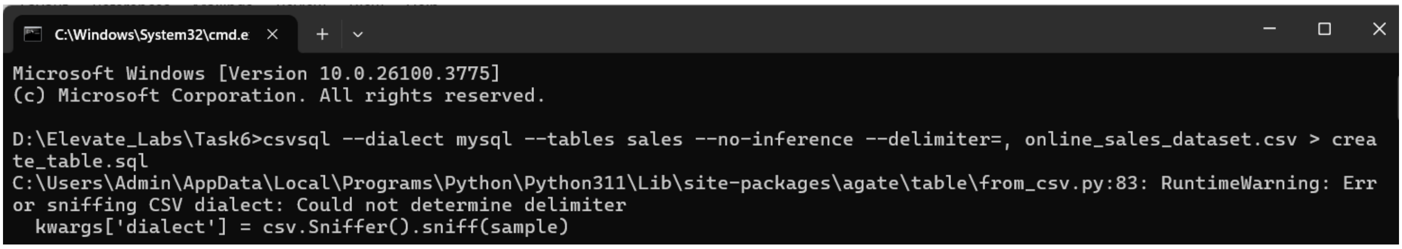
TASK 6: Sales Trend Analysis Using Aggregations

- ❖ **Setting-up the Environment in MySql**

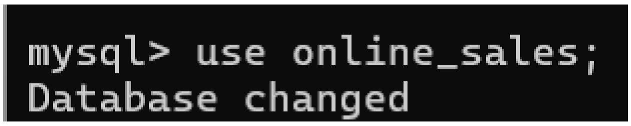
1. Creating a create_table.sql file in the directory where dataset is located



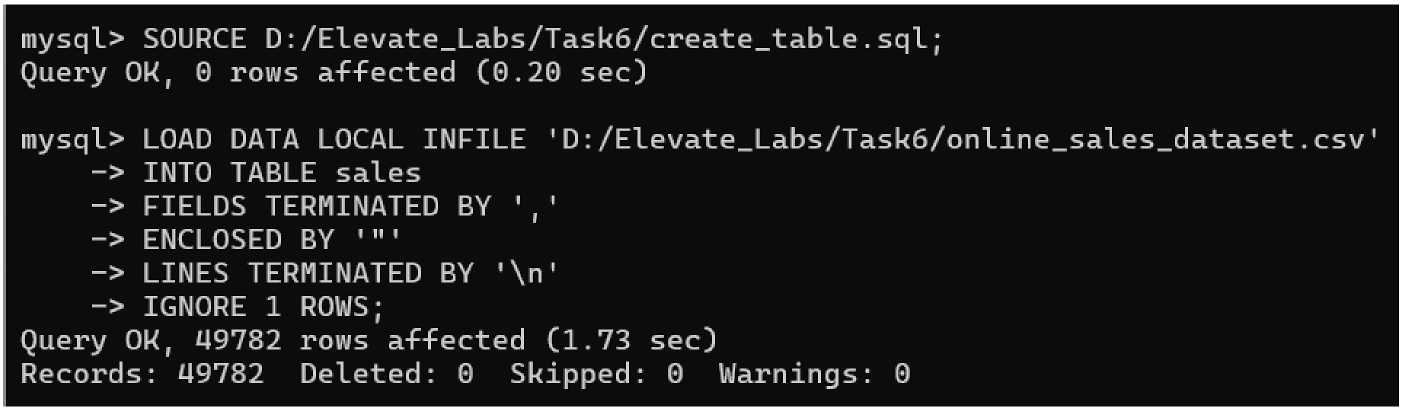
```
Microsoft Windows [Version 10.0.26100.3775]
(c) Microsoft Corporation. All rights reserved.

D:\Elevate_Labs\Task6>csvsql --dialect mysql --tables sales --no-inference --delimiter=, online_sales_dataset.csv > crea
te_table.sql
C:\Users\Admin\AppData\Local\Programs\Python\Python311\Lib\site-packages\agate\table\from_csv.py:83: RuntimeWarning: Err
or sniffing CSV dialect: Could not determine delimiter
  kwargs['dialect'] = csv.Sniffer().sniff(sample)
```

2. Load the data in the table from dataset



```
mysql> use online_sales;
Database changed
```

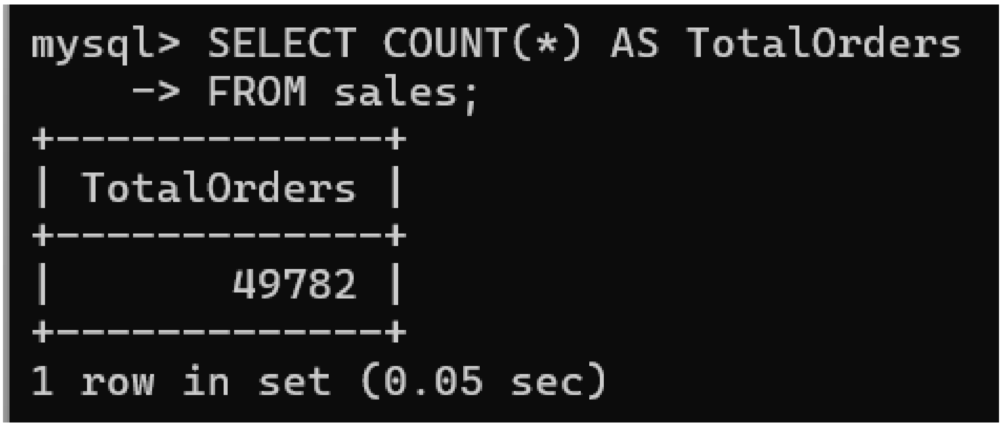


```
mysql> SOURCE D:/Elevate_Labs/Task6/create_table.sql;
Query OK, 0 rows affected (0.20 sec)

mysql> LOAD DATA LOCAL INFILE 'D:/Elevate_Labs/Task6/online_sales_dataset.csv'
    -> INTO TABLE sales
    -> FIELDS TERMINATED BY ','
    -> ENCLOSED BY '"'
    -> LINES TERMINATED BY '\n'
    -> IGNORE 1 ROWS;
Query OK, 49782 rows affected (1.73 sec)
Records: 49782  Deleted: 0  Skipped: 0  Warnings: 0
```

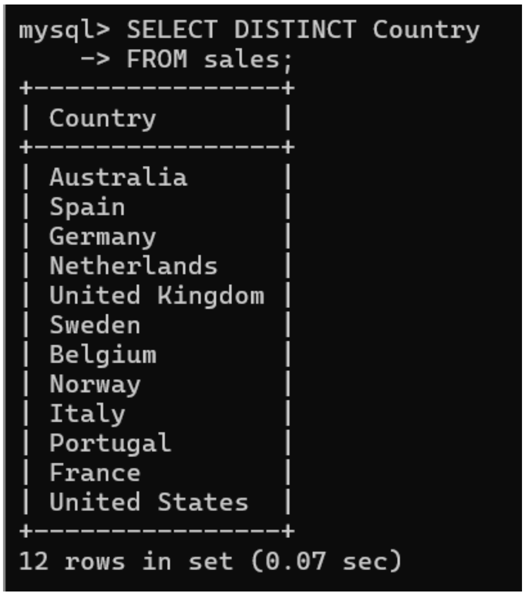
- ❖ **Start Analyzing the Data**

1. **Show total number of orders**



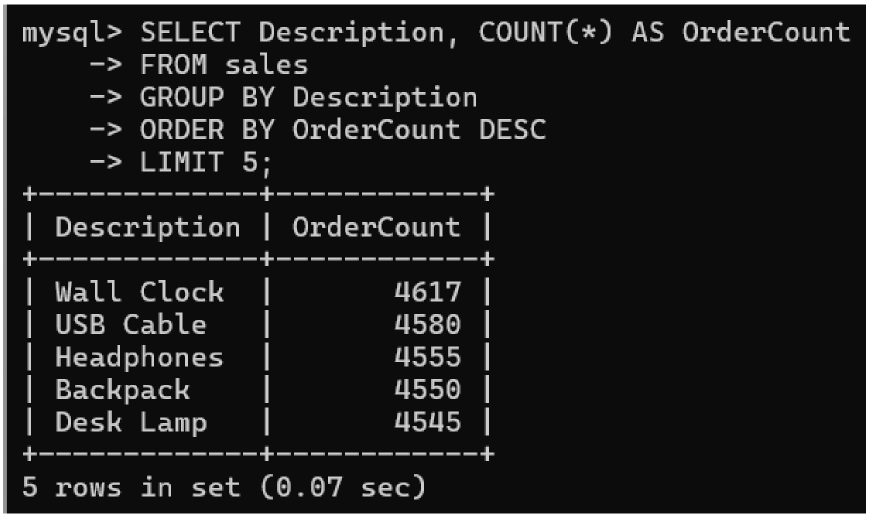
```
mysql> SELECT COUNT(*) AS TotalOrders
    -> FROM sales;
+-------------+
| TotalOrders |
+-------------+
|       49782 |
+-------------+
1 row in set (0.05 sec)
```

2. **List all unique countries**



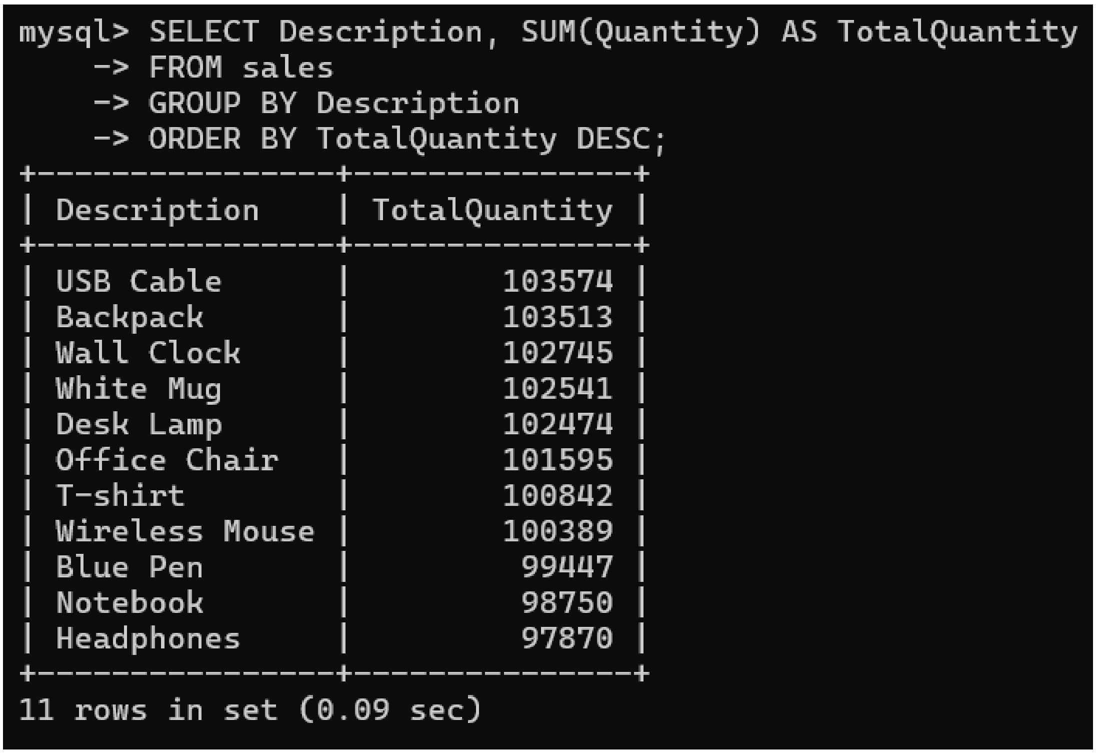
```
mysql> SELECT DISTINCT Country
    -> FROM sales;
+----------------+
| Country        |
+----------------+
| Australia      |
| Spain          |
| Germany        |
| Netherlands    |
| United Kingdom |
| Sweden         |
| Belgium        |
| Norway         |
| Italy          |
| Portugal       |
| France         |
| United States  |
+----------------+
12 rows in set (0.07 sec)
```

3. **Find top 5 most ordered products**



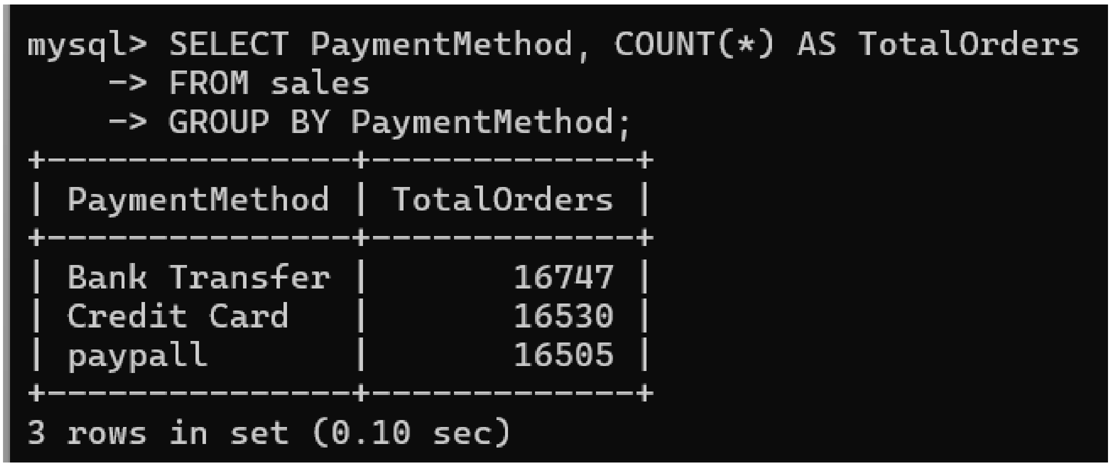
```
mysql> SELECT Description, COUNT(*) AS OrderCount
    -> FROM sales
    -> GROUP BY Description
    -> ORDER BY OrderCount DESC
    -> LIMIT 5;
+-------------+------------+
| Description | OrderCount |
+-------------+------------+
| Wall Clock  |       4617 |
| USB Cable   |       4580 |
| Headphones  |       4555 |
| Backpack    |       4550 |
| Desk Lamp   |       4545 |
+-------------+------------+
5 rows in set (0.07 sec)
```

4. **Total quantity sold by product**



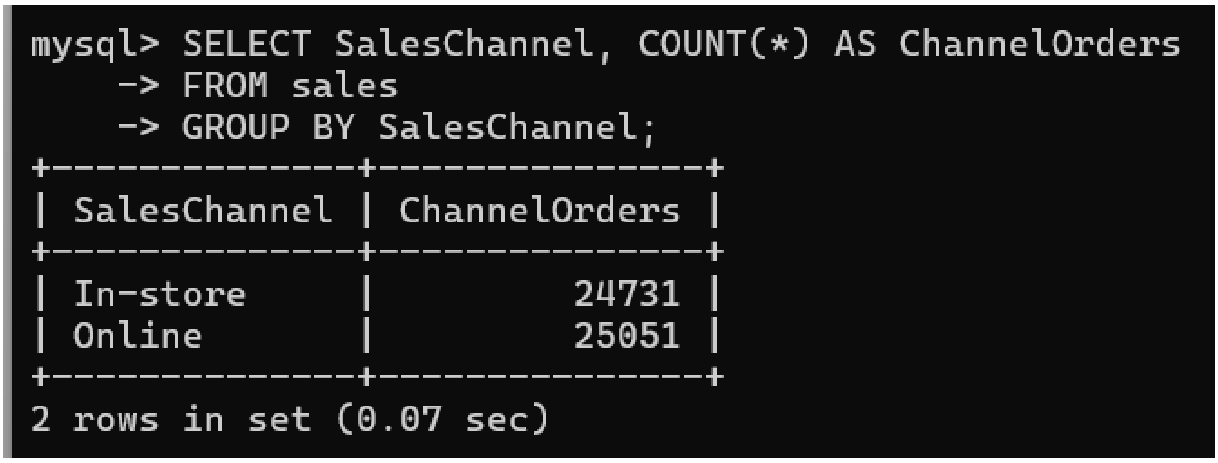
```
mysql> SELECT Description, SUM(Quantity) AS TotalQuantity
    -> FROM sales
    -> GROUP BY Description
    -> ORDER BY TotalQuantity DESC;
+----------------+---------------+
| Description    | TotalQuantity |
+----------------+---------------+
| USB Cable      |        103574 |
| Backpack       |        103513 |
| Wall Clock     |        102745 |
| White Mug      |        102541 |
| Desk Lamp      |        102474 |
| Office Chair   |        101595 |
| T-shirt        |        100842 |
| Wireless Mouse |        100389 |
| Blue Pen       |         99447 |
| Notebook       |         98750 |
| Headphones     |         97870 |
+----------------+---------------+
11 rows in set (0.09 sec)
```

5. **Orders made using each payment method**



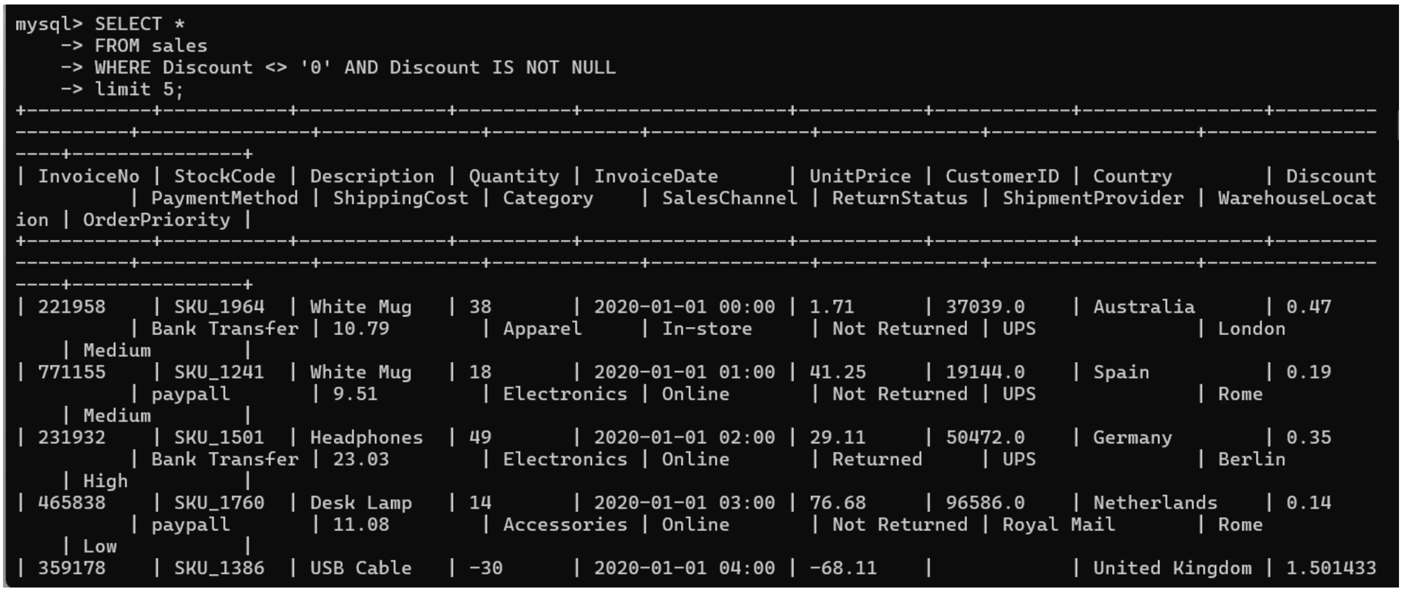
```
mysql> SELECT PaymentMethod, COUNT(*) AS TotalOrders
    -> FROM sales
    -> GROUP BY PaymentMethod;
+---------------+-------------+
| PaymentMethod | TotalOrders |
+---------------+-------------+
| Bank Transfer |       16747 |
| Credit Card   |       16530 |
| paypall       |       16505 |
+---------------+-------------+
3 rows in set (0.10 sec)
```

6. **Orders per sales channel**



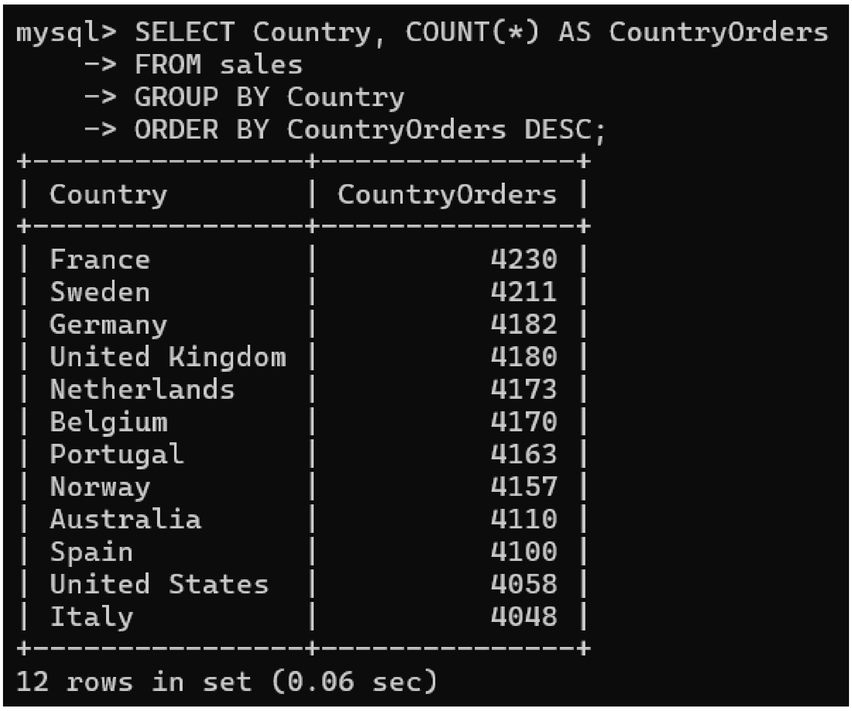
```
mysql> SELECT SalesChannel, COUNT(*) AS ChannelOrders
    -> FROM sales
    -> GROUP BY SalesChannel;
+--------------+---------------+
| SalesChannel | ChannelOrders |
+--------------+---------------+
| In-store     |         24731 |
| Online       |         25051 |
+--------------+---------------+
2 rows in set (0.07 sec)
```

7. **Find orders with discounts applied**



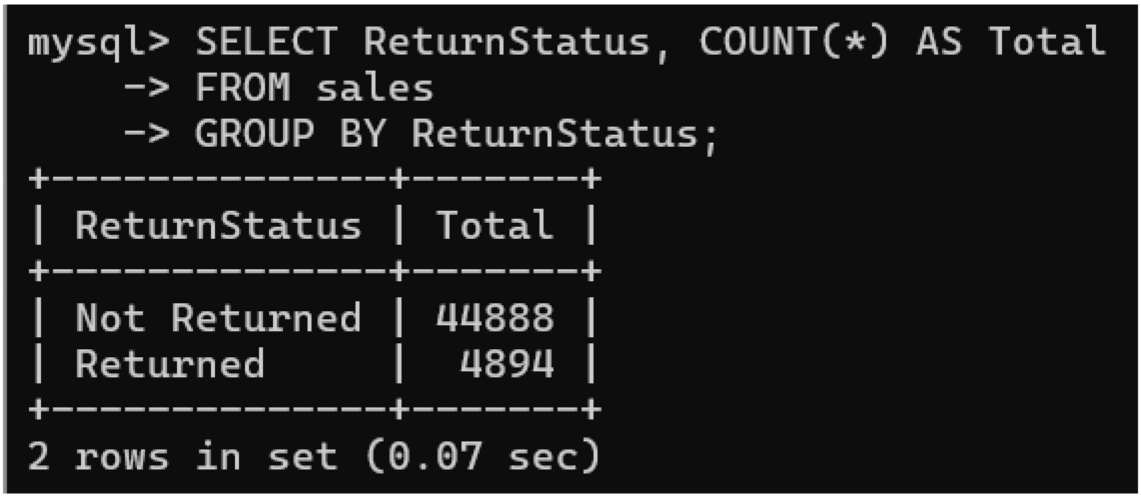
```
mysql> SELECT *
    -> FROM sales
    -> WHERE Discount <> '0' AND Discount IS NOT NULL
    -> limit 5;
+-----------+-----------+-------------+----------+------------------+-----------+------------+----------------+---------
----------+---------------+--------------+-------------+--------------+--------------+------------------+---------------
----+---------------+
| InvoiceNo | StockCode | Description | Quantity | InvoiceDate      | UnitPrice | CustomerID | Country        | Discount
          | PaymentMethod | ShippingCost | Category    | SalesChannel | ReturnStatus | ShipmentProvider | WarehouseLocat
ion | OrderPriority |
+-----------+-----------+-------------+----------+------------------+-----------+------------+----------------+---------
----------+---------------+--------------+-------------+--------------+--------------+------------------+---------------
----+---------------+
| 221958    | SKU_1964  | White Mug   | 38       | 2020-01-01 00:00 | 1.71      | 37039.0    | Australia      | 0.47
          | Bank Transfer | 10.79        | Apparel     | In-store     | Not Returned | UPS              | London
    | Medium        |
| 771155    | SKU_1241  | White Mug   | 18       | 2020-01-01 01:00 | 41.25     | 19144.0    | Spain          | 0.19
          | paypall       | 9.51         | Electronics | Online       | Not Returned | UPS              | Rome
    | Medium        |
| 231932    | SKU_1501  | Headphones  | 49       | 2020-01-01 02:00 | 29.11     | 50472.0    | Germany        | 0.35
          | Bank Transfer | 23.03        | Electronics | Online       | Returned     | UPS              | Berlin
    | High          |
| 465838    | SKU_1760  | Desk Lamp   | 14       | 2020-01-01 03:00 | 76.68     | 96586.0    | Netherlands    | 0.14
          | paypall       | 11.08        | Accessories | Online       | Not Returned | Royal Mail       | Rome
    | Low           |
| 359178    | SKU_1386  | USB Cable   | -30      | 2020-01-01 04:00 | -68.11    |            | United Kingdom | 1.501433
```

8. **Count of orders per country**



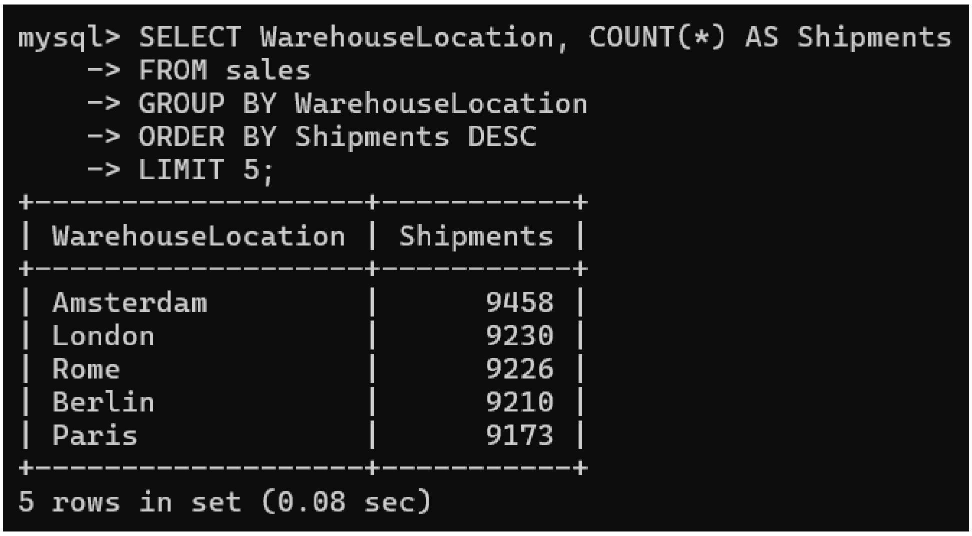
```
mysql> SELECT Country, COUNT(*) AS CountryOrders
    -> FROM sales
    -> GROUP BY Country
    -> ORDER BY CountryOrders DESC;
+----------------+---------------+
| Country        | CountryOrders |
+----------------+---------------+
| France         |          4230 |
| Sweden         |          4211 |
| Germany        |          4182 |
| United Kingdom |          4180 |
| Netherlands    |          4173 |
| Belgium        |          4170 |
| Portugal       |          4163 |
| Norway         |          4157 |
| Australia      |          4110 |
| Spain          |          4100 |
| United States  |          4058 |
| Italy          |          4048 |
+----------------+---------------+
12 rows in set (0.06 sec)
```

9. **Count of returns vs non-returns**



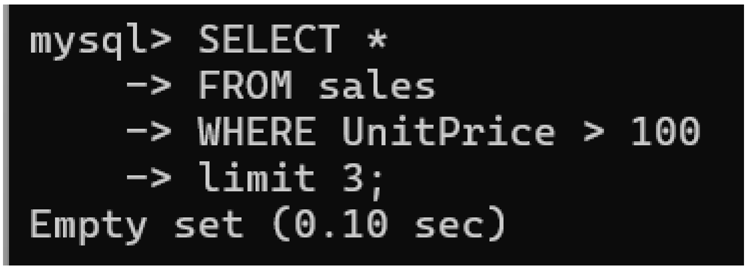
```
mysql> SELECT ReturnStatus, COUNT(*) AS Total
    -> FROM sales
    -> GROUP BY ReturnStatus;
+--------------+-------+
| ReturnStatus | Total |
+--------------+-------+
| Not Returned | 44888 |
| Returned     |  4894 |
+--------------+-------+
2 rows in set (0.07 sec)
```

10. **Top 5 warehouses by number of shipments**



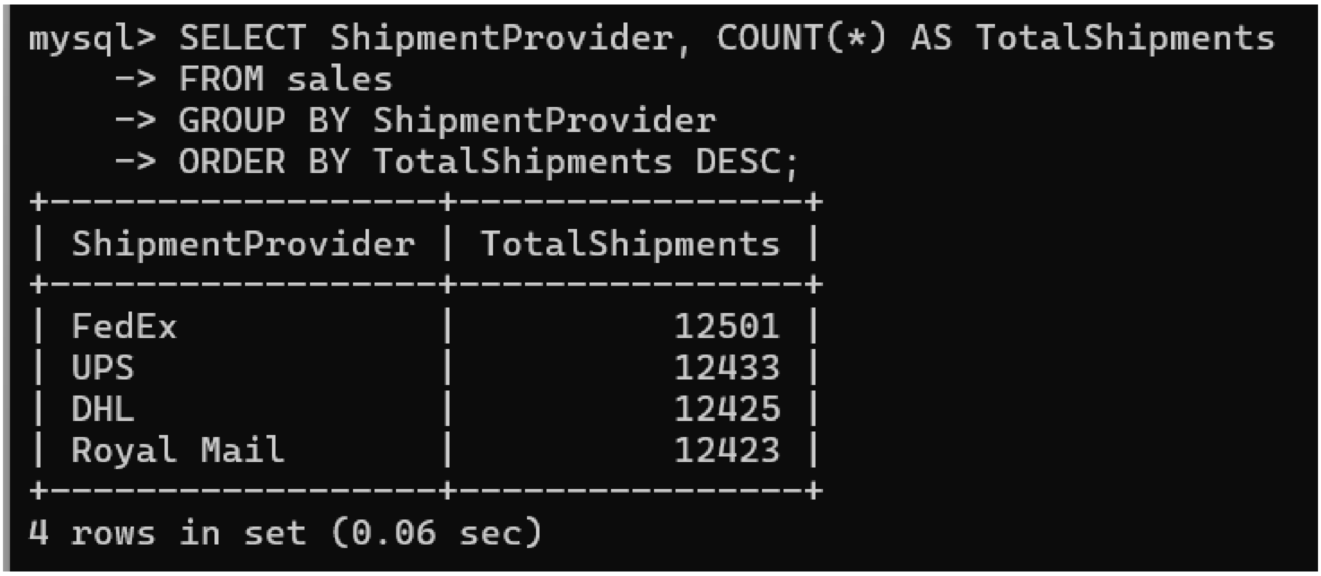
```
mysql> SELECT WarehouseLocation, COUNT(*) AS Shipments
    -> FROM sales
    -> GROUP BY WarehouseLocation
    -> ORDER BY Shipments DESC
    -> LIMIT 5;
+-------------------+-----------+
| WarehouseLocation | Shipments |
+-------------------+-----------+
| Amsterdam         |      9458 |
| London            |      9230 |
| Rome              |      9226 |
| Berlin            |      9210 |
| Paris             |      9173 |
+-------------------+-----------+
5 rows in set (0.08 sec)
```

11. List of orders with high unit price.



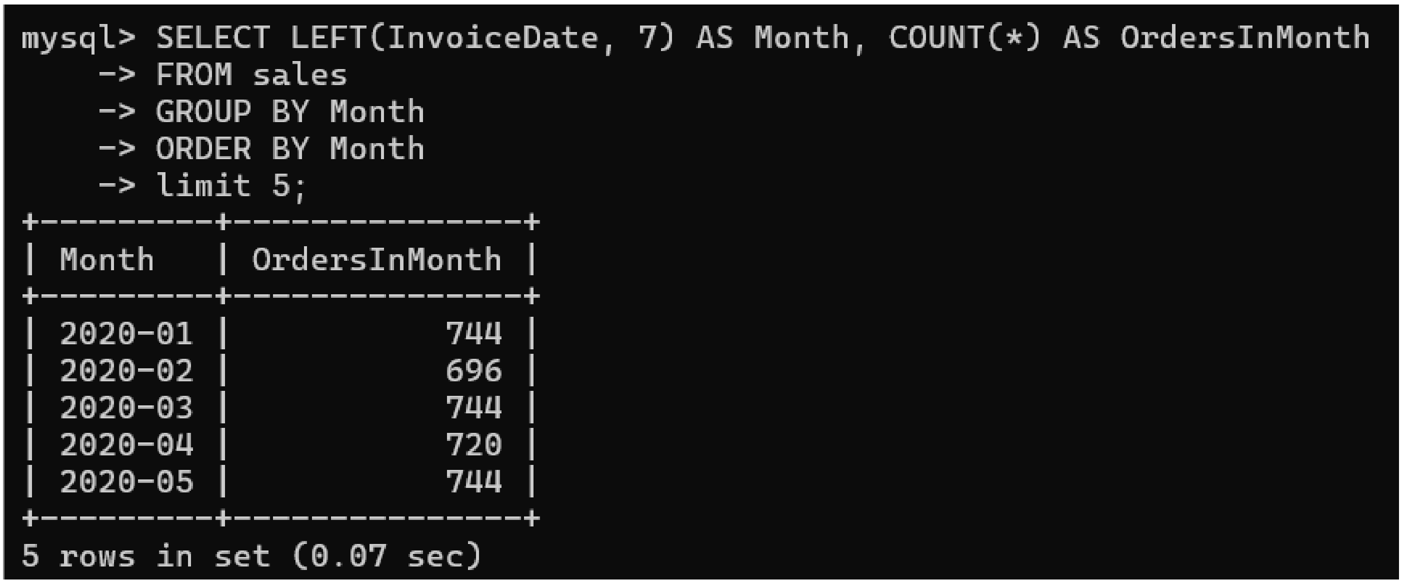
```
mysql> SELECT *
    -> FROM sales
    -> WHERE UnitPrice > 100
    -> limit 3;
Empty set (0.10 sec)
```

12. Most common shipping providers



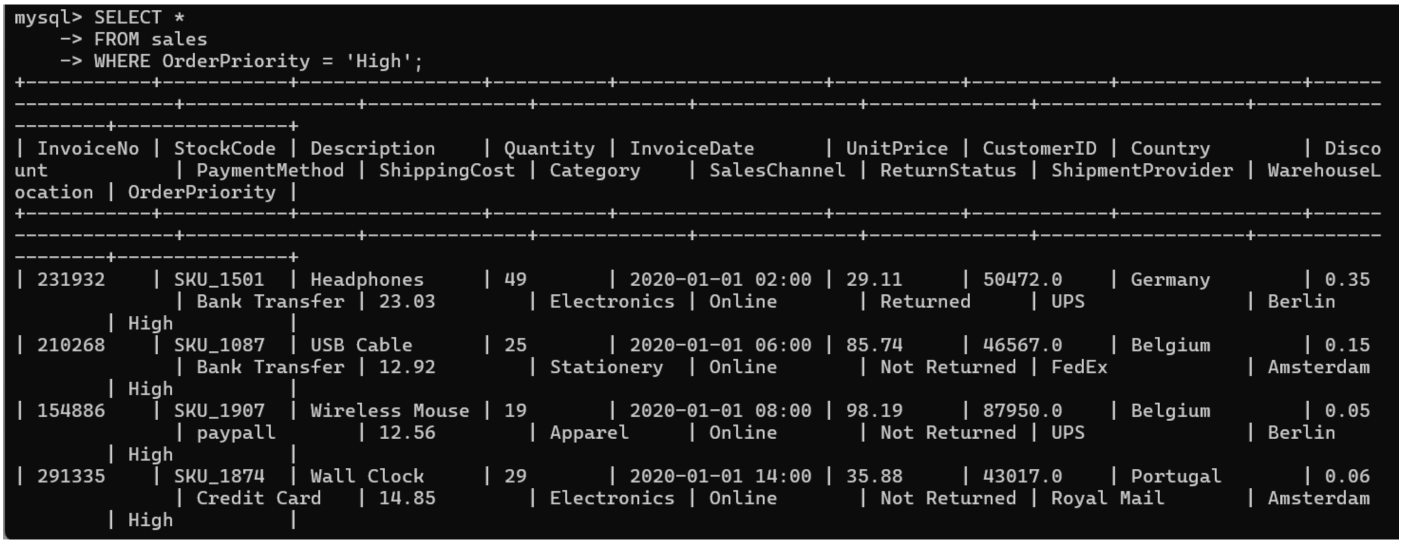
```
mysql> SELECT ShipmentProvider, COUNT(*) AS TotalShipments
    -> FROM sales
    -> GROUP BY ShipmentProvider
    -> ORDER BY TotalShipments DESC;
+------------------+----------------+
| ShipmentProvider | TotalShipments |
+------------------+----------------+
| FedEx            |          12501 |
| UPS              |          12433 |
| DHL              |          12425 |
| Royal Mail       |          12423 |
+------------------+----------------+
4 rows in set (0.06 sec)
```

13. Monthly order count (based on InvoiceDate)



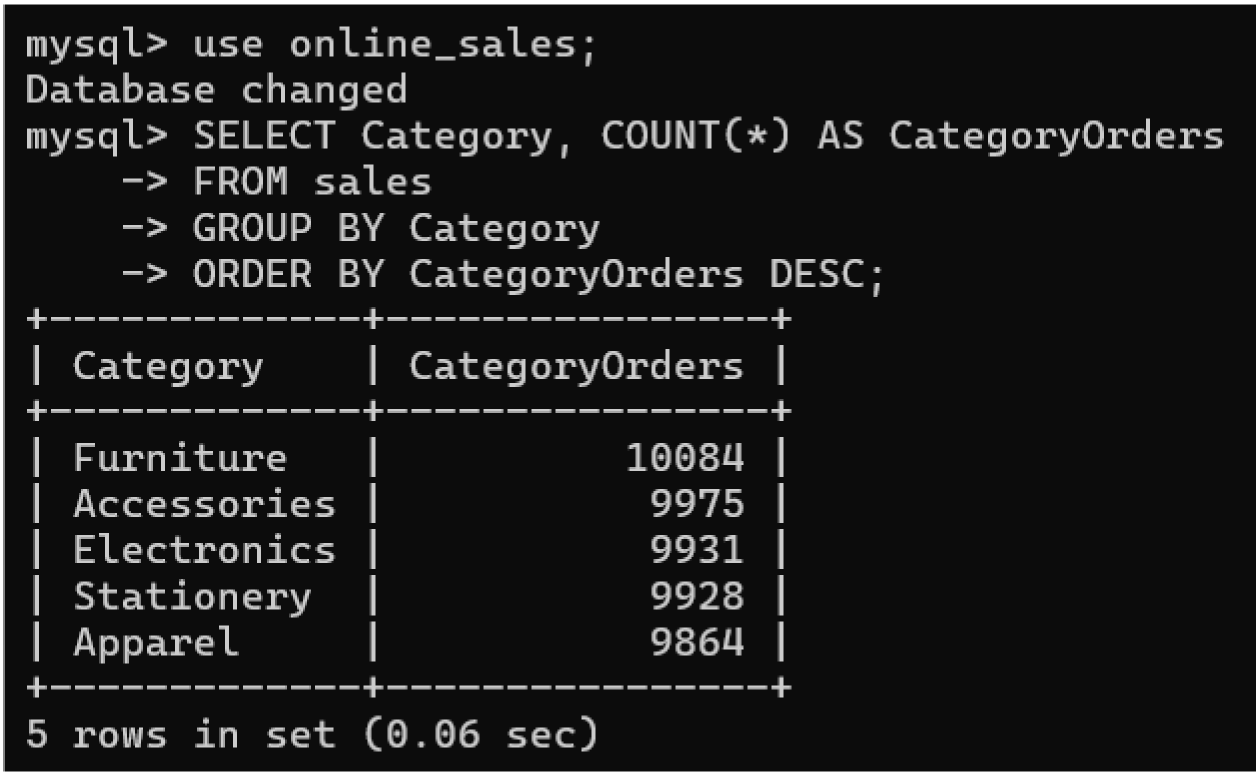
```
mysql> SELECT LEFT(InvoiceDate, 7) AS Month, COUNT(*) AS OrdersInMonth
    -> FROM sales
    -> GROUP BY Month
    -> ORDER BY Month
    -> limit 5;
+---------+---------------+
| Month   | OrdersInMonth |
+---------+---------------+
| 2020-01 |           744 |
| 2020-02 |           696 |
| 2020-03 |           744 |
| 2020-04 |           720 |
| 2020-05 |           744 |
+---------+---------------+
5 rows in set (0.07 sec)
```

14. List of high-priority orders



```
mysql> SELECT *
    -> FROM sales
    -> WHERE OrderPriority = 'High';
+-----------+-----------+----------------+----------+------------------+-----------+------------+----------------+------
-------------+---------------+--------------+-------------+--------------+--------------+------------------+-----------
--------+---------------+
| InvoiceNo | StockCode | Description    | Quantity | InvoiceDate      | UnitPrice | CustomerID | Country        | Disco
unt          | PaymentMethod | ShippingCost | Category    | SalesChannel | ReturnStatus | ShipmentProvider | WarehouseL
ocation | OrderPriority |
+-----------+-----------+----------------+----------+------------------+-----------+------------+----------------+------
-------------+---------------+--------------+-------------+--------------+--------------+------------------+-----------
--------+---------------+
| 231932    | SKU_1501  | Headphones     | 49       | 2020-01-01 02:00 | 29.11     | 50472.0    | Germany        | 0.35
             | Bank Transfer | 23.03        | Electronics | Online       | Returned     | UPS              | Berlin
        | High          |
| 210268    | SKU_1087  | USB Cable      | 25       | 2020-01-01 06:00 | 85.74     | 46567.0    | Belgium        | 0.15
             | Bank Transfer | 12.92        | Stationery  | Online       | Not Returned | FedEx            | Amsterdam
        | High          |
| 154886    | SKU_1907  | Wireless Mouse | 19       | 2020-01-01 08:00 | 98.19     | 87950.0    | Belgium        | 0.05
             | paypall       | 12.56        | Apparel     | Online       | Not Returned | UPS              | Berlin
        | High          |
| 291335    | SKU_1874  | Wall Clock     | 29       | 2020-01-01 14:00 | 35.88     | 43017.0    | Portugal       | 0.06
             | Credit Card   | 14.85        | Electronics | Online       | Not Returned | Royal Mail       | Amsterdam
        | High          |
```

15. Count of orders per category



```
mysql> use online_sales;
Database changed
mysql> SELECT Category, COUNT(*) AS CategoryOrders
    -> FROM sales
    -> GROUP BY Category
    -> ORDER BY CategoryOrders DESC;
+-------------+----------------+
| Category    | CategoryOrders |
+-------------+----------------+
| Furniture   |          10084 |
| Accessories |           9975 |
| Electronics |           9931 |
| Stationery  |           9928 |
| Apparel     |           9864 |
+-------------+----------------+
5 rows in set (0.06 sec)
```