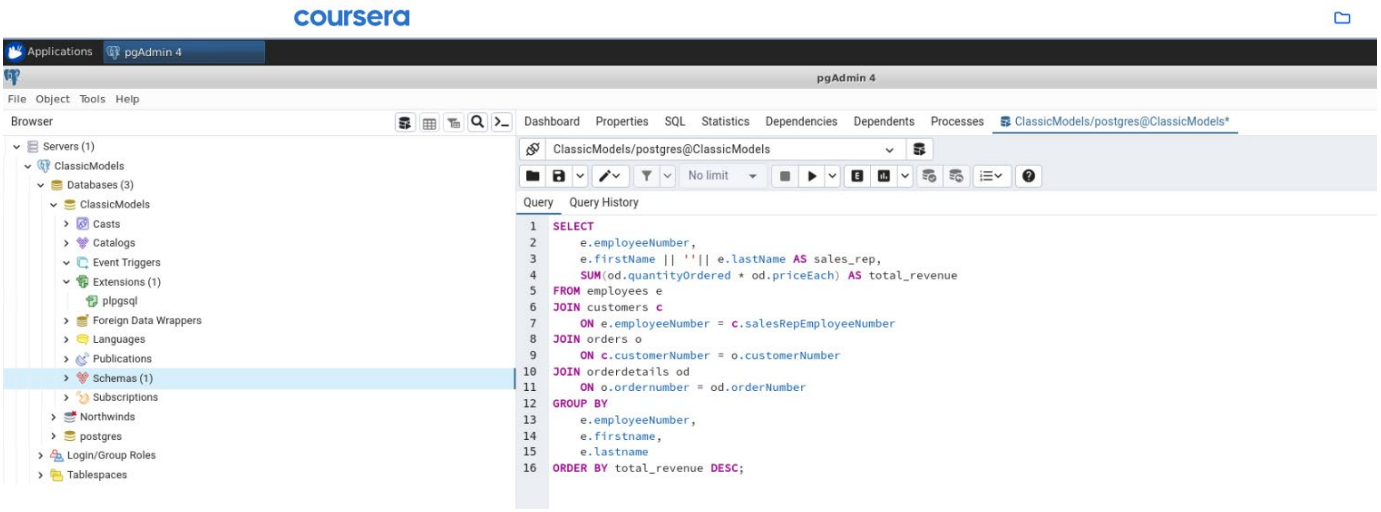
Problem 1: Identifying High-Value Customers

Analysis Challenge

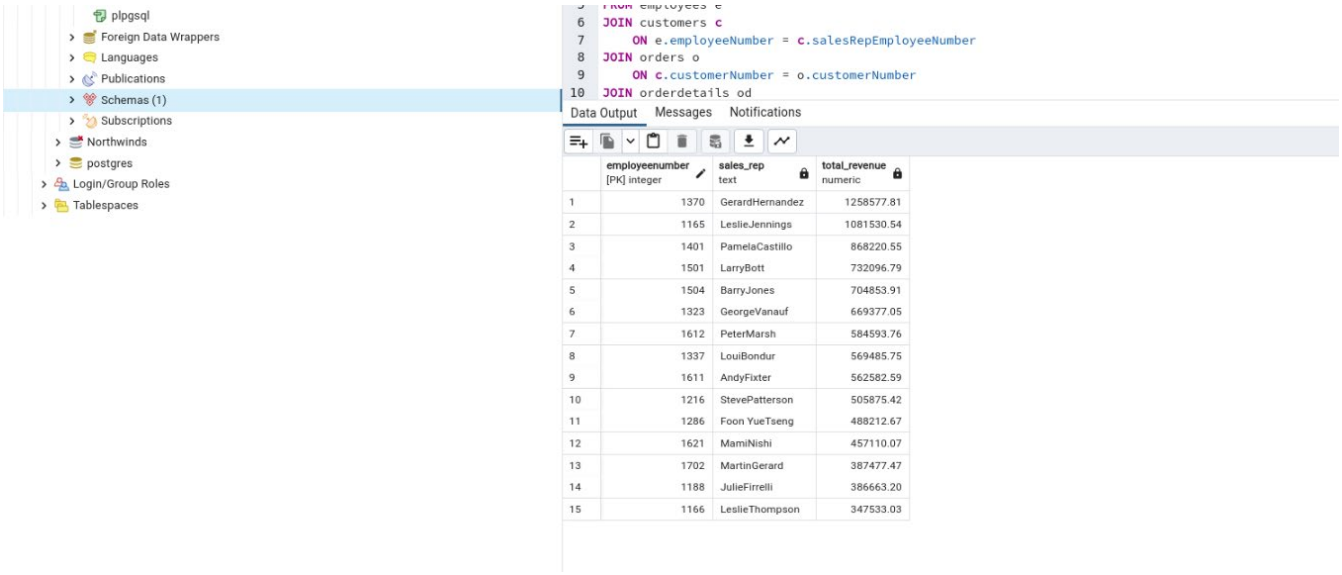
The sales team wants to focus retention efforts on customers who generate the most revenue. I need to identify customers whose total order value exceeds the average total order value across all customers. This analysis helps prioritize high-impact customer relationships.

Code




```
SELECT
    e.employeeNumber,
    e.firstName || ' ' || e.lastName AS sales_rep,
    SUM(od.quantityOrdered * od.priceEach) AS total_revenue
FROM employees e
JOIN customers c
    ON e.employeeNumber = c.salesRepEmployeeNumber
JOIN orders o
    ON c.customerNumber = o.customerNumber
JOIN orderdetails od
    ON o.orderNumber = od.orderNumber
GROUP BY
    e.employeeNumber,
    e.firstName,
    e.lastName
ORDER BY total_revenue DESC;
```

Output



Sales Representative Revenue Ranking

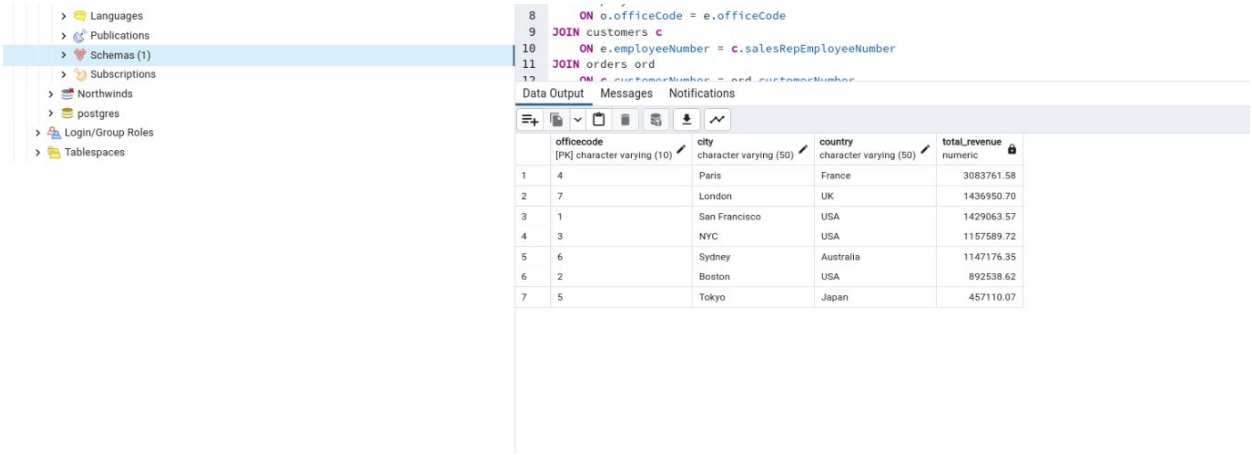
- Gerard Hernandez — $1,258,577.81
- Leslie Jennings — $1,081,530.54
- Pamela Castillo — $868,220.55
- Larry Bott — $732,096.79
- Barry Jones — $704,853.91
- George Vanauf — $669,377.05
- Peter Marsh — $584,593.76
- Loui Bondur — $569,485.75
- Andy Fixter — $562,582.59
- Steve Patterson — $505,875.42
- Foon Yue Tseng — $488,212.67
- Mami Nishi — $457,110.07
- Martin Gerard — $387,477.47
- Julie Firrelli — $386,663.20
- Leslie Thompson — $347,533.03

Problem 2: Office-Level Sales Performance

Analysis Challenge

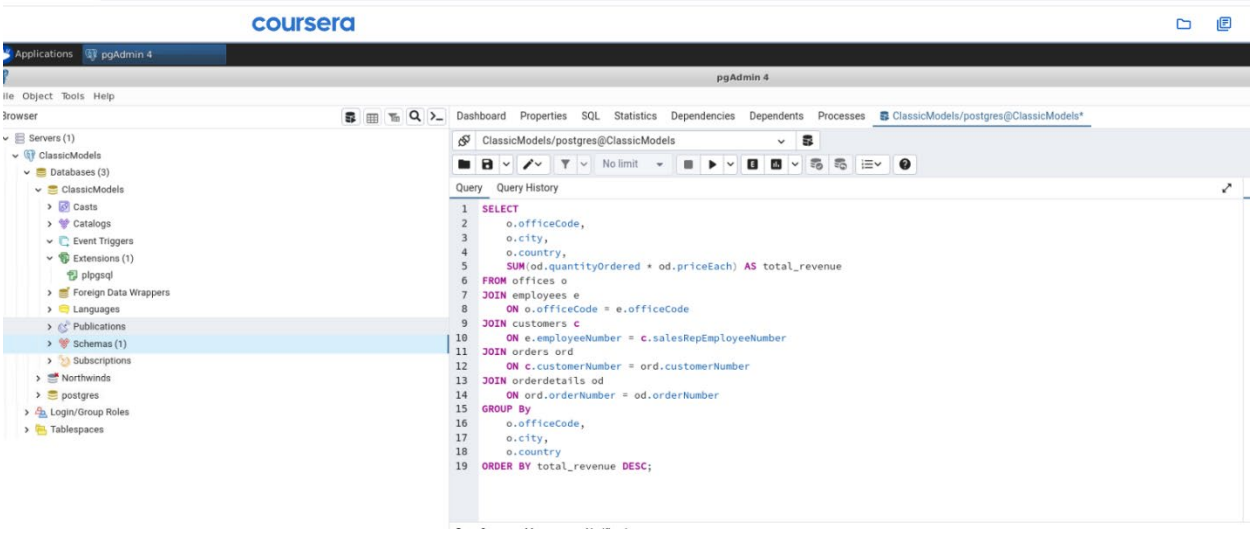
Executive leadership wants to compare regional office performance to guide future expansion and staffing decisions. I need to determine the total revenue generated by each office, based on the customers and employees assigned to that office.

Code




```
SELECT
    o.officeCode,
    o.city,
    o.country,
    SUM(od.quantityOrdered * od.priceEach) AS total_revenue
FROM offices o
JOIN employees e
    ON o.officeCode = e.officeCode
JOIN customers c
    ON e.employeeNumber = c.salesRepEmployeeNumber
JOIN orders ord
    ON c.customerNumber = ord.customerNumber
JOIN orderdetails od
    ON ord.orderNumber = od.orderNumber
GROUP BY
    o.officeCode,
    o.city,
    o.country
ORDER BY total_revenue DESC;
```

Output



Office Revenue by Location

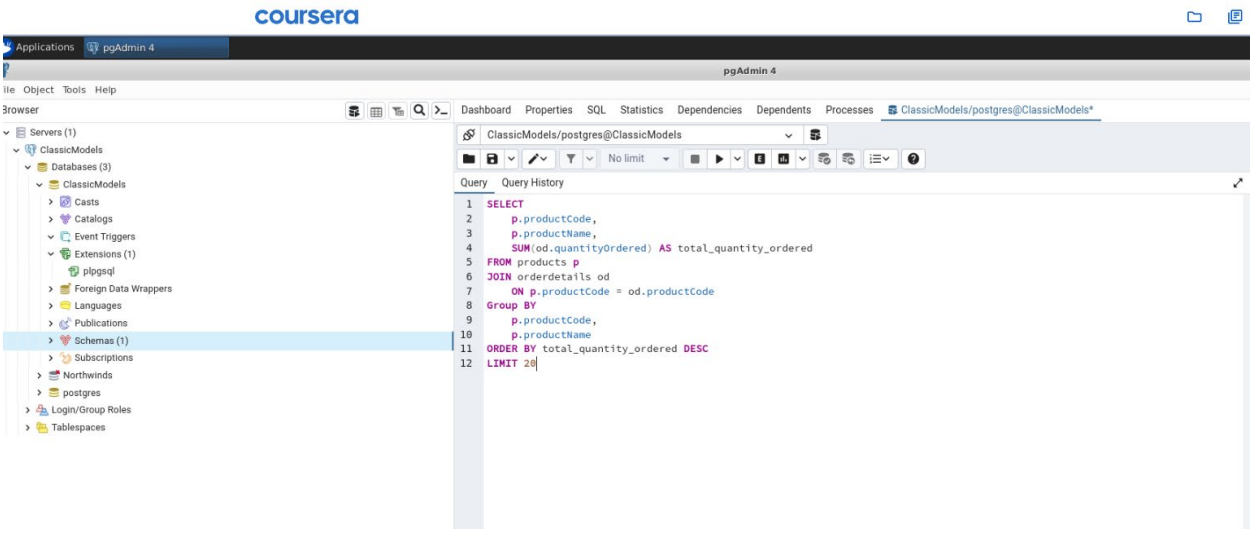
- Paris, France — $3,083,761.58
- London, UK — $1,436,950.70
- San Francisco, USA — $1,429,063.57
- New York City, USA — $1,157,589.72
- Sydney, Australia — $1,147,176.35
- Boston, USA — $892,538.62
- Tokyo, Japan — $457,110.07

Problem 3: Product Demand Analysis

Analysis Challenge

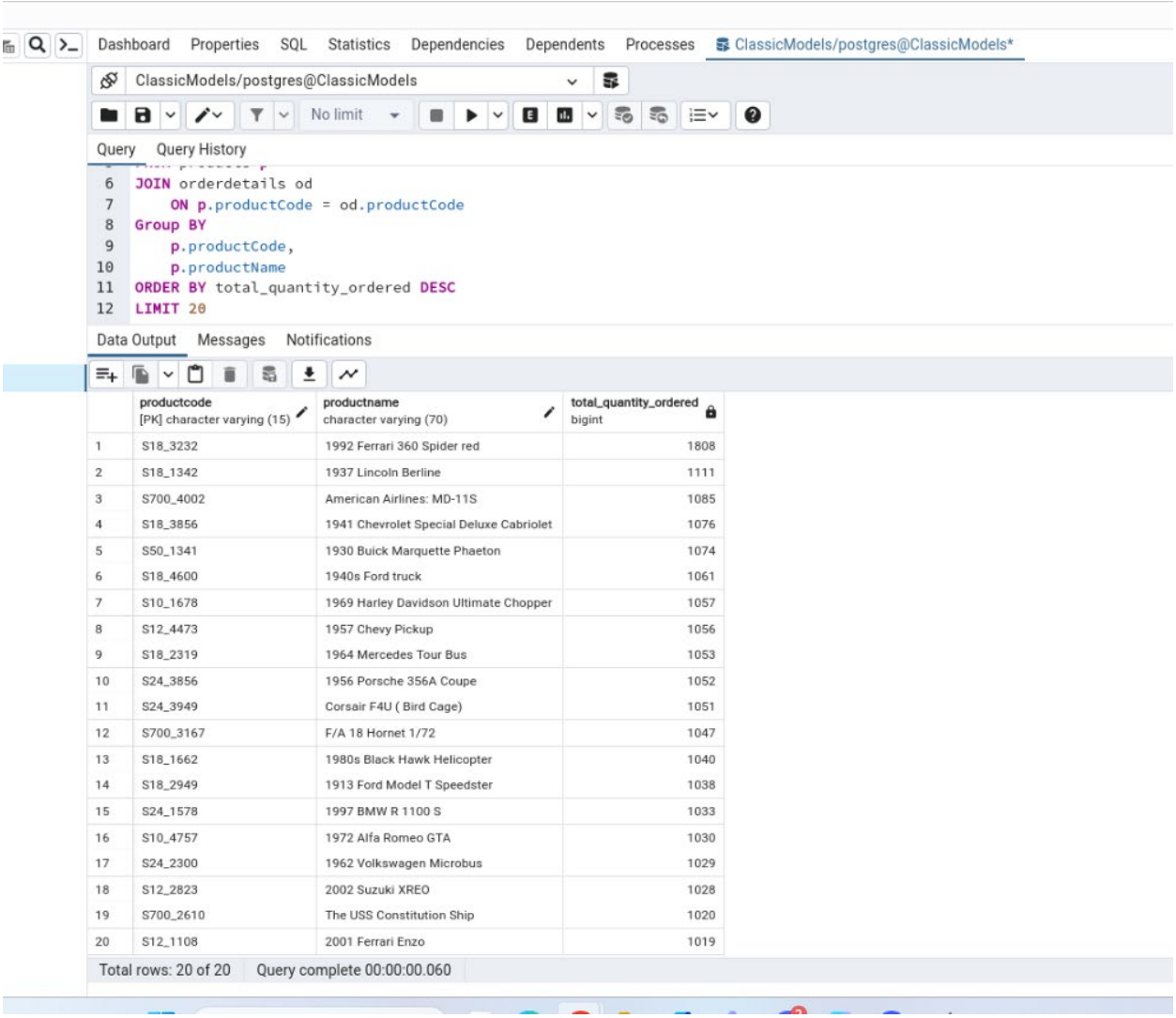
The inventory team needs to understand which products are most frequently ordered in order to optimize stock levels. I need to identify the top 20 products by total quantity ordered, sorted from highest to lowest demand.

Code




```
SELECT
   p.productCode,
   p.productName,
   SUM(od.quantityOrdered) AS total_quantity_ordered
FROM products p
JOIN orderdetails od
   ON p.productCode = od.productCode
GROUP BY
   p.productCode,
   p.productName
ORDER BY total_quantity_ordered DESC
LIMIT 20;
```

Output



Top 20 Products by Quantity Ordered

- 1992 Ferrari 360 Spider Red — 1,808
- 1937 Lincoln Berline — 1,111
- American Airlines: MD-11S — 1,085
- 1941 Chevrolet Special Deluxe Cabriolet — 1,076
- 1930 Buick Marquette Phaeton — 1,074
- 1940s Ford Truck — 1,061
- 1969 Harley Davidson Ultimate Chopper — 1,057
- 1957 Chevy Pickup — 1,056
- 1964 Mercedes Tour Bus — 1,053
- 1956 Porsche 356A Coupe — 1,052
- Corsair F4U (Bird Cage) — 1,051

- F/A 18 Hornet 1/72 — 1,047
- 1980s Black Hawk Helicopter — 1,040
- 1913 Ford Model T Speedster — 1,038
- 1997 BMW R 1100 S — 1,033
- 1972 Alfa Romeo GTA — 1,030
- 1962 Volkswagen Microbus — 1,029
- 2002 Suzuki XREO — 1,028
- The USS Constitution Ship — 1,020
- 2001 Ferrari Enzo — 1,019