia.martin@example.com	6667778888	606 Oak St
10	Michael	Brown	michael.brown@example.com	2223334444	707 Pine St

10 rows in set (0.00 sec)

```
mysql> select * from Orders;
```

OrderID	CustomerID	OrderDate	TotalAmount
1	1	2023-01-01	50
2	2	2023-01-02	75
3	3	2023-01-03	100
4	4	2023-01-04	120
5	5	2023-01-05	90
6	6	2023-01-06	60
7	7	2023-01-07	110
8	8	2023-01-08	80
9	9	2023-01-09	95
10	10	2023-01-10	115

```
mysql> select * from OrderDetails;
```

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

```
mysql> select * from Products;
```

ProductID	ProductName	Description	Price
1	Product A	Description A	20
2	Product B	Description B	30
3	Product C	Description C	40
4	Product D	Description D	50
5	Product E	Description E	60
6	Product F	Description F	70
7	Product G	Description G	80
8	Product H	Description H	90
9	Product I	Description I	100
10	Product J	Description J	110

```
mysql> select * from Inventory;
```

InventoryID	ProductId	QuantityInStock	LastStockUpdate
1	1	100	1672511400
2	2	50	1672597800
3	3	75	1672684200
4	4	200	1672770600
5	5	30	1672857000
6	6	150	1672943400
7	7	80	1673029800
8	8	120	1673116200
9	9	60	1673202600
10	10	90	1673289000

TASK-2

Query:1

SELECT FirstName, LastName, Email FROM Customers;

	FirstName	LastName	Email
▶	John	Doe	john.doe@example.com
	Jane	Smith	jane.smith@example.com
	Alice	Johnson	alice.johnson@example.com
	Bob	Williams	bob.williams@example.com
	Eva	Davis	eva.davis@example.com
	Chris	Miller	chris.miller@example.com
	Olivia	Taylor	olivia.taylor@example.com
	Daniel	White	@sarkoy@gmail.com
	Sophia	Martin	sophia.martin@example.com
	Michael	Brown	michael.brown@example.com
	Hemant	pal	naman@email.com

Query:2

SELECT

orders.OrderID,

orders.OrderDate,

customers.CustomerID

FROM

orders

JOIN

customers ON orders.CustomerID = customers.CustomerID;

	OrderID	OrderDate	CustomerID
▶	1	2023-01-01	1
	2	2023-01-02	2
	3	2023-01-03	3
	4	2023-01-04	4
	6	2023-01-06	6
	7	2023-01-07	7
	8	2023-01-08	8
	9	2023-01-09	9
	10	2023-01-10	10
	11	2023-12-01	1

Query:3

INSERT INTO Customers

VALUES (11,'Himanshu', 'Patel', 'himpatel@email.com',
'9876123450', 'mahco colony');

	CustomerID	FirstName	LastName	Email	Phone	Address	order_count
▶	1	John	Doe	john.doe@example.com	1234567890	123 Main St	2
	2	Jane	Smith	jane.smith@example.com	9876543210	456 Oak St	1
	3	Alice	Johnson	alice.johnson@example.com	5551234567	789 Pine St	1
	4	Bob	Williams	bob.williams@example.com	9998887777	101 Elm St	1
	5	Eva	Davis	eva.davis@example.com	1112223333	202 Maple St	0
	6	Chris	Miller	chris.miller@example.com	4445556666	303 Cedar St	1
	7	Olivia	Taylor	olivia.taylor@example.com	7778889999	404 Birch St	1
	8	Daniel	White	@sarkoy@gmail.com	3334445555	Null galli	1
	9	Sophia	Martin	sophia.martin@example.com	6667778888	606 Oak St	1
	10	Michael	Brown	michael.brown@example.com	2223334444	707 Pine St	1
	11	Hemant	pal	naman@email.com	9123456789	kanpur	0
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Query:4

UPDATE Products

SET Price = Price * 1.10;

select Price from Products;

	Price
▶	22
	33
	44
	55
	66
	77
	88
	99
	110
	121
	800

Query:5

DELETE FROM OrderDetails WHERE OrderID = 5;

DELETE FROM Orders WHERE OrderID = 5;

	OrderDetailID	OrderID	ProductID	Quantity
▶	1	1	1	2
	2	1	2	1
	3	2	3	3
	4	2	4	1
	5	3	5	2
	6	3	6	1
	7	4	7	4
	8	4	8	2
•	NULL	NULL	NULL	NULL

	OrderID	CustomerID	OrderDate	TotalAmount	Status
▶	1	1	2023-01-01	50	NULL
	2	2	2023-01-02	75	NULL
	3	3	2023-01-03	100	shipped
	4	4	2023-01-04	120	NULL
	6	6	2023-01-06	60	NULL
	7	7	2023-01-07	110	NULL
	8	8	2023-01-08	80	NULL
	9	9	2023-01-09	95	NULL
	10	10	2023-01-10	115	NULL
	11	1	2023-12-01	700	NULL
•	NULL	NULL	NULL	NULL	NULL

Query:6

INSERT INTO Orders

VALUES (11, 1, '2023-12-01', 700);

	OrderID	CustomerID	OrderDate	TotalAmount	Status
▶	1	1	2023-01-01	50	NULL
	2	2	2023-01-02	75	NULL
	3	3	2023-01-03	100	shipped
	4	4	2023-01-04	120	NULL
	6	6	2023-01-06	60	NULL
	7	7	2023-01-07	110	NULL
	8	8	2023-01-08	80	NULL
	9	9	2023-01-09	95	NULL
	10	10	2023-01-10	115	NULL
	11	1	2023-12-01	700	NULL
•	NULL	NULL	NULL	NULL	NULL

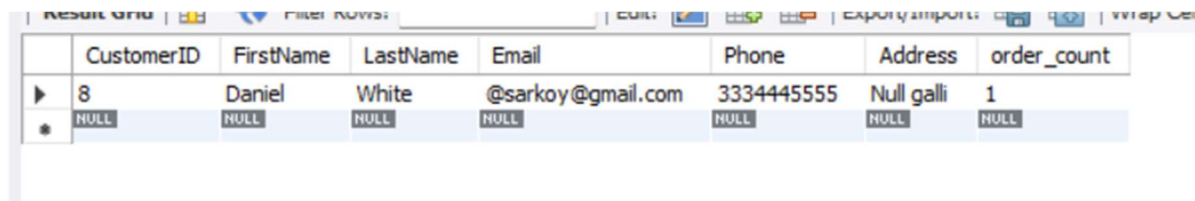
Query:7

UPDATE Customers

SET Email = '@sarkoy@gmail.com', Address = 'Null galli'

WHERE CustomerID = 8;

select * from Customers where CustomerID = 8;



The screenshot shows a database query result with columns: CustomerID, FirstName, LastName, Email, Phone, Address, and order_count. The first row shows data for CustomerID 8: Daniel White, @sarkoy@gmail.com, 3334445555, Null galli, 1. A second row with all NULL values is also visible.

	CustomerID	FirstName	LastName	Email	Phone	Address	order_count
▶	8	Daniel	White	@sarkoy@gmail.com	3334445555	Null galli	1
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Query:8

UPDATE orders o

SET TotalAmount = (

SELECT SUM(p.Price * od.Quantity)

FROM orderdetails od

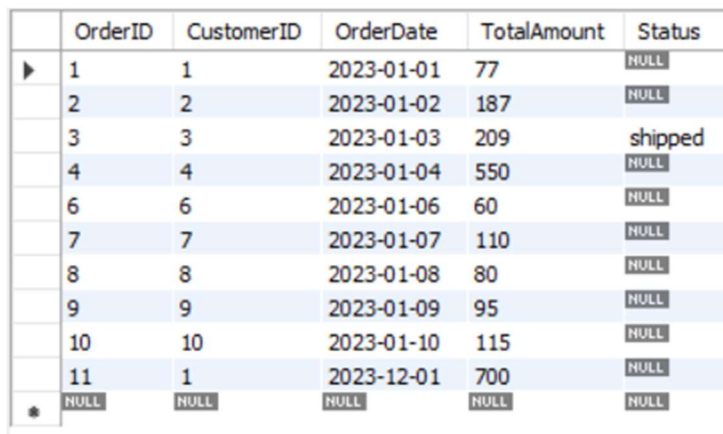
JOIN products p ON od.ProductID = p.ProductID

WHERE od.OrderID = o.OrderID

)

WHERE o.OrderID IN (SELECT DISTINCT OrderID FROM orderdetails);

select * from orders;



The screenshot shows a database query result with columns: OrderID, CustomerID, OrderDate, TotalAmount, and Status. It lists 11 orders. The last row shows a row with all NULL values.

	OrderID	CustomerID	OrderDate	TotalAmount	Status
▶	1	1	2023-01-01	77	NULL
	2	2	2023-01-02	187	NULL
	3	3	2023-01-03	209	shipped
	4	4	2023-01-04	550	NULL
	6	6	2023-01-06	60	NULL
	7	7	2023-01-07	110	NULL
	8	8	2023-01-08	80	NULL
	9	9	2023-01-09	95	NULL
	10	10	2023-01-10	115	NULL
	11	1	2023-12-01	700	NULL
*	NULL	NULL	NULL	NULL	NULL

Query:9

DELETE FROM OrderDetails WHERE OrderID IN (SELECT OrderID
FROM Orders WHERE CustomerID = 5);

DELETE FROM Orders WHERE CustomerID = 5;

	OrderID	CustomerID	OrderDate	TotalAmount	Status
▶	1	1	2023-01-01	77	NULL
	2	2	2023-01-02	187	NULL
	3	3	2023-01-03	209	shipped
	4	4	2023-01-04	550	NULL
	6	6	2023-01-06	60	NULL
	7	7	2023-01-07	110	NULL
	8	8	2023-01-08	80	NULL
	9	9	2023-01-09	95	NULL
	10	10	2023-01-10	115	NULL
	11	1	2023-12-01	700	NULL
*	NULL	NULL	NULL	NULL	NULL

Query:10

INSERT INTO Products

VALUES (11,'mouse', 'wireless mouse',800);

	ProductID	ProductName	Description	Price
▶	1	Product A	Description A	22
	2	Product B	Description B	33
	3	Product C	Description C	44
	4	Product D	Description D	55
	5	Product E	Description E	66
	6	Product F	Description F	77
	7	Product G	Description G	88
	8	Product H	Description H	99
	9	Product I	Description I	110
	10	Product J	Description J	121
	11	mouse	wireless mouse	800
*	NULL	NULL	NULL	NULL

Query:11

ALTER TABLE Orders

ADD Status text;

UPDATE Orders

SET Status = 'shipped'

WHERE OrderID = 3;

	OrderID	CustomerID	OrderDate	TotalAmount	Status
▶	1	1	2023-01-01	50	NULL
	2	2	2023-01-02	75	NULL
	3	3	2023-01-03	100	shipped
	4	4	2023-01-04	120	NULL
	6	6	2023-01-06	60	NULL
	7	7	2023-01-07	110	NULL
	8	8	2023-01-08	80	NULL
	9	9	2023-01-09	95	NULL
	10	10	2023-01-10	115	NULL
	11	1	2023-12-01	700	NULL
*	NULL	NULL	NULL	NULL	NULL

Query:12

ALTER TABLE Customers

ADD COLUMN order_count INT DEFAULT 0;

UPDATE Customers

SET order_count = (

SELECT COUNT(*)

FROM Orders

WHERE Orders.CustomerID = Customers.CustomerID

);

TASK-3

-- Task 1:

```
SELECT orders.OrderID, customers.FirstName, customers.LastName, orders.OrderDate
FROM orders
JOIN customers ON orders.CustomerID = customers.CustomerID;
```

	OrderID	FirstName	LastName	OrderDate
►	1	John	Doe	2023-01-01
	2	Jane	Smith	2023-01-02
	3	Alice	Johnson	2023-01-03
	4	Bob	Williams	2023-01-04
	6	Chris	Miller	2023-01-06
	7	Olivia	Taylor	2023-01-07
	8	Daniel	White	2023-01-08
	9	Sophia	Martin	2023-01-09
	10	Michael	Brown	2023-01-10
	11	John	Doe	2023-12-01

-- Task 2:

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

	ProductId	ProductName	TotalRevenue
▶	1	Product A	44
	2	Product B	33
	3	Product C	132
	4	Product D	55
	5	Product E	132
	6	Product F	77
	7	Product G	352
	8	Product H	198

-- Task 3:

```

SELECT customers.CustomerID, customers.FirstName, customers.LastName,
customers.Email, customers.Phone

FROM customers

INNER JOIN orders ON customers.CustomerID = orders.CustomerID

WHERE orders.OrderID IS NOT NULL;

```

	CustomerID	FirstName	LastName	Email	Phone
▶	1	John	Doe	john.doe@example.com	1234567890
	1	John	Doe	john.doe@example.com	1234567890
	2	Jane	Smith	jane.smith@example.com	9876543210
	3	Alice	Johnson	alice.johnson@example.com	5551234567
	4	Bob	Williams	bob.williams@example.com	9998887777
	6	Chris	Miller	chris.miller@example.com	4445556666
	7	Olivia	Taylor	olivia.taylor@example.com	7778889999
	8	Daniel	White	@sarkoy@gmail.com	3334445555
	9	Sophia	Martin	sophia.martin@example.com	6667778888
	10	Michael	Brown	michael.brown@example.com	2223334444

-- Task 4:

```

SELECT

    products.ProductId,

    products.ProductName,

    SUM(orderdetails.Quantity) AS TotalQuantityOrdered

FROM

    products

```

JOIN

orderdetails ON products.ProductId = orderdetails.ProductID

GROUP BY

products.ProductId, products.ProductName

ORDER BY

TotalQuantityOrdered DESC

LIMIT 1;

	ProductId	ProductName	TotalQuantityOrdered
►	7	Product G	4

-- Task 5:

SELECT products.ProductName, products.Description

FROM products;

	ProductName	Description
►	Product A	Description A
	Product B	Description B
	Product C	Description C
	Product D	Description D
	Product E	Description E
	Product F	Description F
	Product G	Description G
	Product H	Description H
	Product I	Description I
	Product J	Description J
	mouse	wireless mouse

-- Task 6:

SELECT customers.CustomerID, customers.FirstName, customers.LastName,
AVG(orderdetails.Quantity * products.Price) AS AvgOrderValue

FROM customers

LEFT JOIN orders ON customers.CustomerID = orders.CustomerID

LEFT JOIN orderdetails ON orders.OrderID = orderdetails.OrderID

LEFT JOIN products ON orderdetails.ProductID = products.ProductID

GROUP BY customers.CustomerID, customers.FirstName, customers.LastName;

	CustomerID	FirstName	LastName	AvgOrderValue
▶	1	John	Doe	38.5000
	2	Jane	Smith	93.5000
	3	Alice	Johnson	104.5000
	4	Bob	Williams	275.0000
	5	Eva	Davis	NULL
	6	Chris	Miller	NULL
	7	Olivia	Taylor	NULL
	8	Daniel	White	NULL
	9	Sophia	Martin	NULL
	10	Michael	Brown	NULL
	11	Hemant	pal	NULL

-- Task 7:

SELECT orders.OrderID, customers.FirstName, customers.LastName,
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.FirstName, customers.LastName

ORDER BY TotalRevenue DESC

LIMIT 1;

	OrderID	FirstName	LastName	TotalRevenue
▶	4	Bob	Williams	550

-- Task 8:

SELECT products.ProductName, COUNT(orderdetails.OrderDetailID) AS OrderCount

FROM products

LEFT JOIN orderdetails ON products.ProductID = orderdetails.ProductID

GROUP BY products.ProductName;

-- Join Type: LEFT JOIN

	ProductName	OrderCount
▶	Product A	1
	Product B	1
	Product C	1
	Product D	1
	Product E	1
	Product F	1
	Product G	1
	Product H	1
	Product I	0
	Product J	0
	mouse	0

-- Task 9:.

SELECT customers.CustomerID, customers.FirstName, customers.LastName

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 = 'Product A';

	CustomerID	FirstName	LastName
▶	1	John	Doe

-- Task 10:

SELECT SUM(orderdetails.Quantity * products.Price) AS TotalRevenue

FROM orders

JOIN orderdetails ON orders.OrderID = orderdetails.OrderID

JOIN products ON orderdetails.ProductID = products.ProductID

WHERE orders.OrderDate BETWEEN '2023-01-01' AND '2023-01-08';

	TotalRevenue
▶	1023

TASK-4

-- Task 4.1:

```
SELECT *
```

```
FROM customers
```

```
WHERE CustomerID NOT IN (SELECT DISTINCT CustomerID FROM orders);
```

	CustomerID	FirstName	LastName	Email	Phone	Address	order_count
▶	5	Eva	Davis	eva.davis@example.com	1112223333	202 Maple St	0
	11	Hemant	pal	naman@email.com	9123456789	kanpur	0
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

-- Task 4.2:

```
SELECT COUNT(DISTINCT ProductId) AS TotalProducts
```

```
FROM inventory;
```

Result Grid	Filter Rows:
TotalProducts	
▶ 10	

-- Task 4.3:

```
SELECT
```

```
(SELECT SUM(p.Price * od.Quantity)
```

```
FROM techshop.orderdetails od, techshop.products p
```

```
WHERE od.ProductID = p.ProductID) AS TotalRevenue;
```

TotalRevenue
▶ 1023

-- Task 4.4:


```

SELECT
    Description,
    AVG(od.Quantity) AS AvgQuantityOrdered
FROM
    products p
JOIN
    orderdetails od ON p.ProductId = od.ProductID
WHERE
    p.Description = 'Product B'
GROUP BY
    Description;

```

-- Task 4.5:

```

SELECT
    c.CustomerID,
    c.FirstName,
    c.LastName,
    (SELECT SUM(od.Quantity * p.Price)
     FROM orderdetails od
     JOIN products p ON od.ProductID = p.ProductID
     WHERE od.OrderID IN (SELECT OrderID FROM orders WHERE CustomerID = c.CustomerID)
    ) AS TotalRevenue
FROM
    customers c;

```

	CustomerID	FirstName	LastName	TotalRevenue
▶	1	John	Doe	77
	2	Jane	Smith	187
	3	Alice	Johnson	209
	4	Bob	Williams	550
	5	Eva	Davis	NULL
	6	Chris	Miller	NULL
	7	Olivia	Taylor	NULL
	8	Daniel	White	NULL
	9	Sophia	Martin	NULL
	10	Michael	Brown	NULL
	11	Hemant	pal	NULL

-- Task 4.6:

```
SELECT
    c.FirstName + ' ' + c.LastName AS CustomerName,
    COUNT(o.OrderID) AS OrderCount
FROM
    Customers c
JOIN
    Orders o ON c.CustomerID = o.CustomerID
GROUP BY
    c.CustomerID, c.FirstName, c.LastName
ORDER BY
    OrderCount DESC
LIMIT 1;
```

	CustomerName	OrderCount
▶	0	2

-- Task 4.7:

```
SELECT
    p.ProductName AS MostPopularCategory,
    SUM(od.Quantity) AS TotalQuantityOrdered
FROM
    Products p
JOIN
    OrderDetails od ON p.ProductID = od.ProductID
GROUP BY
    p.ProductID, p.ProductName
ORDER BY
    TotalQuantityOrdered DESC
LIMIT 1;
```

	MostPopularCategory	TotalQuantityOrdered
►	Product G	4

-- Task 4.8:

SELECT

c.FirstName + ' ' + c.LastName AS CustomerName,

SUM(od.Quantity * p.Price) AS TotalSpending

FROM

Customers c

JOIN

Orders o ON c.CustomerID = o.CustomerID

JOIN

OrderDetails od ON o.OrderID = od.OrderID

JOIN

Products p ON od.ProductID = p.ProductID

WHERE

p.Description = 'Product D' GROUP BY

c.CustomerID, c.FirstName, c.LastName

ORDER BY

TotalSpending DESC

LIMIT 1;

-- Task 4.9:

SELECT

AVG(TotalAmount) AS AverageOrderValue

FROM

Orders;

