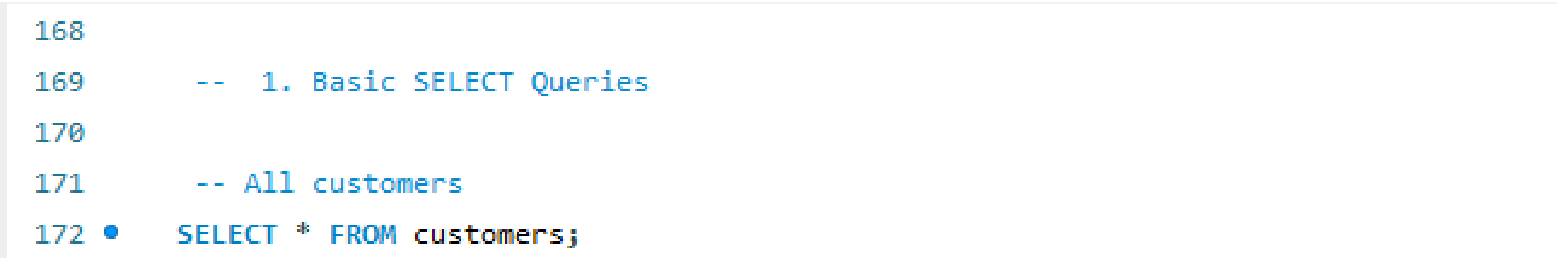
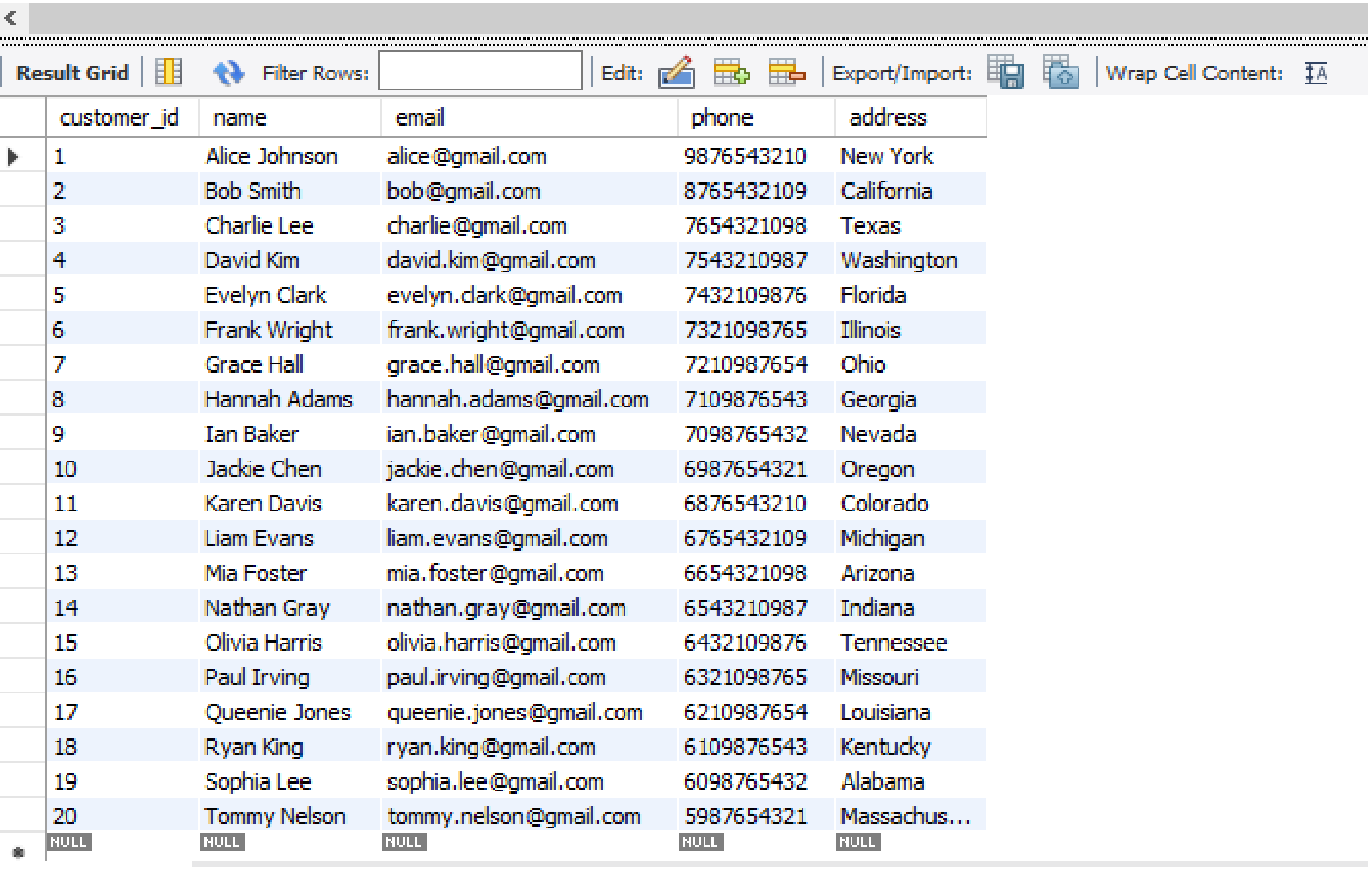
# INPUT



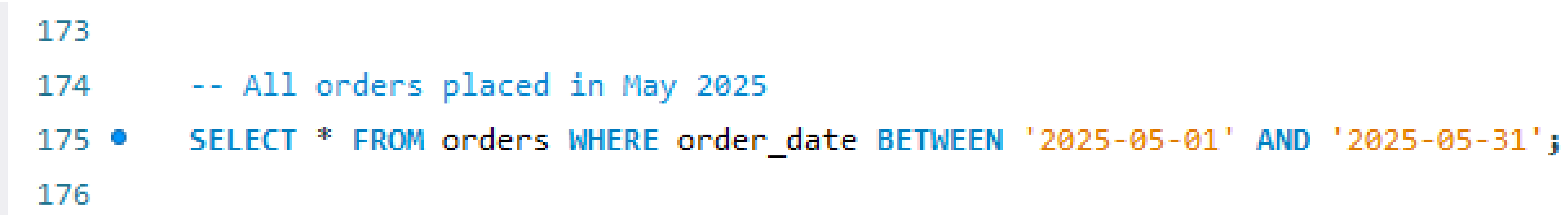
```sql
    --  1. Basic SELECT Queries

    -- All customers
SELECT * FROM customers;
```

# INPUT



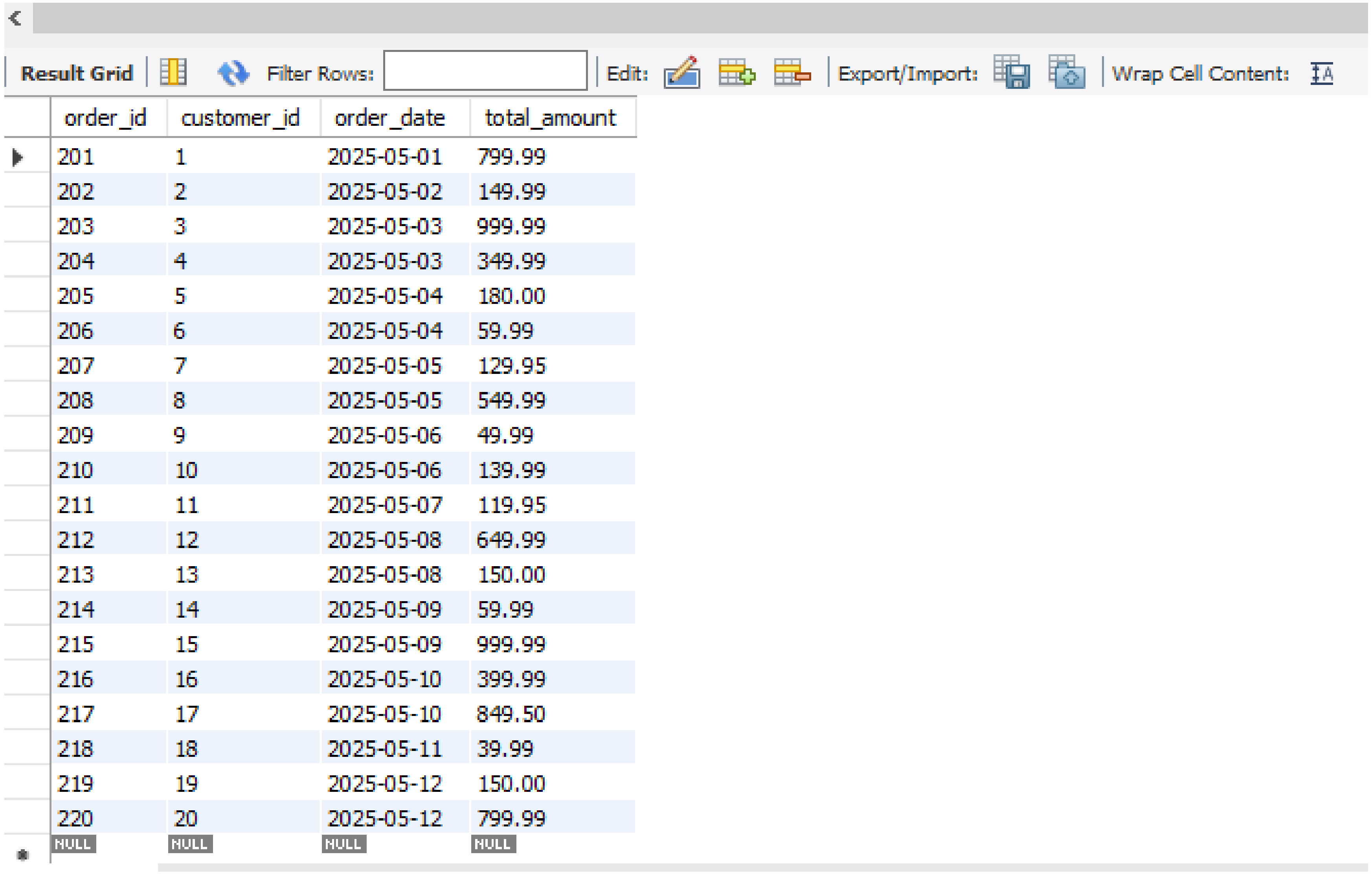
| customer_id | name | email | phone | address |
|---|---|---|---|---|
| 1 | Alice Johnson | alice@gmail.com | 9876543210 | New York |
| 2 | Bob Smith | bob@gmail.com | 8765432109 | California |
| 3 | Charlie Lee | charlie@gmail.com | 7654321098 | Texas |
| 4 | David Kim | david.kim@gmail.com | 7543210987 | Washington |
| 5 | Evelyn Clark | evelyn.clark@gmail.com | 7432109876 | Florida |
| 6 | Frank Wright | frank.wright@gmail.com | 7321098765 | Illinois |
| 7 | Grace Hall | grace.hall@gmail.com | 7210987654 | Ohio |
| 8 | Hannah Adams | hannah.adams@gmail.com | 7109876543 | Georgia |
| 9 | Ian Baker | ian.baker@gmail.com | 7098765432 | Nevada |
| 10 | Jackie Chen | jackie.chen@gmail.com | 6987654321 | Oregon |
| 11 | Karen Davis | karen.davis@gmail.com | 6876543210 | Colorado |
| 12 | Liam Evans | liam.evans@gmail.com | 6765432109 | Michigan |
| 13 | Mia Foster | mia.foster@gmail.com | 6654321098 | Arizona |
| 14 | Nathan Gray | nathan.gray@gmail.com | 6543210987 | Indiana |
| 15 | Olivia Harris | olivia.harris@gmail.com | 6432109876 | Tennessee |
| 16 | Paul Irving | paul.irving@gmail.com | 6321098765 | Missouri |
| 17 | Queenie Jones | queenie.jones@gmail.com | 6210987654 | Louisiana |
| 18 | Ryan King | ryan.king@gmail.com | 6109876543 | Kentucky |
| 19 | Sophia Lee | sophia.lee@gmail.com | 6098765432 | Alabama |
| 20 | Tommy Nelson | tommy.nelson@gmail.com | 5987654321 | Massachus... |
| NULL | NULL | NULL | NULL | NULL |

## INPUT



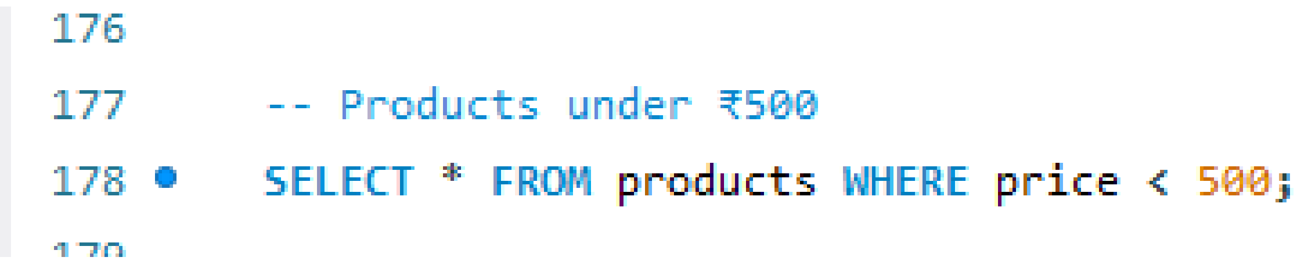
```sql

-- All orders placed in May 2025
SELECT * FROM orders WHERE order_date BETWEEN '2025-05-01' AND '2025-05-31';

```

# INPUT

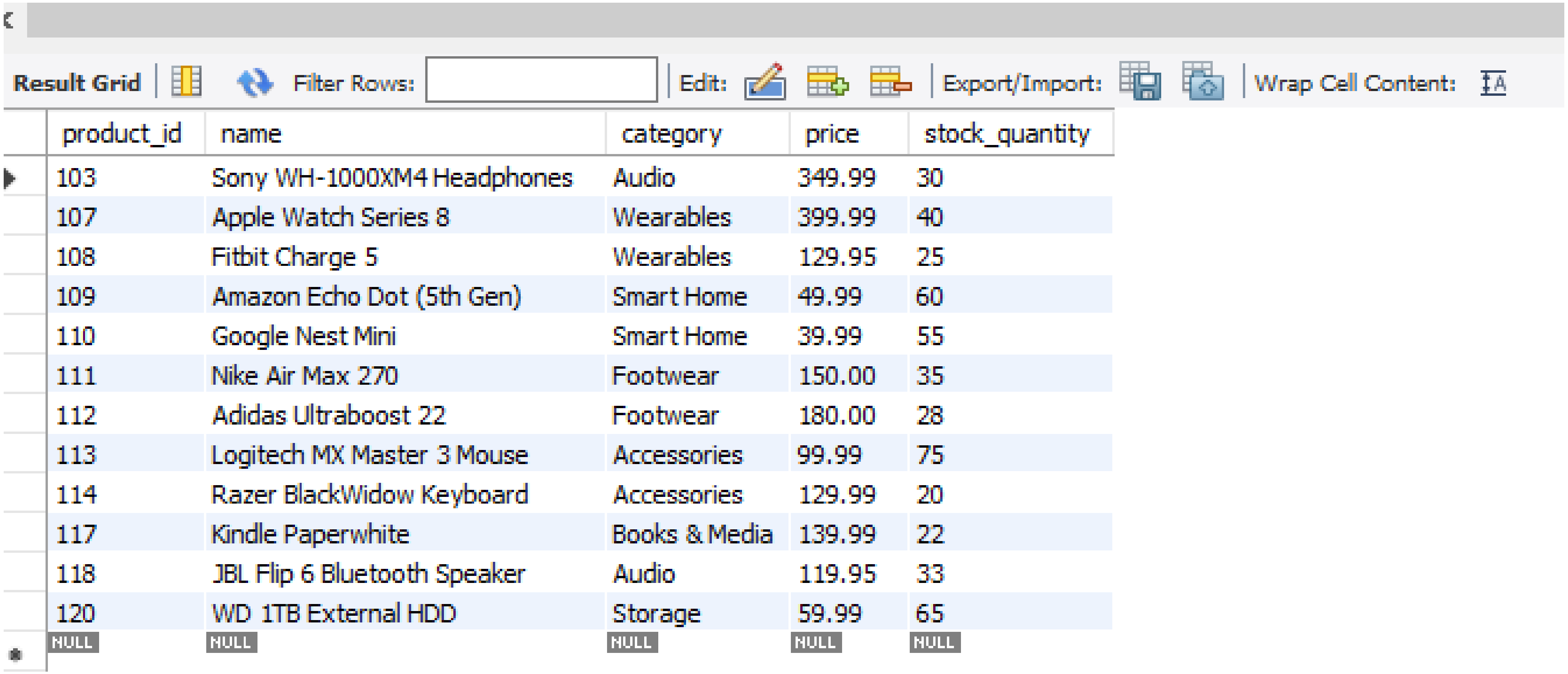


| order_id | customer_id | order_date | total_amount |
|---|---|---|---|
| 201 | 1 | 2025-05-01 | 799.99 |
| 202 | 2 | 2025-05-02 | 149.99 |
| 203 | 3 | 2025-05-03 | 999.99 |
| 204 | 4 | 2025-05-03 | 349.99 |
| 205 | 5 | 2025-05-04 | 180.00 |
| 206 | 6 | 2025-05-04 | 59.99 |
| 207 | 7 | 2025-05-05 | 129.95 |
| 208 | 8 | 2025-05-05 | 549.99 |
| 209 | 9 | 2025-05-06 | 49.99 |
| 210 | 10 | 2025-05-06 | 139.99 |
| 211 | 11 | 2025-05-07 | 119.95 |
| 212 | 12 | 2025-05-08 | 649.99 |
| 213 | 13 | 2025-05-08 | 150.00 |
| 214 | 14 | 2025-05-09 | 59.99 |
| 215 | 15 | 2025-05-09 | 999.99 |
| 216 | 16 | 2025-05-10 | 399.99 |
| 217 | 17 | 2025-05-10 | 849.50 |
| 218 | 18 | 2025-05-11 | 39.99 |
| 219 | 19 | 2025-05-12 | 150.00 |
| 220 | 20 | 2025-05-12 | 799.99 |
| NULL | NULL | NULL | NULL |

# INPUT

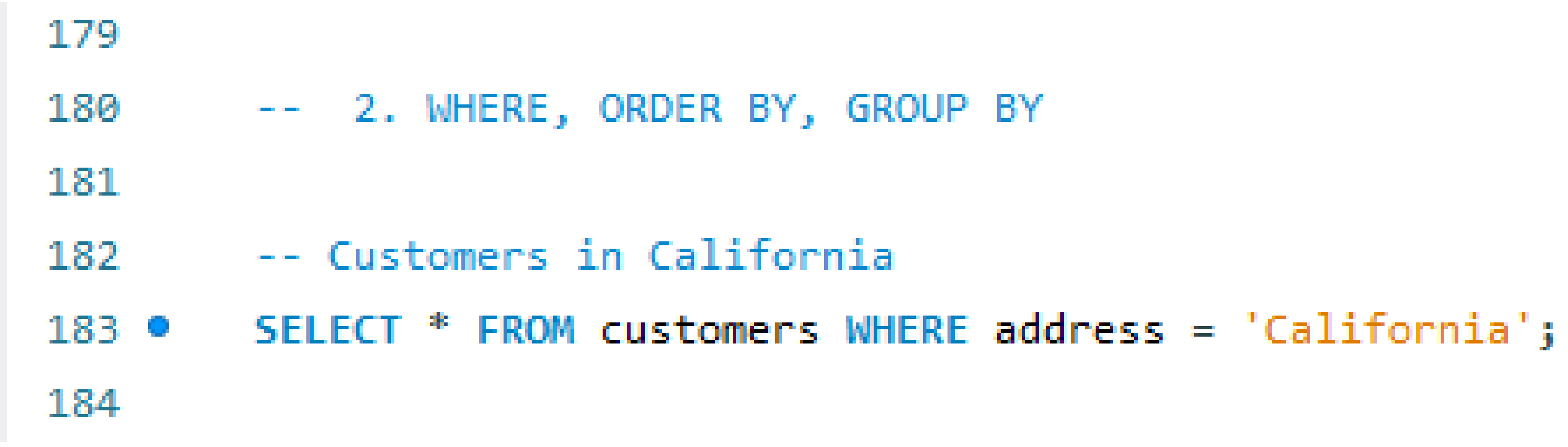


```sql

-- Products under ₹500
SELECT * FROM products WHERE price < 500;
```

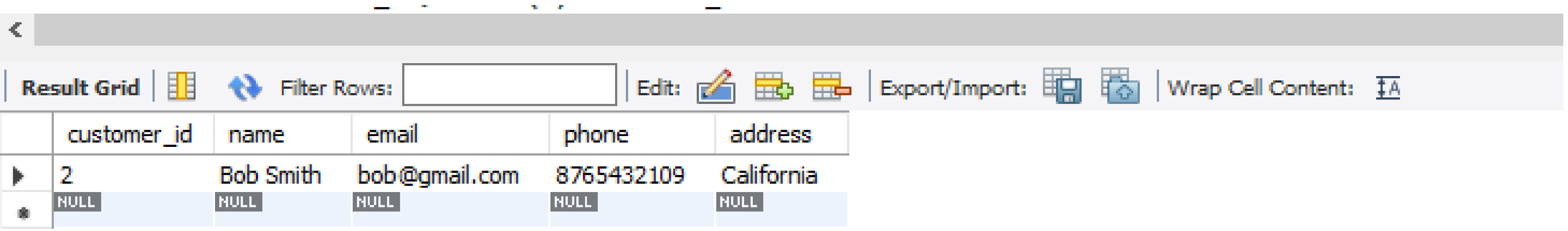


| product_id | name | category | price | stock_quantity |
|---|---|---|---|---|
| 103 | Sony WH-1000XM4 Headphones | Audio | 349.99 | 30 |
| 107 | Apple Watch Series 8 | Wearables | 399.99 | 40 |
| 108 | Fitbit Charge 5 | Wearables | 129.95 | 25 |
| 109 | Amazon Echo Dot (5th Gen) | Smart Home | 49.99 | 60 |
| 110 | Google Nest Mini | Smart Home | 39.99 | 55 |
| 111 | Nike Air Max 270 | Footwear | 150.00 | 35 |
| 112 | Adidas Ultraboost 22 | Footwear | 180.00 | 28 |
| 113 | Logitech MX Master 3 Mouse | Accessories | 99.99 | 75 |
| 114 | Razer BlackWidow Keyboard | Accessories | 129.99 | 20 |
| 117 | Kindle Paperwhite | Books & Media | 139.99 | 22 |
| 118 | JBL Flip 6 Bluetooth Speaker | Audio | 119.95 | 33 |
| 120 | WD 1TB External HDD | Storage | 59.99 | 65 |
| NULL | NULL | NULL | NULL | NULL |

## INPUT

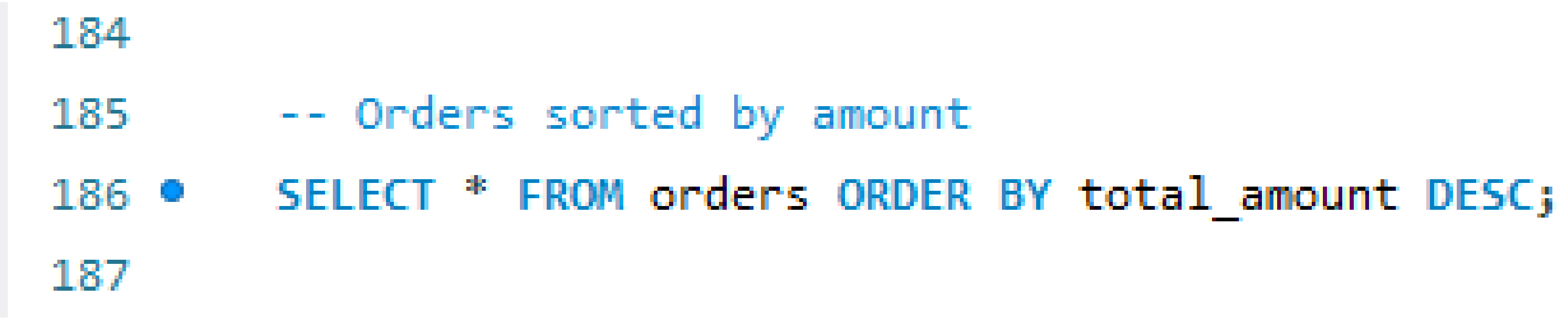


```sql
--  2. WHERE, ORDER BY, GROUP BY

-- Customers in California
SELECT * FROM customers WHERE address = 'California';
```

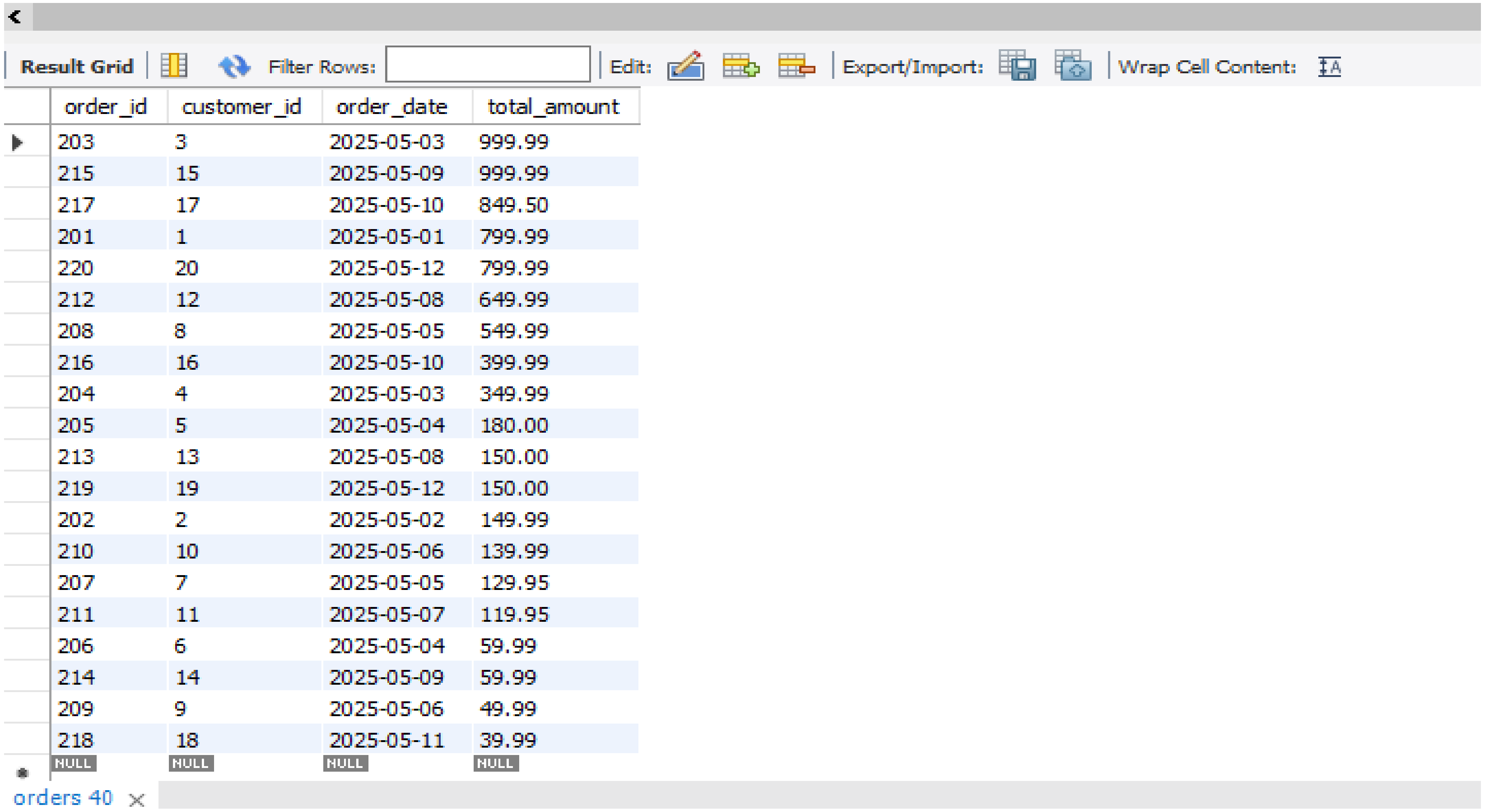


| customer_id | name | email | phone | address |
|---|---|---|---|---|
| 2 | Bob Smith | bob@gmail.com | 8765432109 | California |
| NULL | NULL | NULL | NULL | NULL |

## INPUT

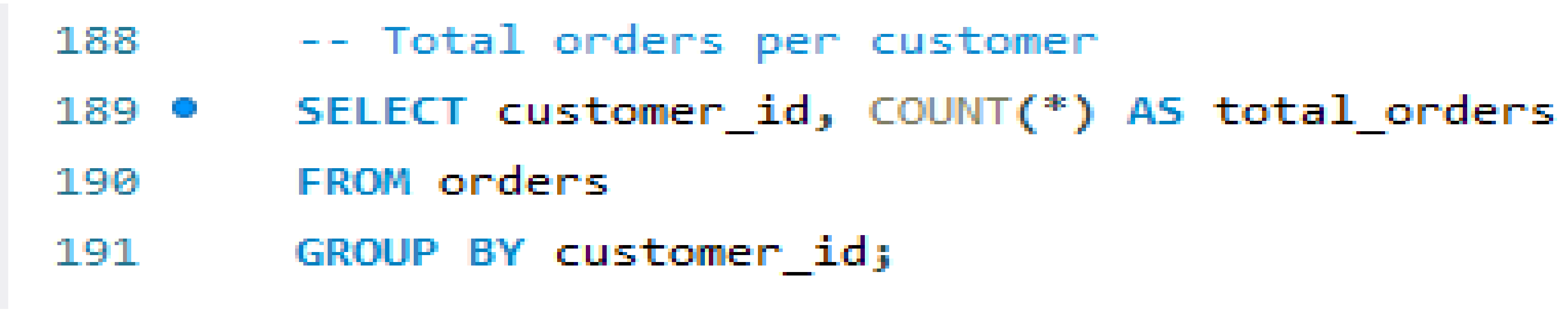


```sql

-- Orders sorted by amount
SELECT * FROM orders ORDER BY total_amount DESC;

```

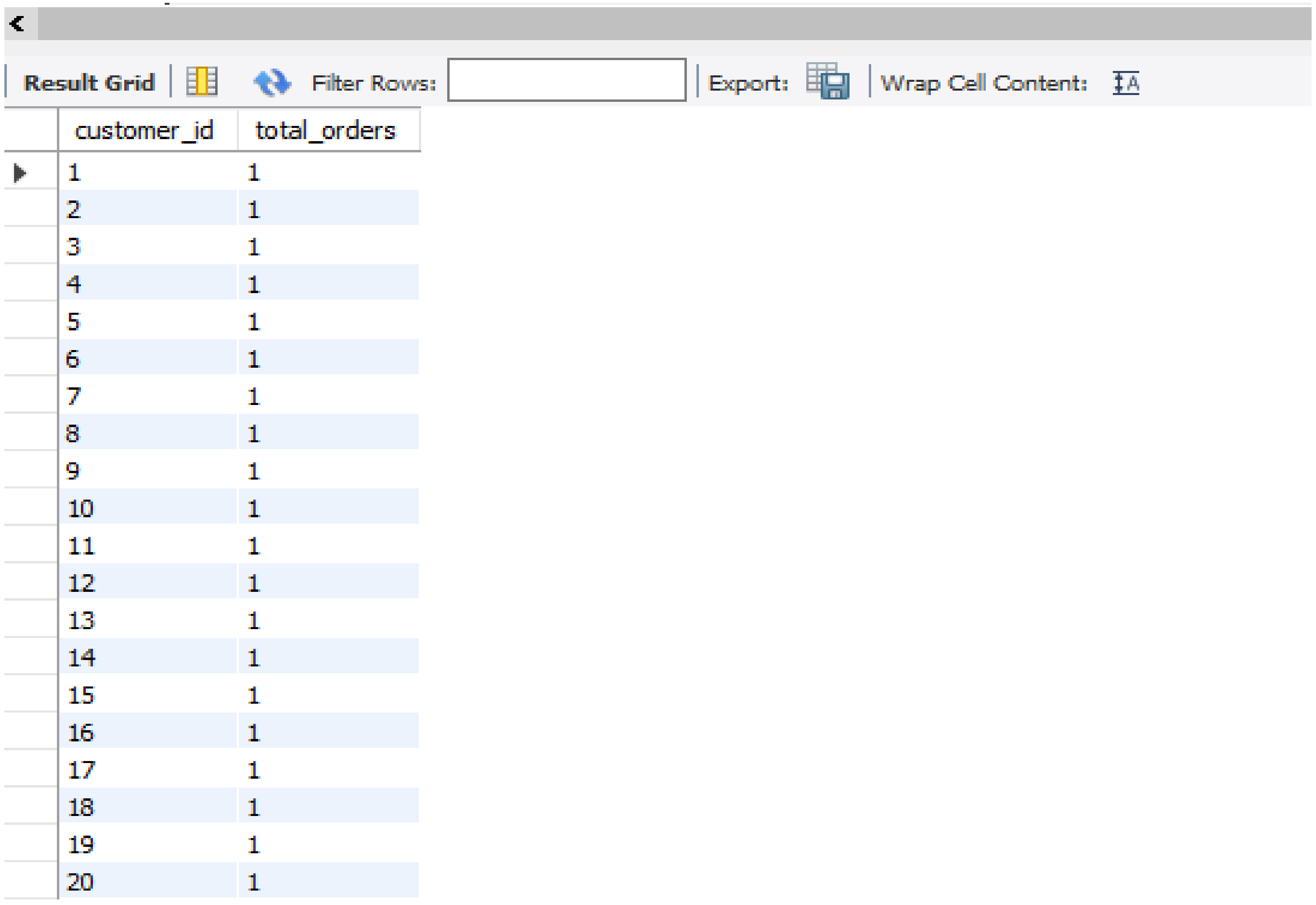


| order_id | customer_id | order_date | total_amount |
|---|---|---|---|
| 203 | 3 | 2025-05-03 | 999.99 |
| 215 | 15 | 2025-05-09 | 999.99 |
| 217 | 17 | 2025-05-10 | 849.50 |
| 201 | 1 | 2025-05-01 | 799.99 |
| 220 | 20 | 2025-05-12 | 799.99 |
| 212 | 12 | 2025-05-08 | 649.99 |
| 208 | 8 | 2025-05-05 | 549.99 |
| 216 | 16 | 2025-05-10 | 399.99 |
| 204 | 4 | 2025-05-03 | 349.99 |
| 205 | 5 | 2025-05-04 | 180.00 |
| 213 | 13 | 2025-05-08 | 150.00 |
| 219 | 19 | 2025-05-12 | 150.00 |
| 202 | 2 | 2025-05-02 | 149.99 |
| 210 | 10 | 2025-05-06 | 139.99 |
| 207 | 7 | 2025-05-05 | 129.95 |
| 211 | 11 | 2025-05-07 | 119.95 |
| 206 | 6 | 2025-05-04 | 59.99 |
| 214 | 14 | 2025-05-09 | 59.99 |
| 209 | 9 | 2025-05-06 | 49.99 |
| 218 | 18 | 2025-05-11 | 39.99 |
| NULL | NULL | NULL | NULL |

# INPUT

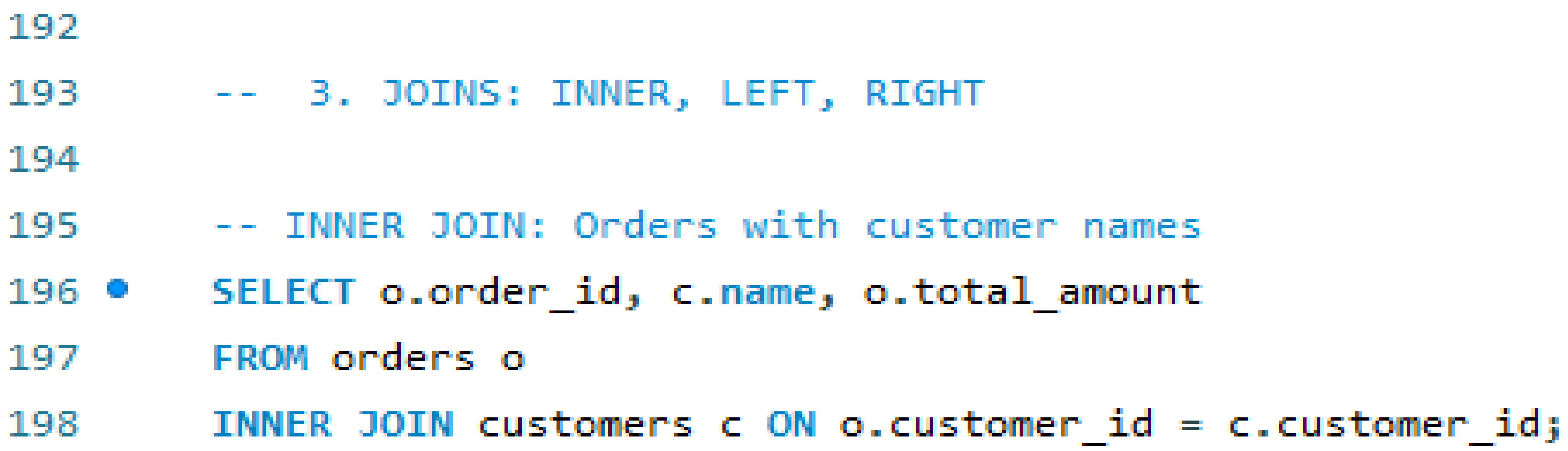


```sql
-- Total orders per customer
SELECT customer_id, COUNT(*) AS total_orders
FROM orders
GROUP BY customer_id;
```

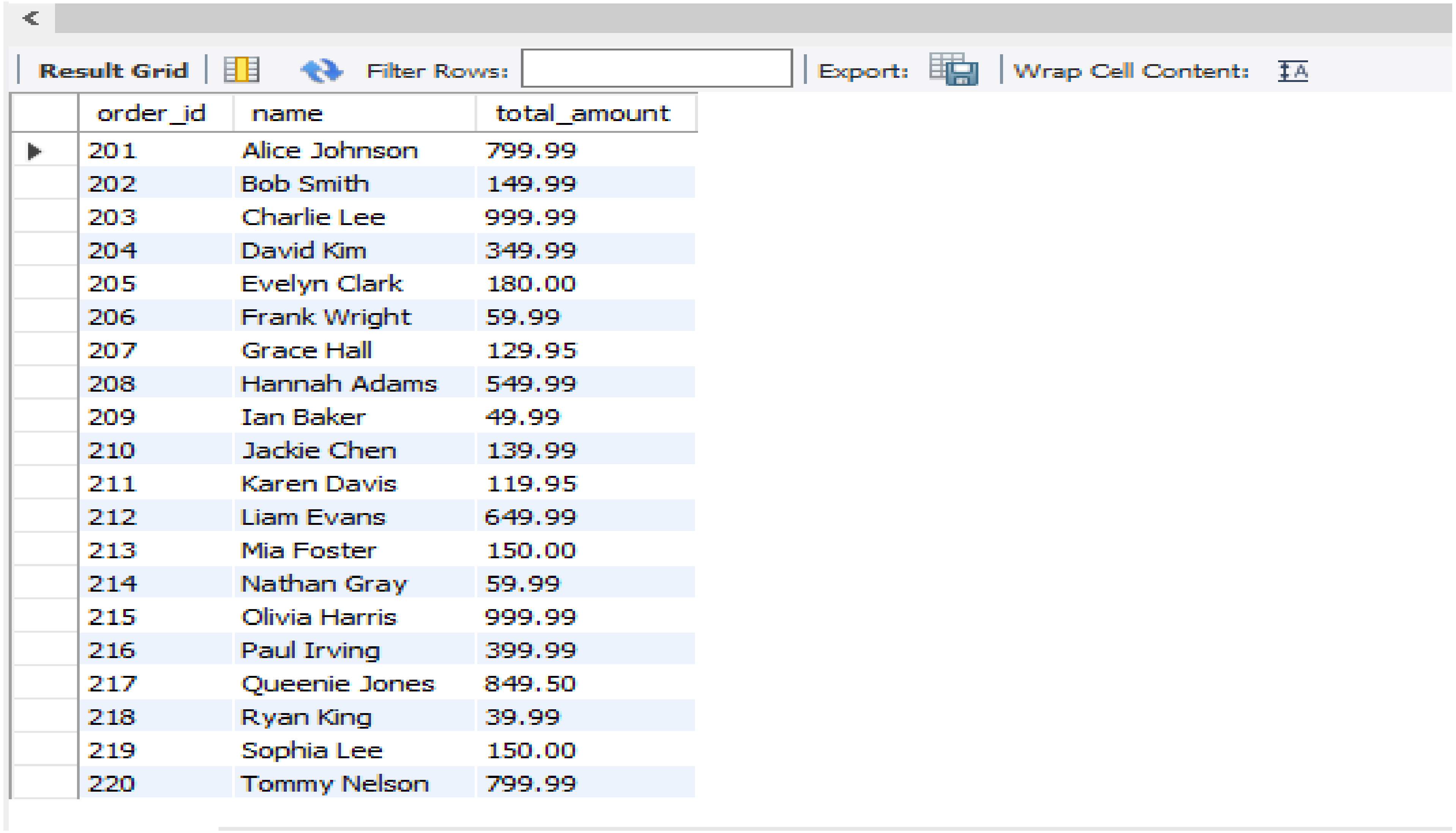


| customer_id | total_orders |
|---|---|
| 1 | 1 |
| 2 | 1 |
| 3 | 1 |
| 4 | 1 |
| 5 | 1 |
| 6 | 1 |
| 7 | 1 |
| 8 | 1 |
| 9 | 1 |
| 10 | 1 |
| 11 | 1 |
| 12 | 1 |
| 13 | 1 |
| 14 | 1 |
| 15 | 1 |
| 16 | 1 |
| 17 | 1 |
| 18 | 1 |
| 19 | 1 |
| 20 | 1 |

## INPUT

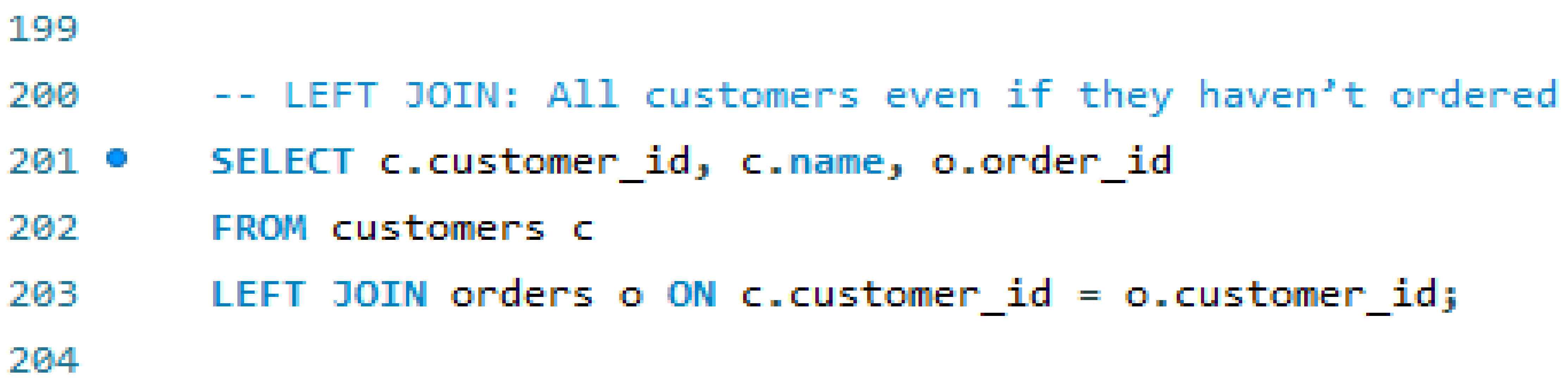


```
-- 3. JOINS: INNER, LEFT, RIGHT

-- INNER JOIN: Orders with customer names
SELECT o.order_id, c.name, o.total_amount
FROM orders o
INNER JOIN customers c ON o.customer_id = c.customer_id;
```

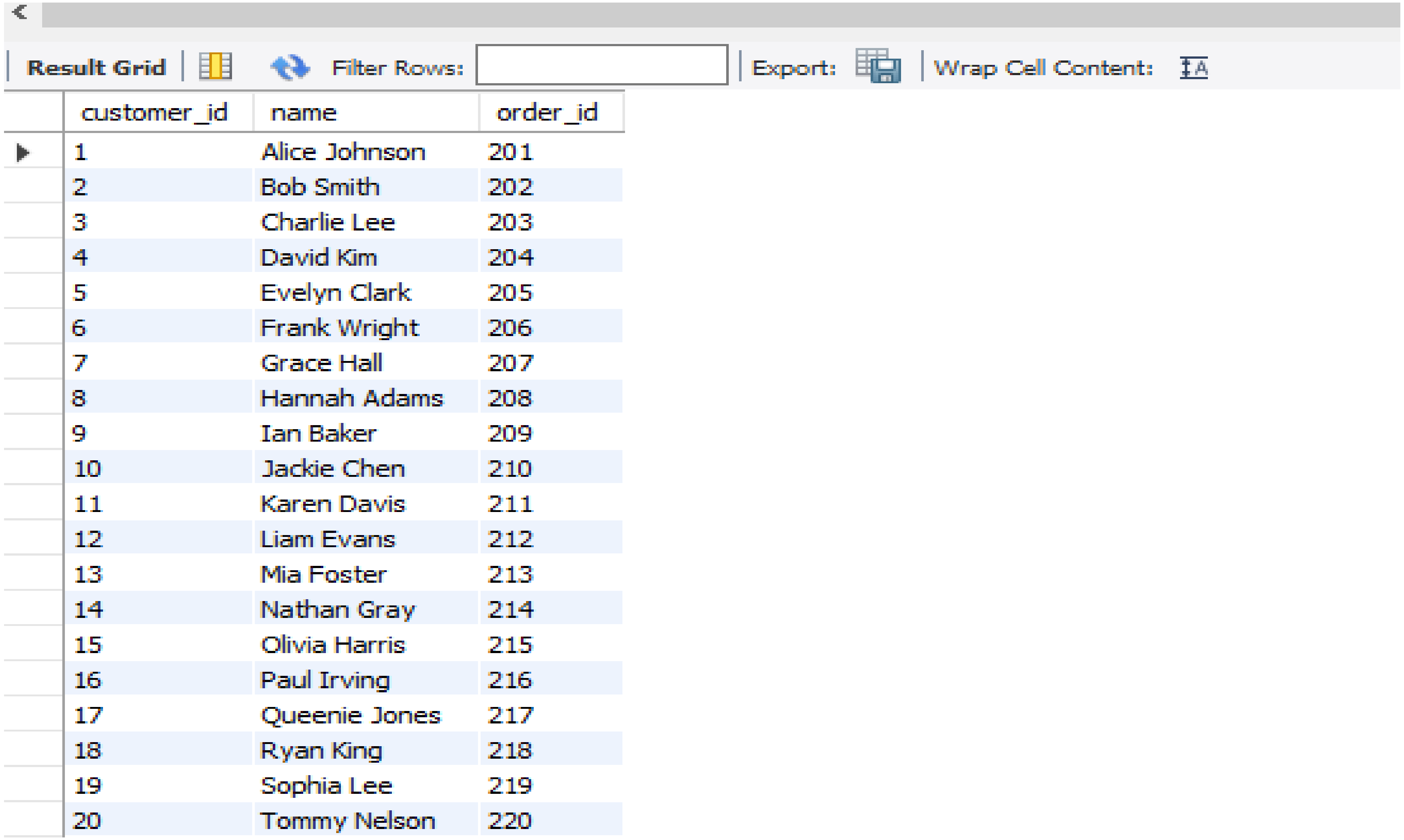


| | order_id | name | total_amount |
|---|---|---|---|
| ▶ | 201 | Alice Johnson | 799.99 |
| | 202 | Bob Smith | 149.99 |
| | 203 | Charlie Lee | 999.99 |
| | 204 | David Kim | 349.99 |
| | 205 | Evelyn Clark | 180.00 |
| | 206 | Frank Wright | 59.99 |
| | 207 | Grace Hall | 129.95 |
| | 208 | Hannah Adams | 549.99 |
| | 209 | Ian Baker | 49.99 |
| | 210 | Jackie Chen | 139.99 |
| | 211 | Karen Davis | 119.95 |
| | 212 | Liam Evans | 649.99 |
| | 213 | Mia Foster | 150.00 |
| | 214 | Nathan Gray | 59.99 |
| | 215 | Olivia Harris | 999.99 |
| | 216 | Paul Irving | 399.99 |
| | 217 | Queenie Jones | 849.50 |
| | 218 | Ryan King | 39.99 |
| | 219 | Sophia Lee | 150.00 |
| | 220 | Tommy Nelson | 799.99 |

## INPUT

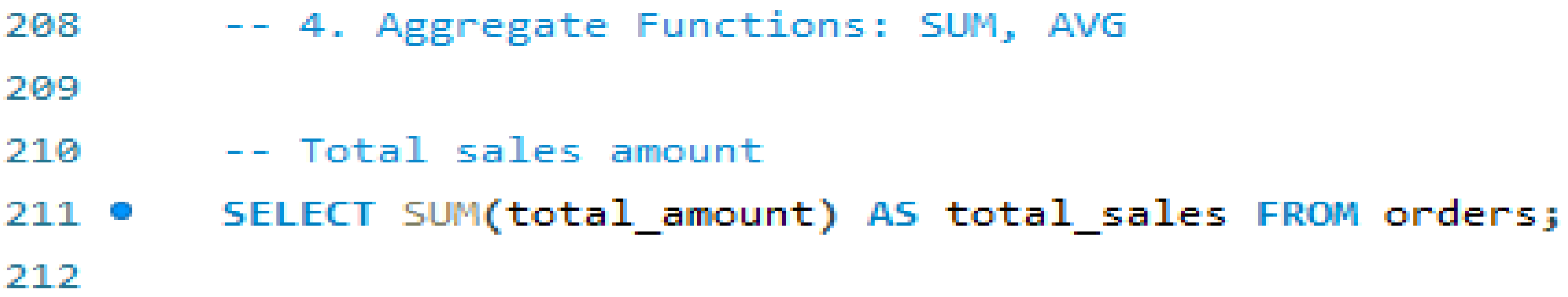


```sql

-- LEFT JOIN: All customers even if they haven't ordered
SELECT c.customer_id, c.name, o.order_id
FROM customers c
LEFT JOIN orders o ON c.customer_id = o.customer_id;

```

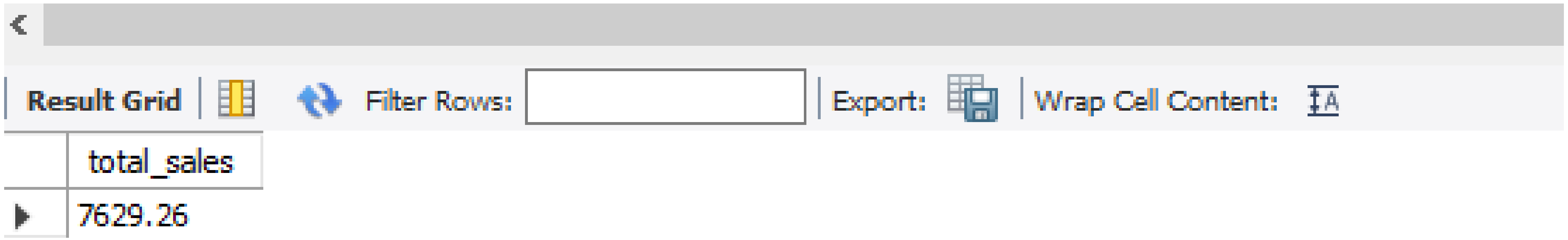


| customer_id | name | order_id |
|---|---|---|
| 1 | Alice Johnson | 201 |
| 2 | Bob Smith | 202 |
| 3 | Charlie Lee | 203 |
| 4 | David Kim | 204 |
| 5 | Evelyn Clark | 205 |
| 6 | Frank Wright | 206 |
| 7 | Grace Hall | 207 |
| 8 | Hannah Adams | 208 |
| 9 | Ian Baker | 209 |
| 10 | Jackie Chen | 210 |
| 11 | Karen Davis | 211 |
| 12 | Liam Evans | 212 |
| 13 | Mia Foster | 213 |
| 14 | Nathan Gray | 214 |
| 15 | Olivia Harris | 215 |
| 16 | Paul Irving | 216 |
| 17 | Queenie Jones | 217 |
| 18 | Ryan King | 218 |
| 19 | Sophia Lee | 219 |
| 20 | Tommy Nelson | 220 |

# INPUT

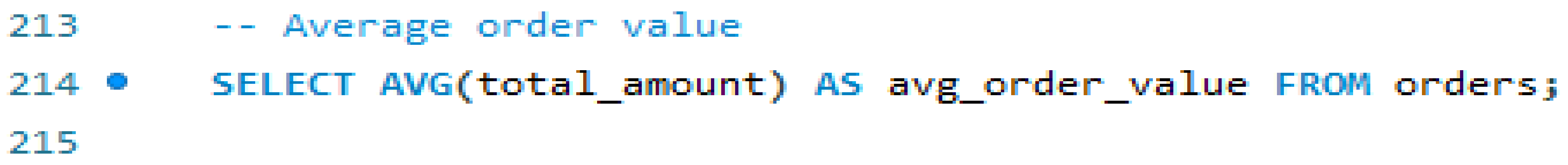


```sql
-- 4. Aggregate Functions: SUM, AVG

-- Total sales amount
SELECT SUM(total_amount) AS total_sales FROM orders;

```

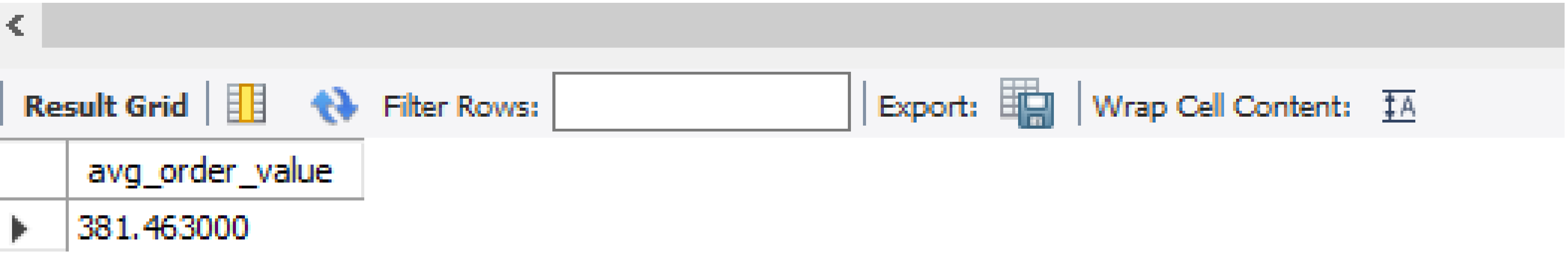


```
total_sales
7629.26
```

## INPUT

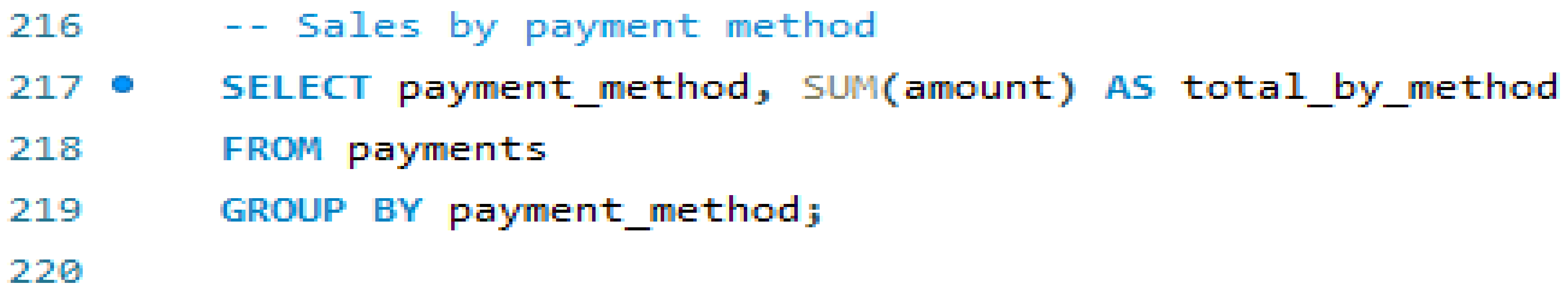


```sql
-- Average order value
SELECT AVG(total_amount) AS avg_order_value FROM orders;
```

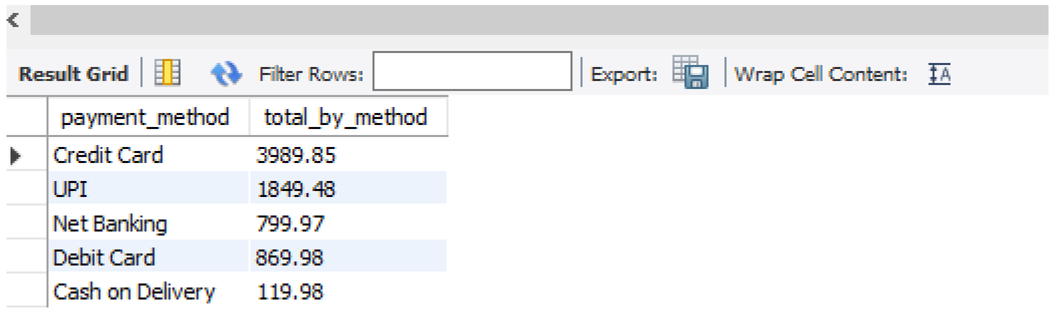


```
avg_order_value
381.463000
```

## INPUT

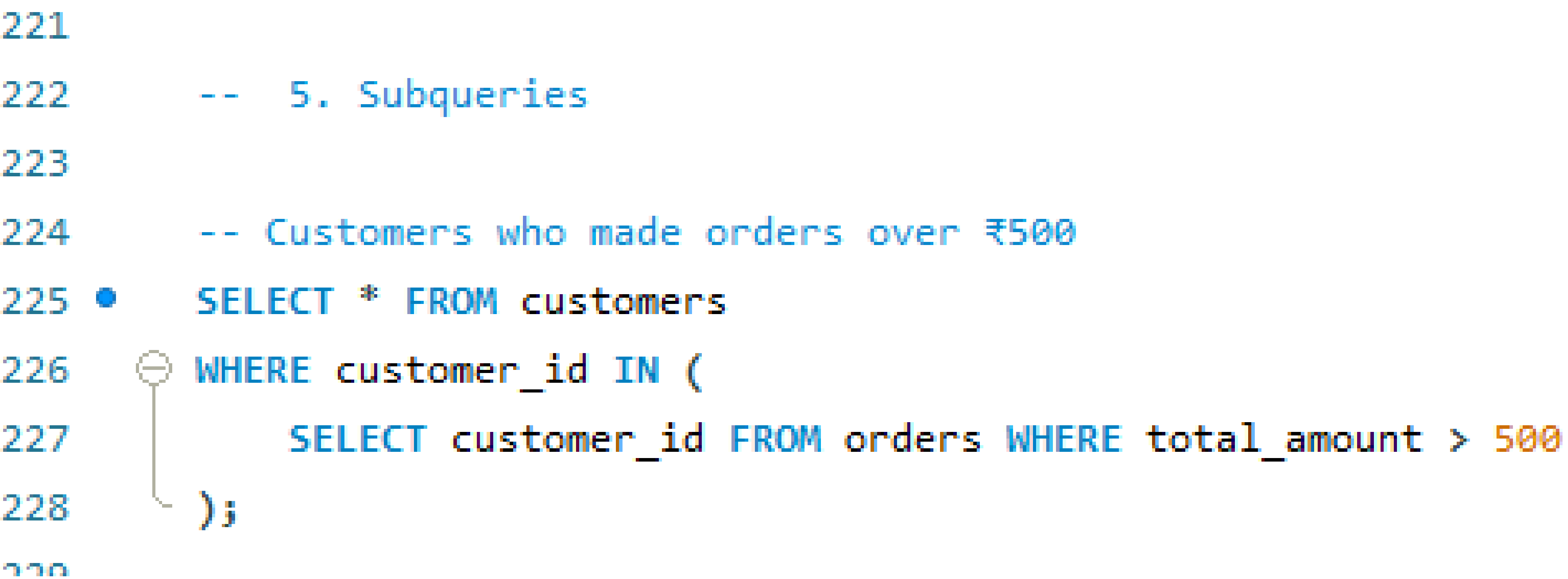


```sql
-- Sales by payment method
SELECT payment_method, SUM(amount) AS total_by_method
FROM payments
GROUP BY payment_method;
```

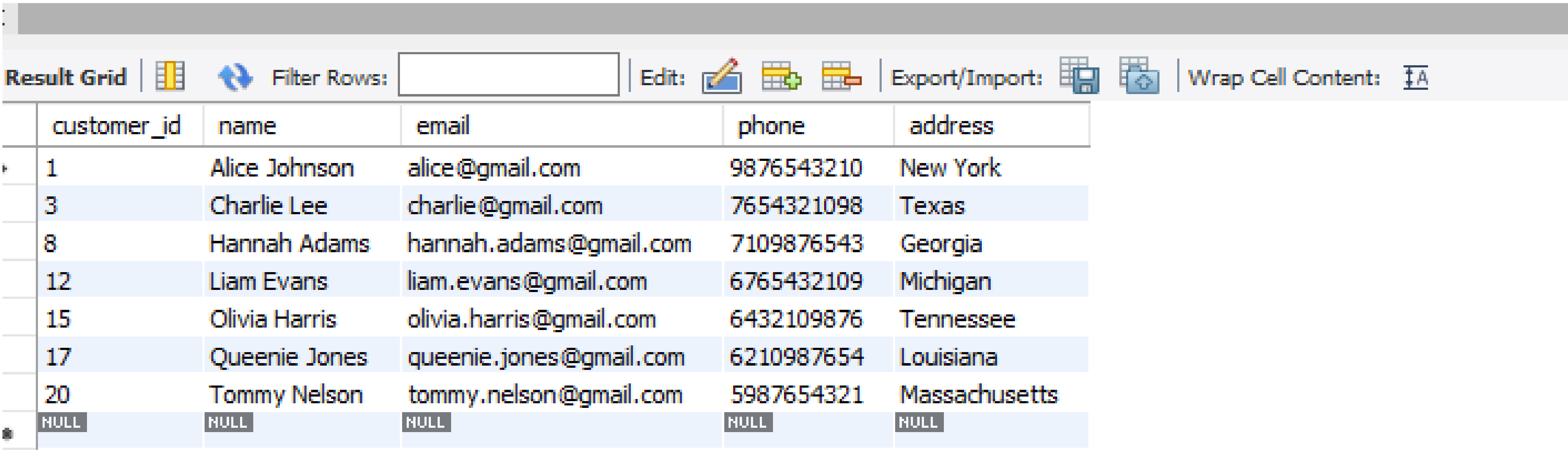


| payment_method | total_by_method |
|---|---|
| Credit Card | 3989.85 |
| UPI | 1849.48 |
| Net Banking | 799.97 |
| Debit Card | 869.98 |
| Cash on Delivery | 119.98 |

## INPUT

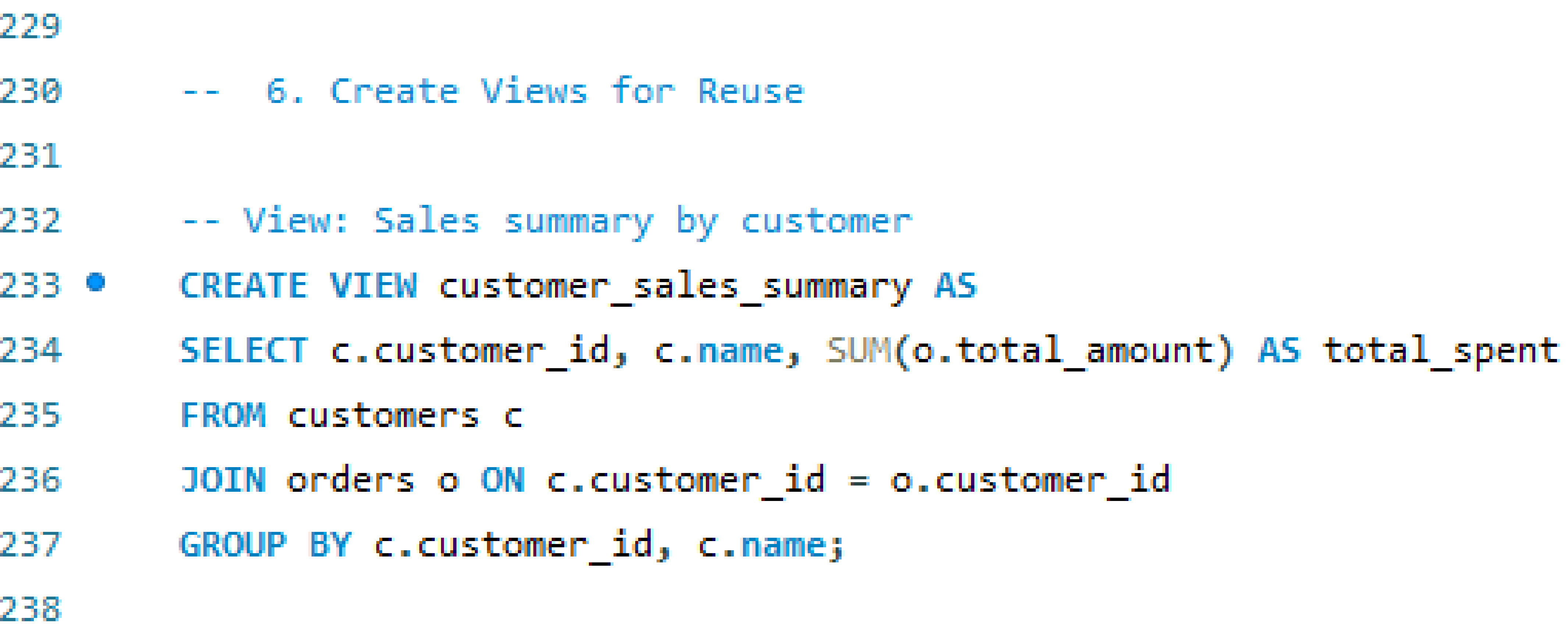


```
--  5. Subqueries

-- Customers who made orders over ₹500
SELECT * FROM customers
WHERE customer_id IN (
    SELECT customer_id FROM orders WHERE total_amount > 500
);
```



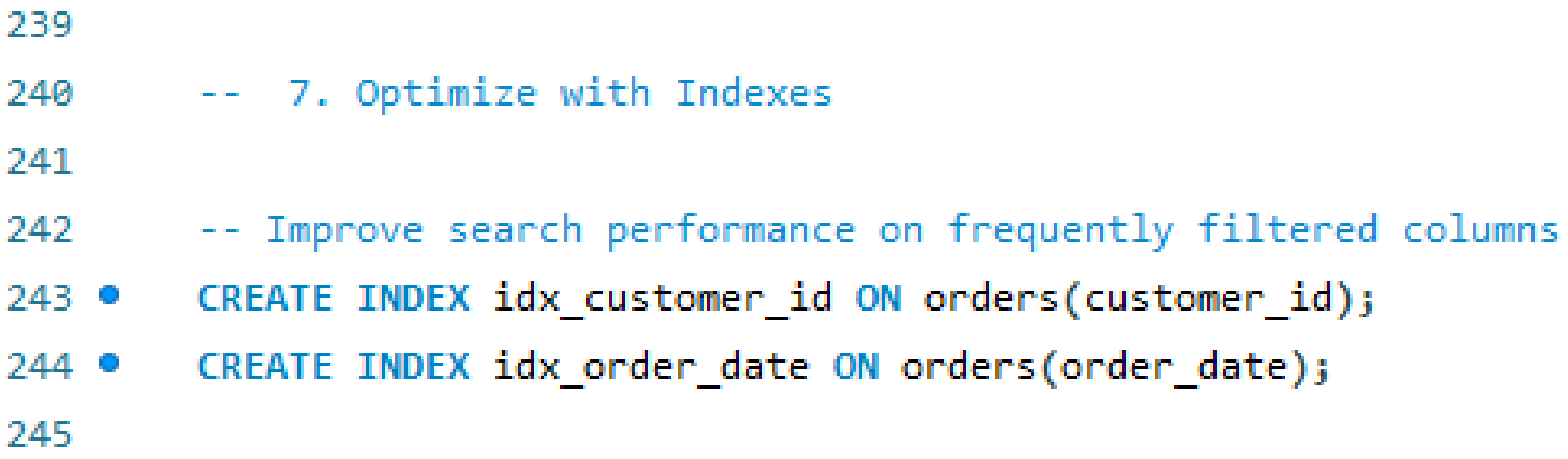
| customer_id | name | email | phone | address |
|---|---|---|---|---|
| 1 | Alice Johnson | alice@gmail.com | 9876543210 | New York |
| 3 | Charlie Lee | charlie@gmail.com | 7654321098 | Texas |
| 8 | Hannah Adams | hannah.adams@gmail.com | 7109876543 | Georgia |
| 12 | Liam Evans | liam.evans@gmail.com | 6765432109 | Michigan |
| 15 | Olivia Harris | olivia.harris@gmail.com | 6432109876 | Tennessee |
| 17 | Queenie Jones | queenie.jones@gmail.com | 6210987654 | Louisiana |
| 20 | Tommy Nelson | tommy.nelson@gmail.com | 5987654321 | Massachusetts |
| NULL | NULL | NULL | NULL | NULL |

# INPUT



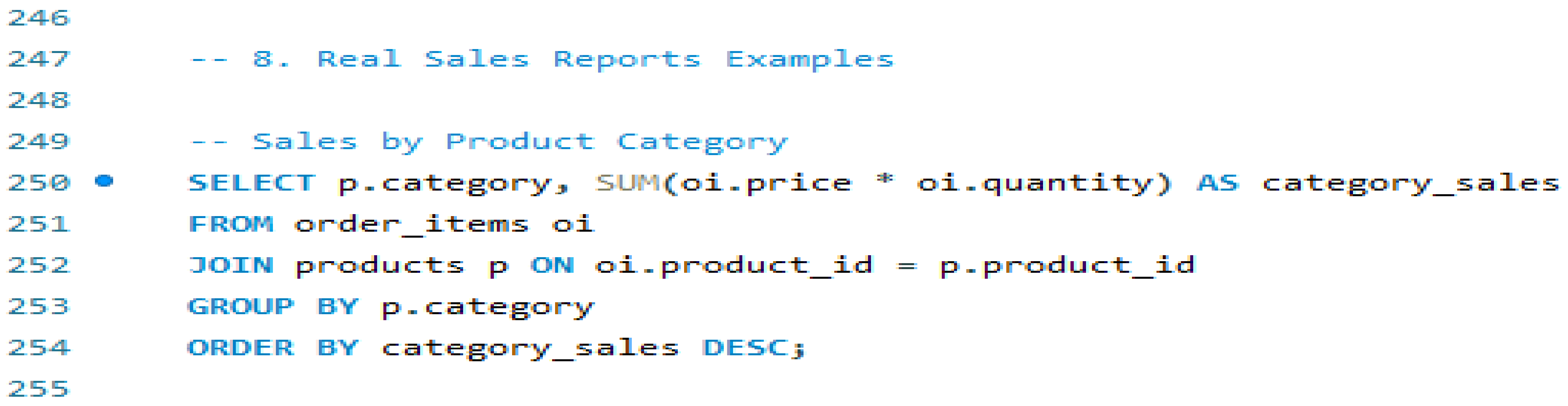
```
--  6. Create Views for Reuse

-- View: Sales summary by customer
CREATE VIEW customer_sales_summary AS
SELECT c.customer_id, c.name, SUM(o.total_amount) AS total_spent
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
GROUP BY c.customer_id, c.name;
```

## INPUT

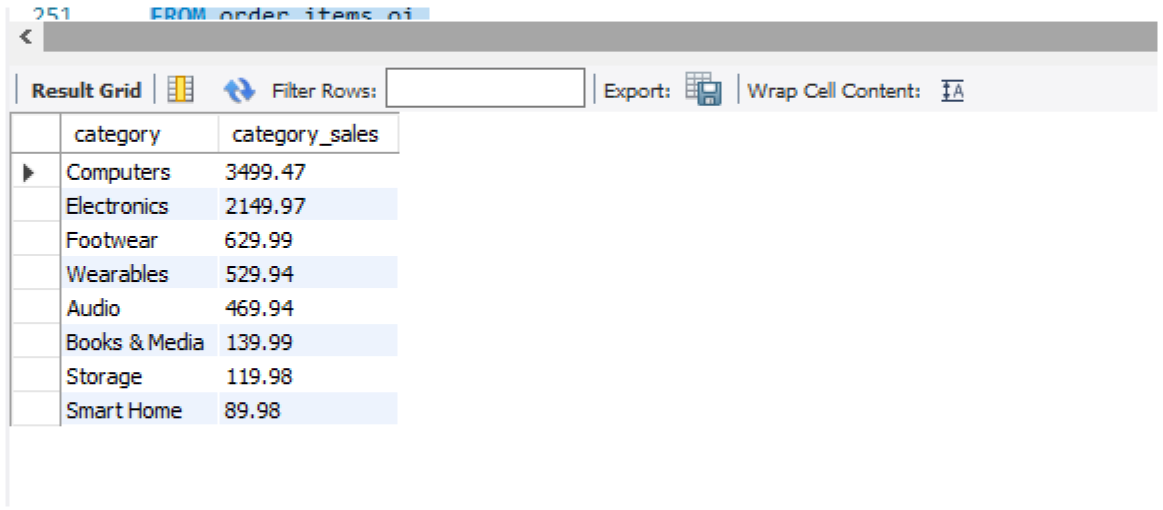


```sql

--  7. Optimize with Indexes

-- Improve search performance on frequently filtered columns
CREATE INDEX idx_customer_id ON orders(customer_id);
CREATE INDEX idx_order_date ON orders(order_date);

```

## INPUT



```sql

-- 8. Real Sales Reports Examples

-- Sales by Product Category
SELECT p.category, SUM(oi.price * oi.quantity) AS category_sales
FROM order_items oi
JOIN products p ON oi.product_id = p.product_id
GROUP BY p.category
ORDER BY category_sales DESC;

```

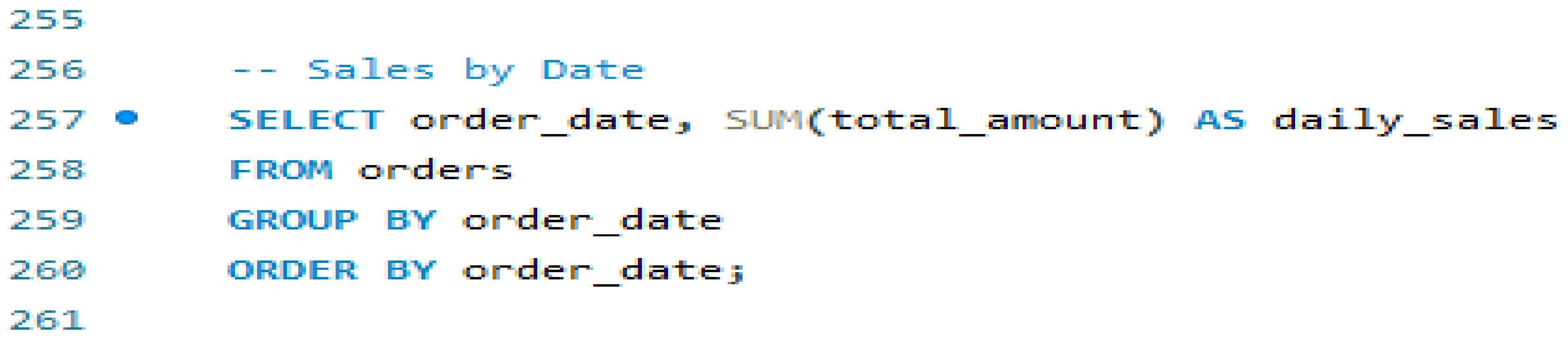


```
FROM order_items oi
```

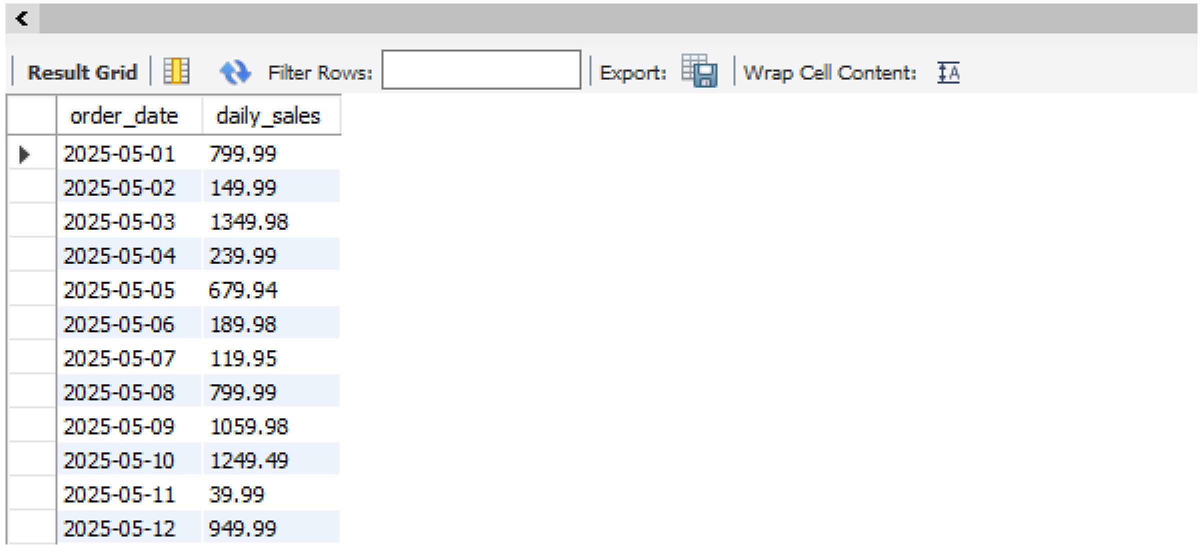
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| category | category_sales |
|---|---|
| Computers | 3499.47 |
| Electronics | 2149.97 |
| Footwear | 629.99 |
| Wearables | 529.94 |
| Audio | 469.94 |
| Books & Media | 139.99 |
| Storage | 119.98 |
| Smart Home | 89.98 |

## INPUT

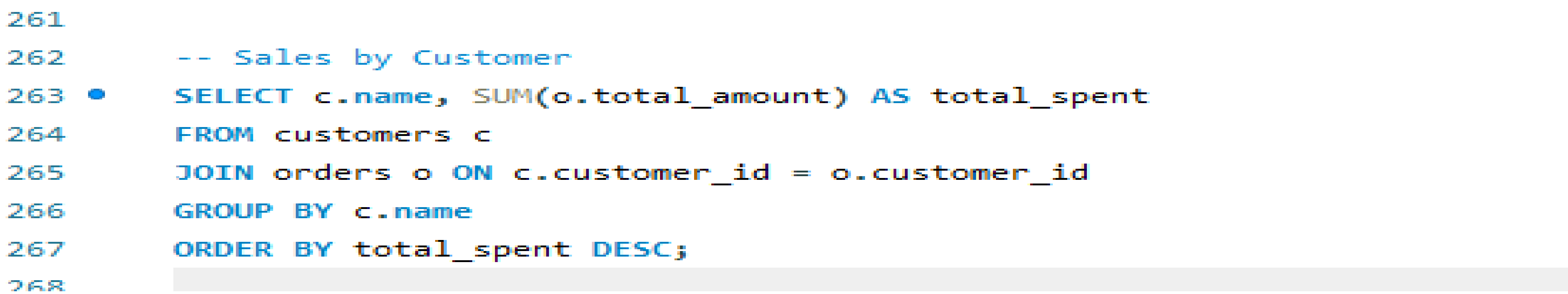


```sql
-- Sales by Date
SELECT order_date, SUM(total_amount) AS daily_sales
FROM orders
GROUP BY order_date
ORDER BY order_date;
```

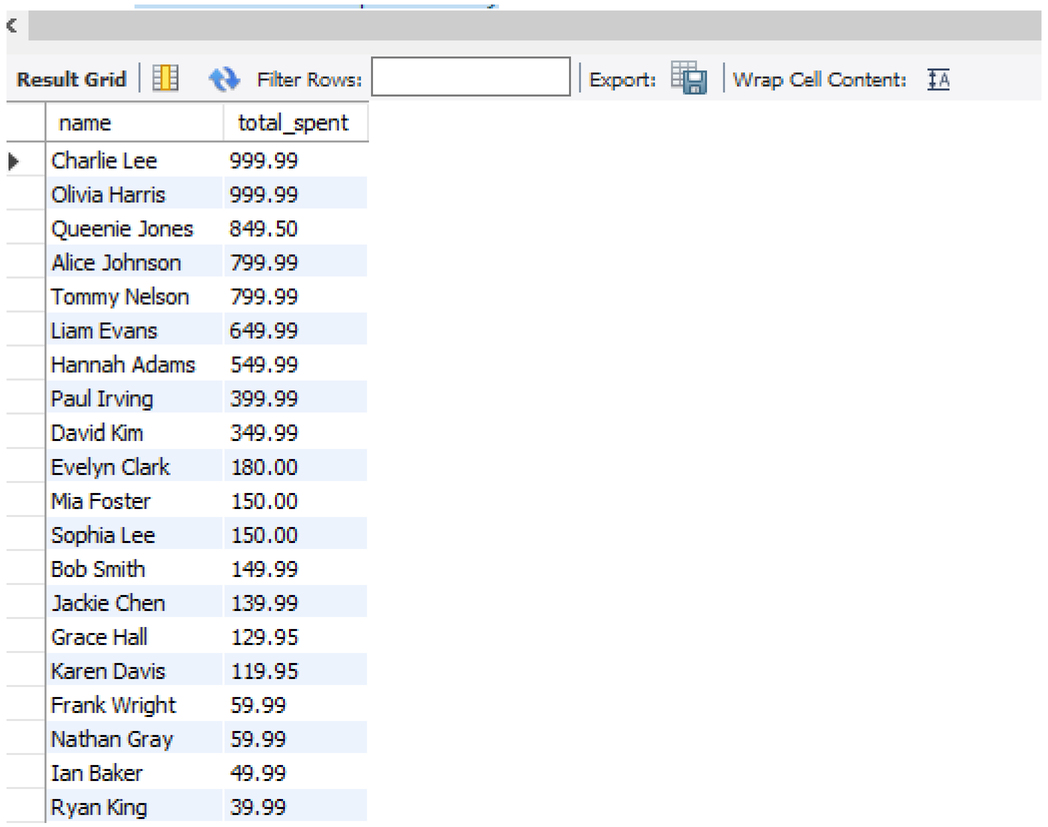


| order_date | daily_sales |
|---|---|
| 2025-05-01 | 799.99 |
| 2025-05-02 | 149.99 |
| 2025-05-03 | 1349.98 |
| 2025-05-04 | 239.99 |
| 2025-05-05 | 679.94 |
| 2025-05-06 | 189.98 |
| 2025-05-07 | 119.95 |
| 2025-05-08 | 799.99 |
| 2025-05-09 | 1059.98 |
| 2025-05-10 | 1249.49 |
| 2025-05-11 | 39.99 |
| 2025-05-12 | 949.99 |

# INPUT



```sql

-- Sales by Customer
SELECT c.name, SUM(o.total_amount) AS total_spent
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
GROUP BY c.name
ORDER BY total_spent DESC;
```


Result Grid | Filter Rows: | Export: | Wrap Cell Content:

```
name            total_spent
Charlie Lee     999.99
Olivia Harris   999.99
Queenie Jones   849.50
Alice Johnson   799.99
Tommy Nelson    799.99
Liam Evans      649.99
Hannah Adams    549.99
Paul Irving     399.99
David Kim       349.99
Evelyn Clark    180.00
Mia Foster      150.00
Sophia Lee      150.00
Bob Smith       149.99
Jackie Chen     139.99
Grace Hall      129.95
Karen Davis     119.95
Frank Wright    59.99
Nathan Gray     59.99
Ian Baker       49.99
Ryan King       39.99
```