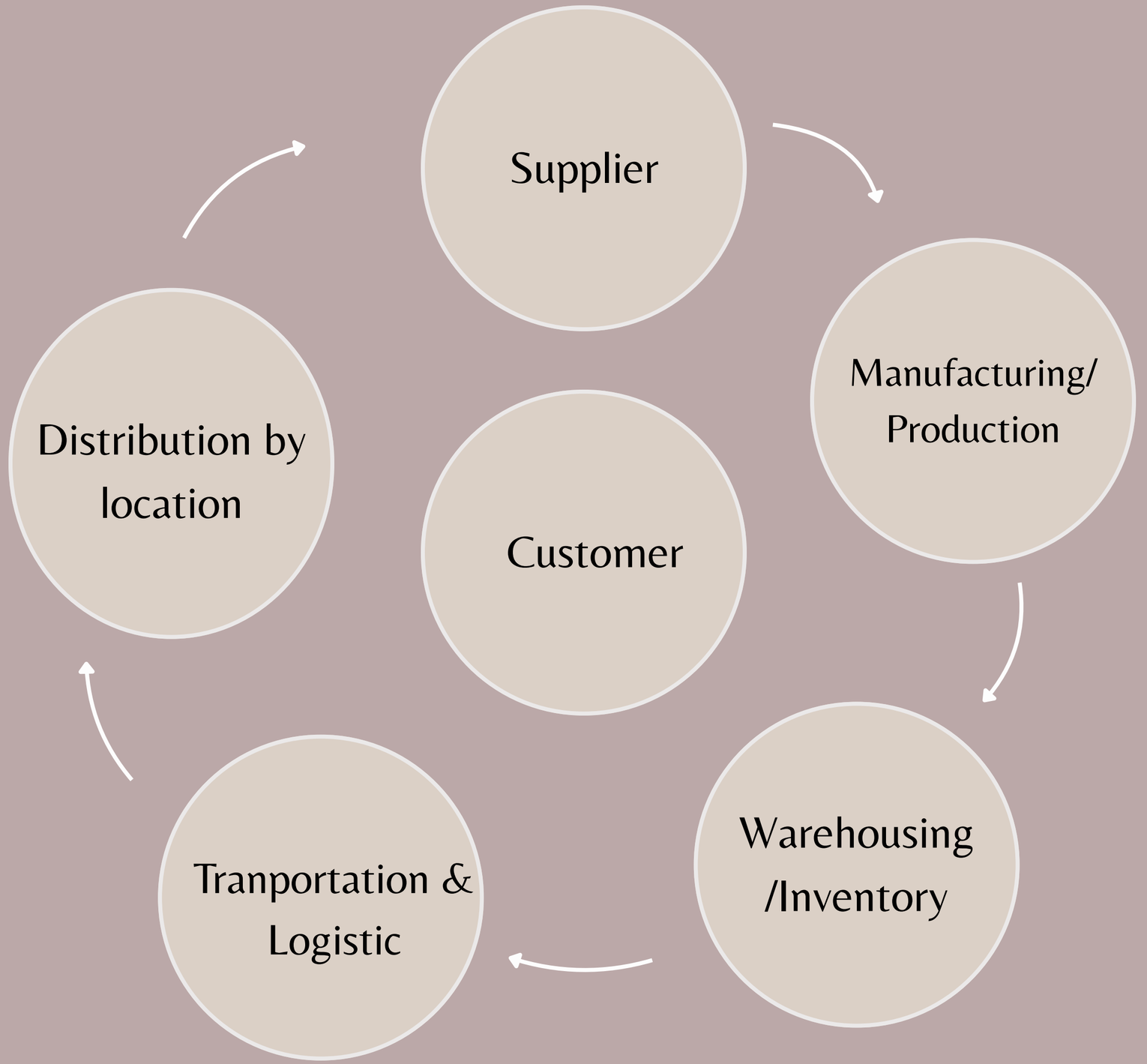
by Monali

Supply Chain Data Project

Skincare,Haircare & Cosmetics



INTRODUCTION

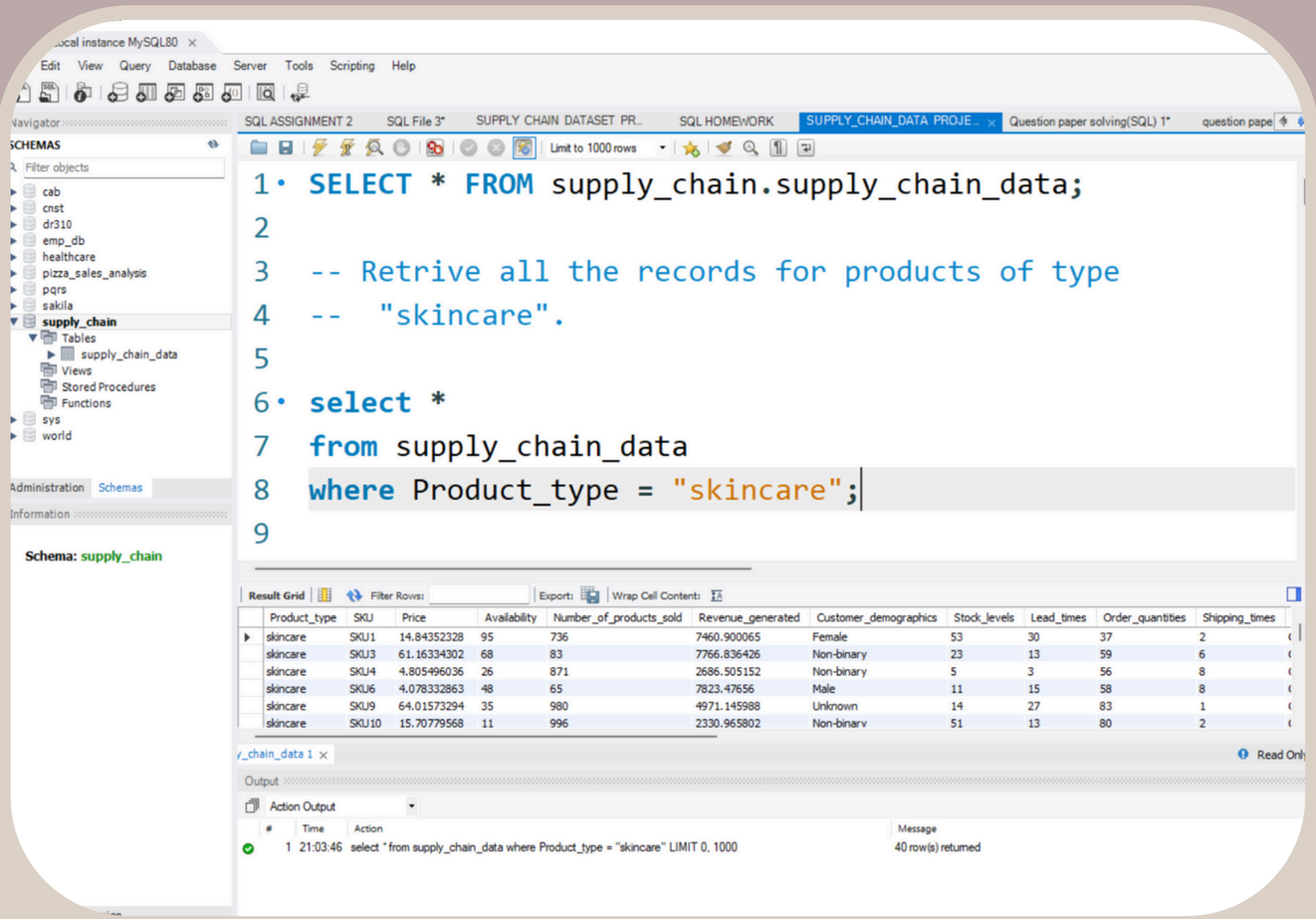
- The project focuses on Supply Chain Data Analysis using SQL.
- Aims to extract actionable insights from raw supply chain data.
- Covers multiple aspects like:
  Product analysis (types, pricing, availability).
- Customer insights (demographics & location).
- Supplier performance (costs, lead times, defect rates).

OBJECTIVES

- To analyze product performance by retrieving and filtering records based on product type, price, and availability.
- To understand customer demographics and location patterns for better market segmentation and targeting.
- To measure key supply chain metrics such as total SKUs, defect rates, and manufacturing lead times.
- To evaluate supplier efficiency by comparing costs, lead times, and defect rates across suppliers.
- To assess financial performance by calculating revenue generated per product, location, and transportation mode.
- To identify operational bottlenecks by analyzing production volumes, defect rates, and transportation costs.
- To support decision-making in procurement, logistics, and customer service through data-driven insights.

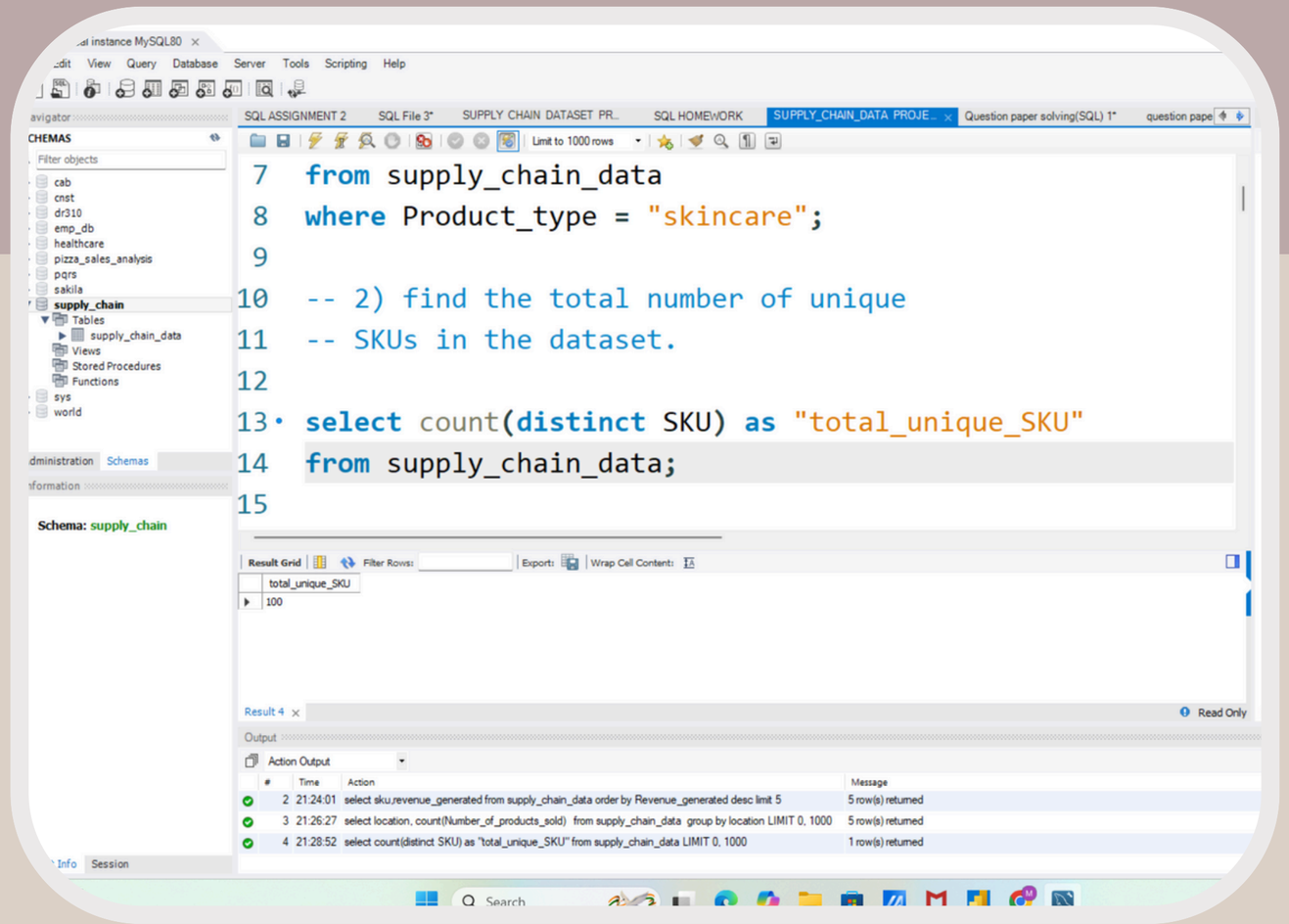
PROBLEM STATEMENTS

- Retrive all the records for products of type "skincare".



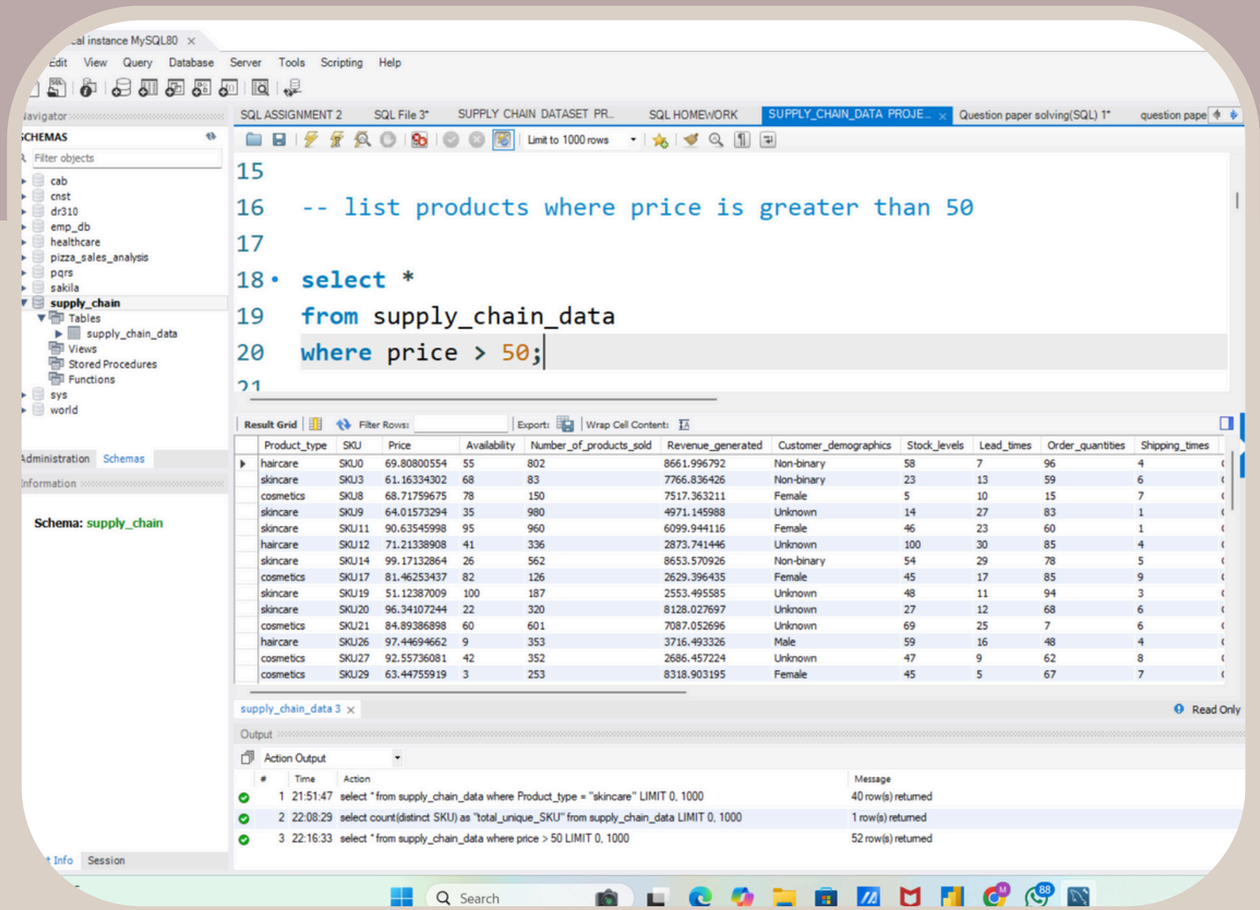
PROBLEM STATEMENT 2

- find the total number of unique SKUs in the dataset.



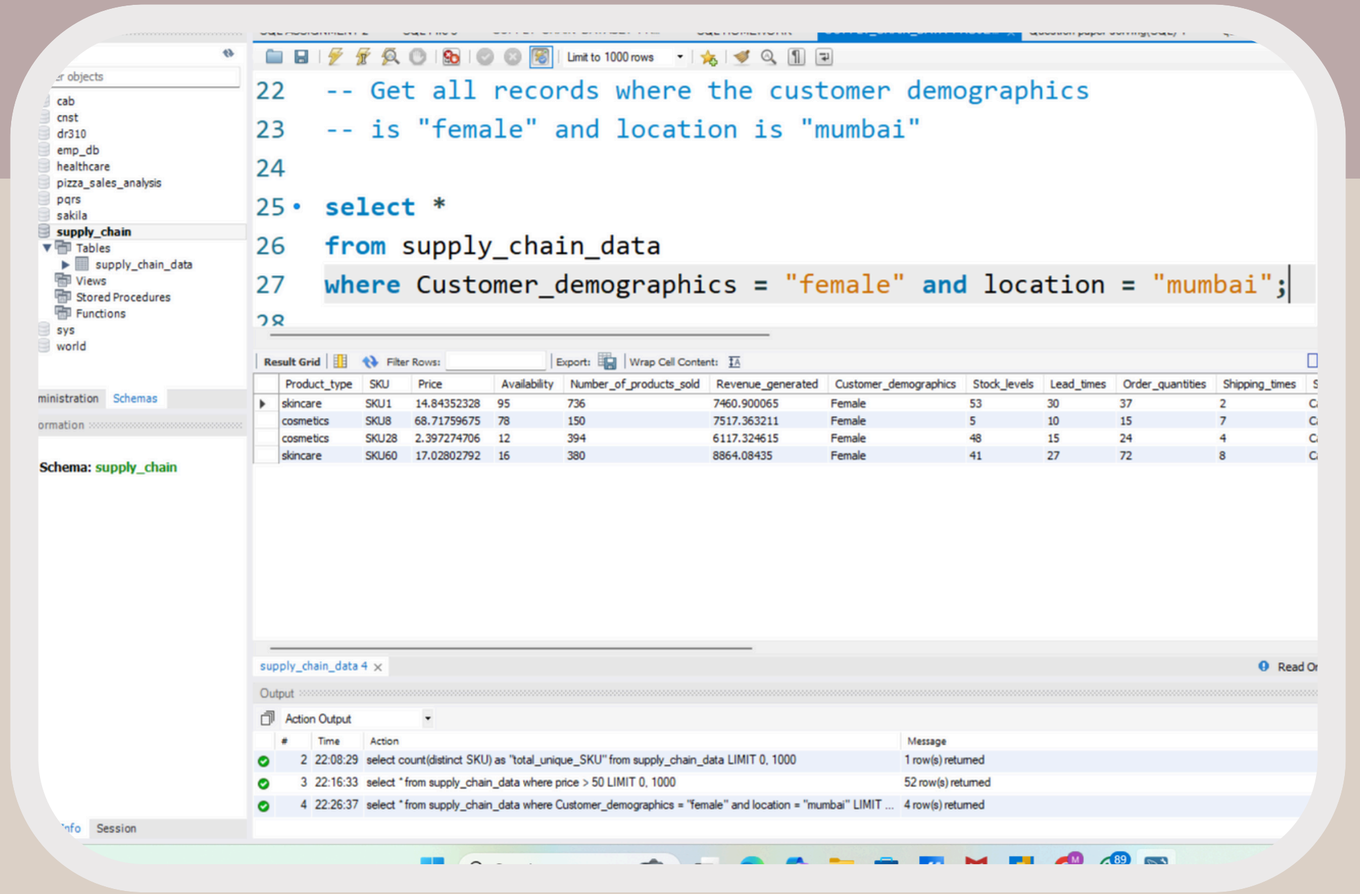
PROBLEM STATEMENTS 3

- list products where price is greater than 50



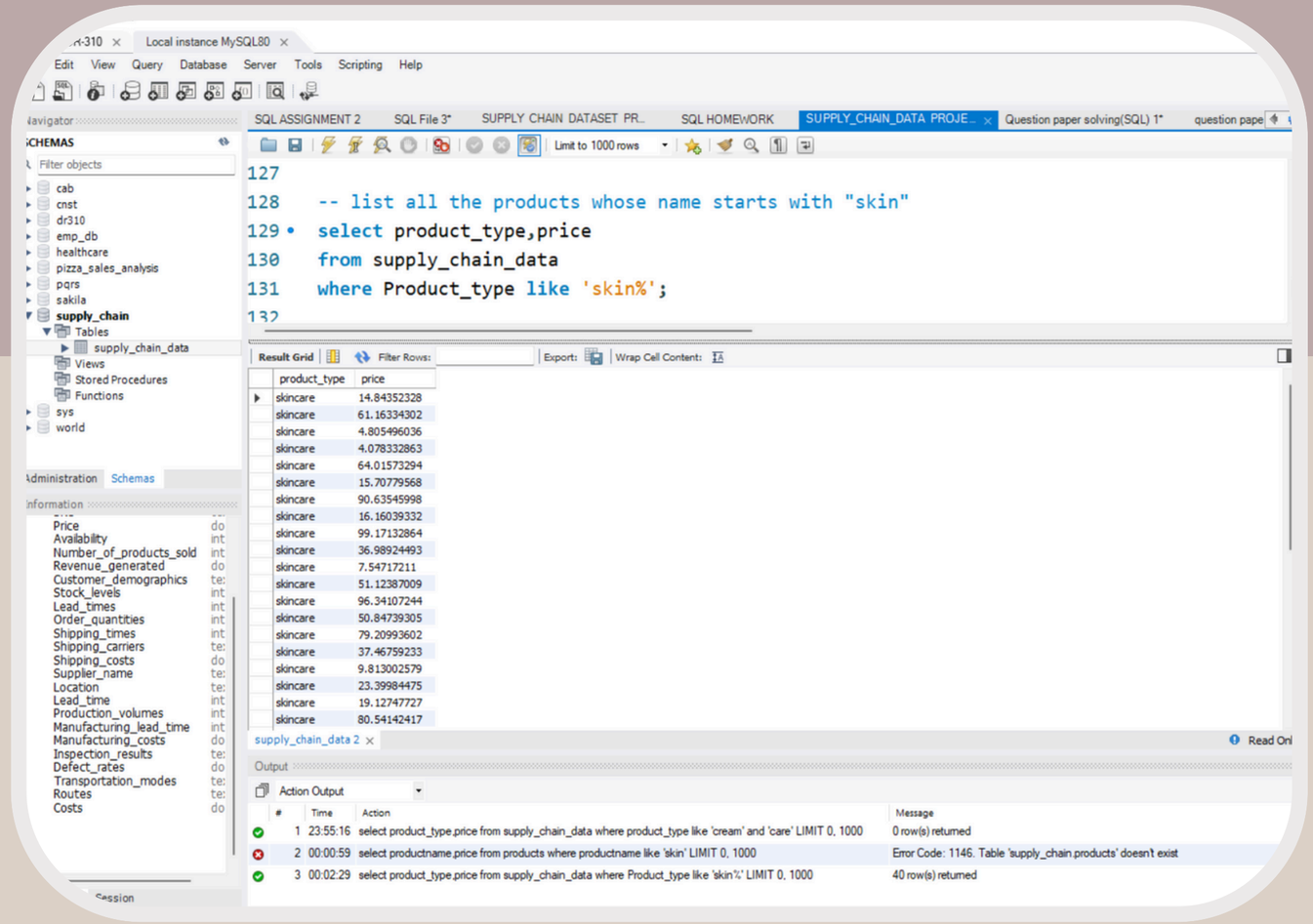
PROBLEM STATEMENTS 4

- Get all records where the customer demographics is "female" and location is "mumbai"



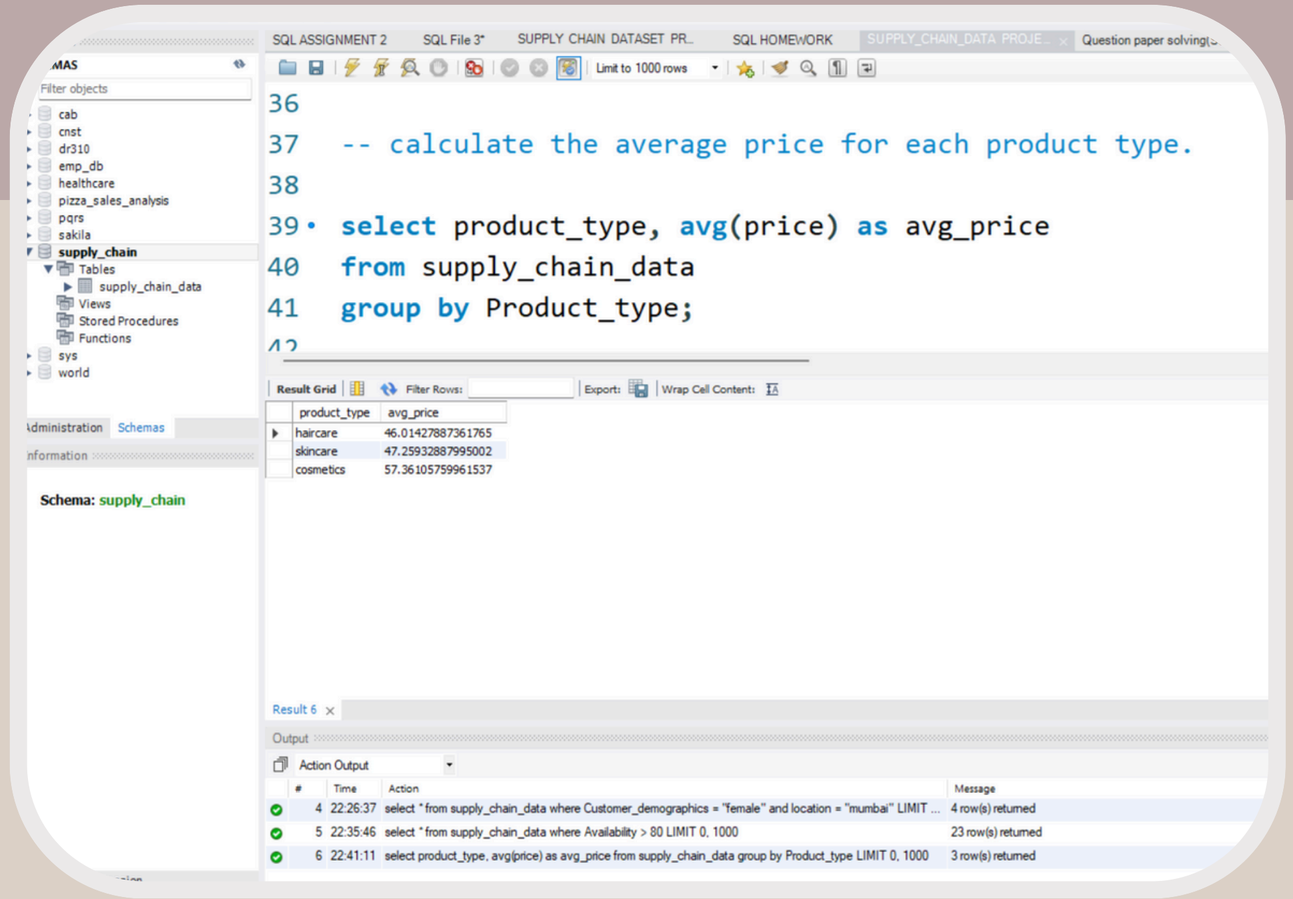
Problem statement 5

- list all the products whose name starts with "skin"



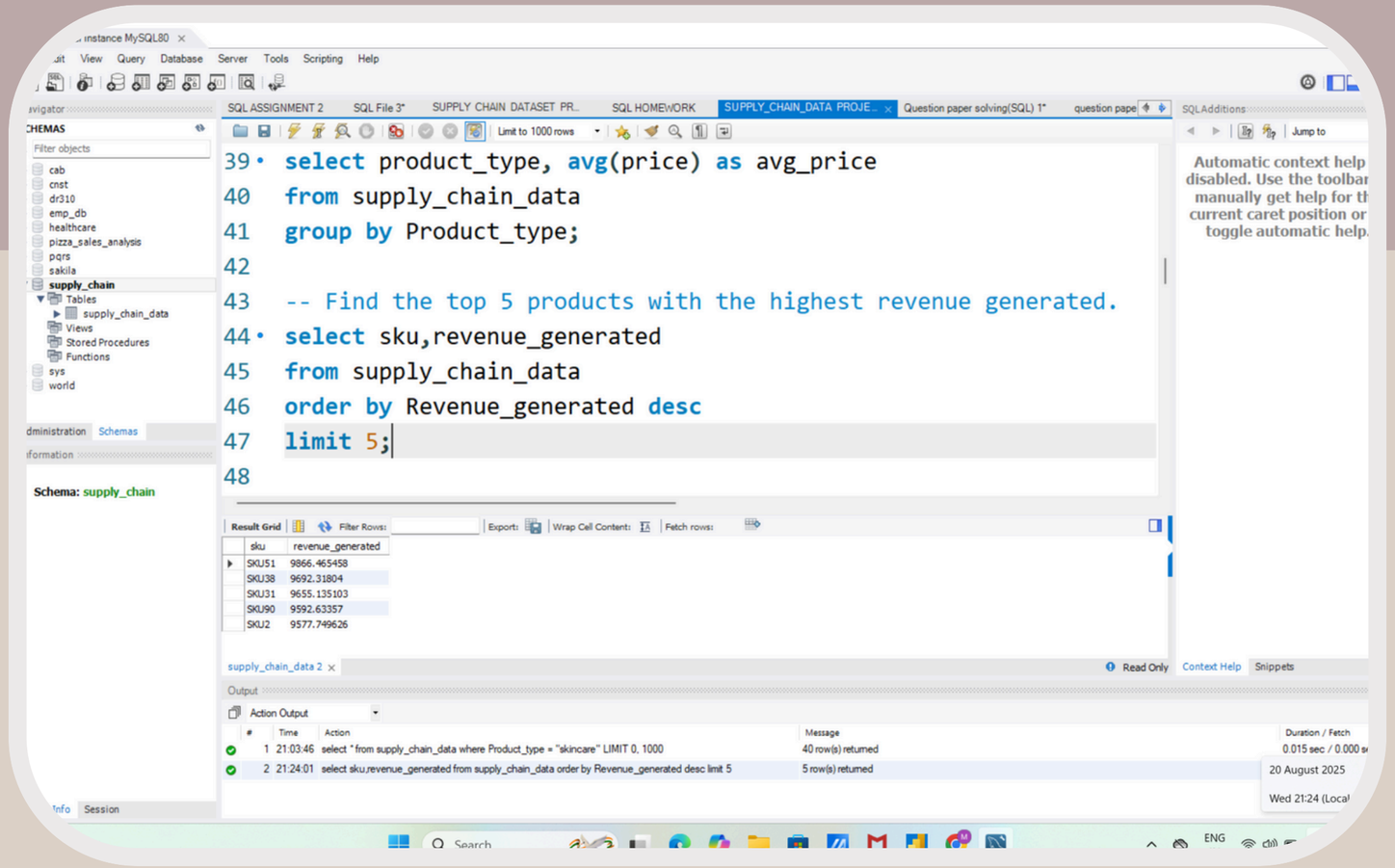
PROBLEM STATEMENT 6

- calculate the average price for each product type.



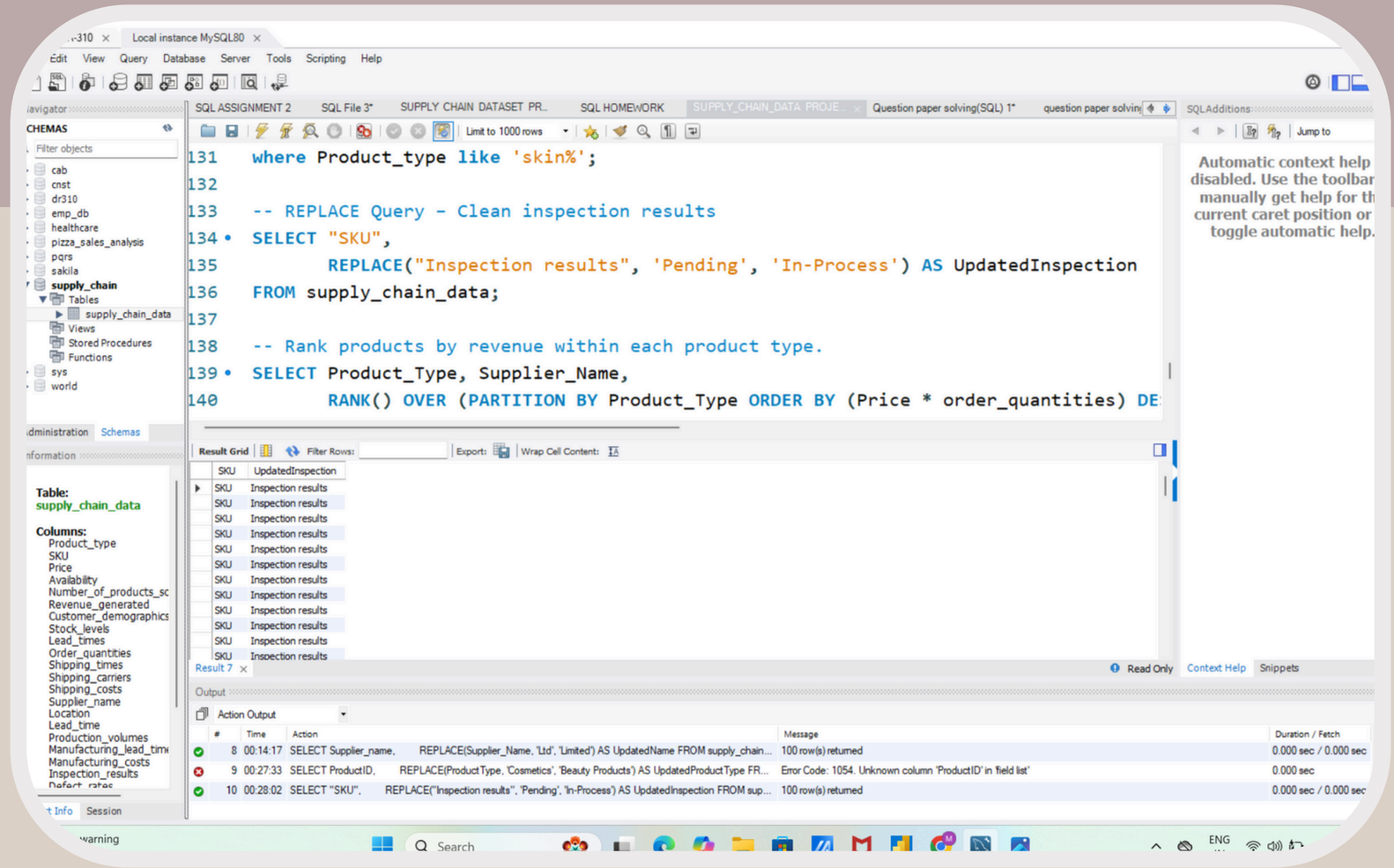
Problem statement 7

- Find the top 5 products with the highest revenue generated.



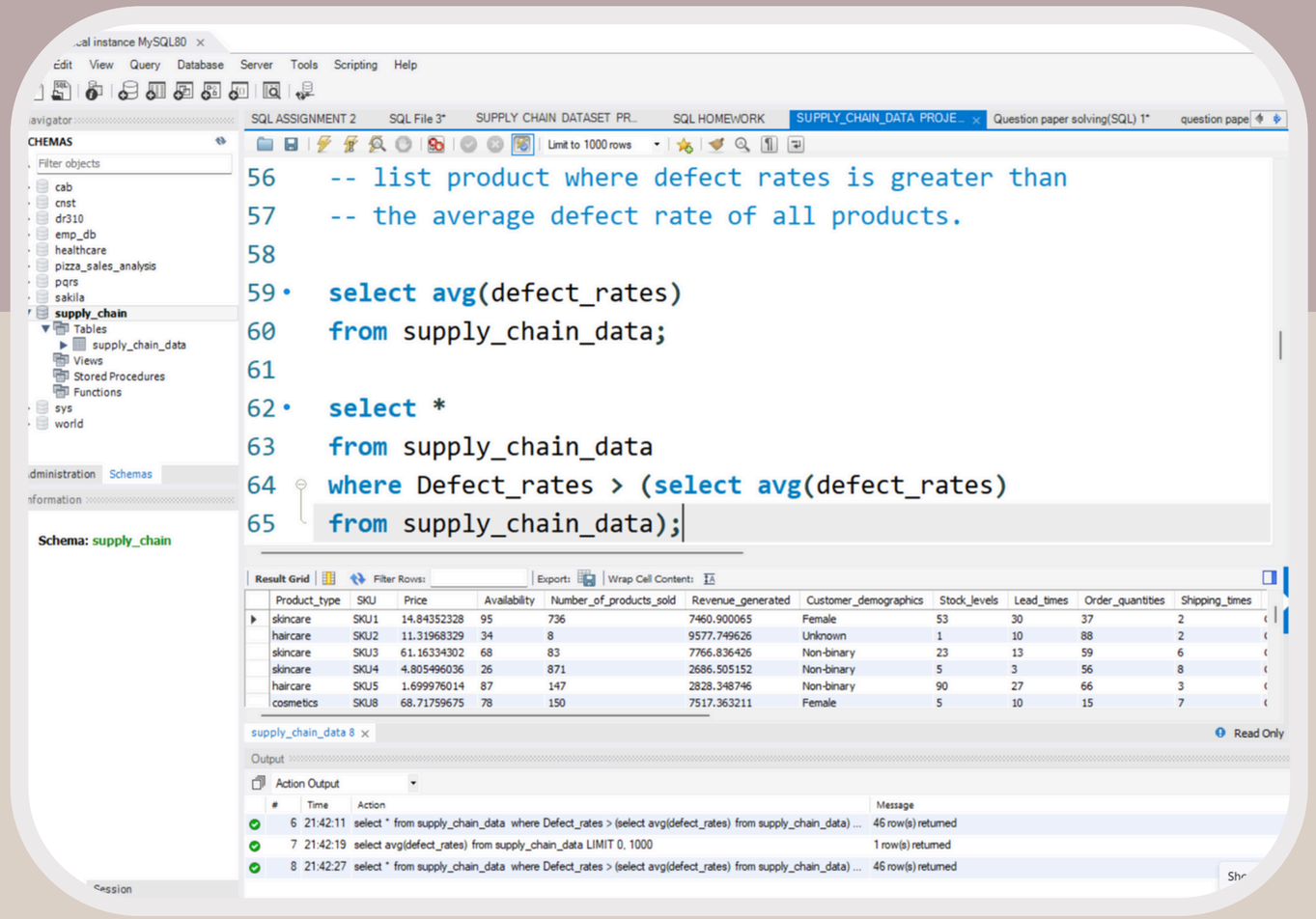
Problem statement 8

- Replace "Pending" with "In-Process" in inspection results



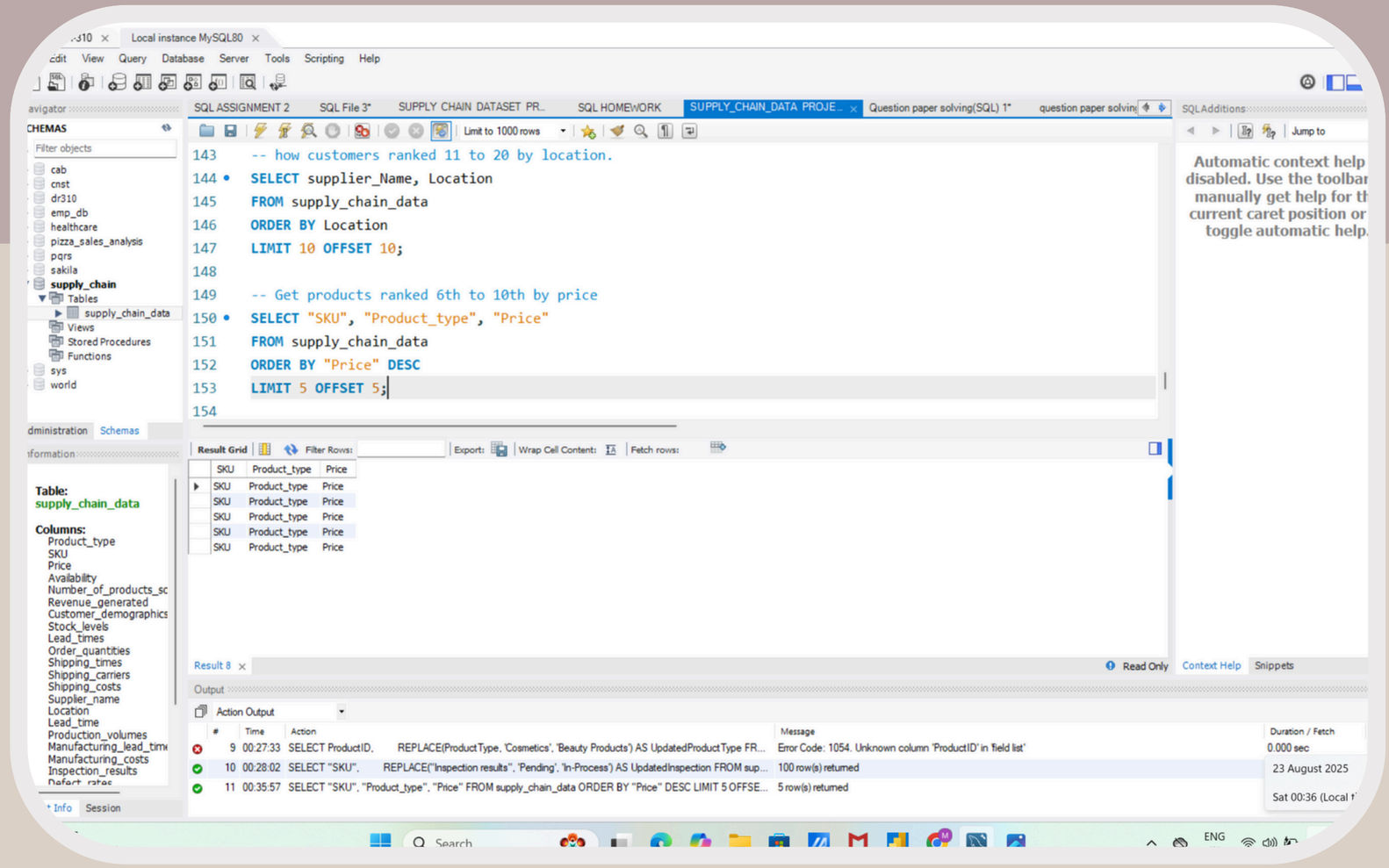
Problem statement 9

- list product where defect rates is greater than the average defect rate of all products.



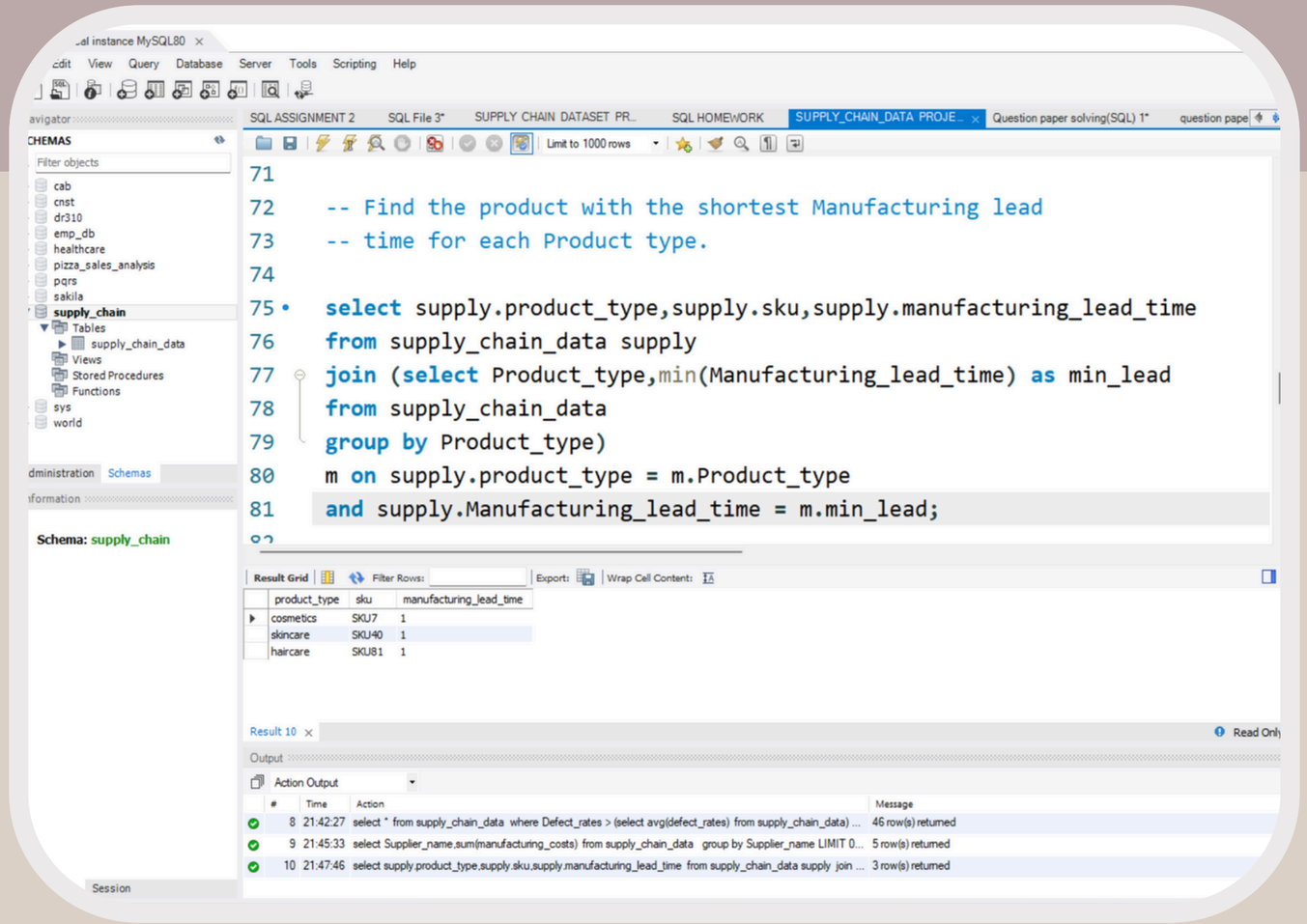
Problem statement 10

- Get products ranked 6th to 10th by price



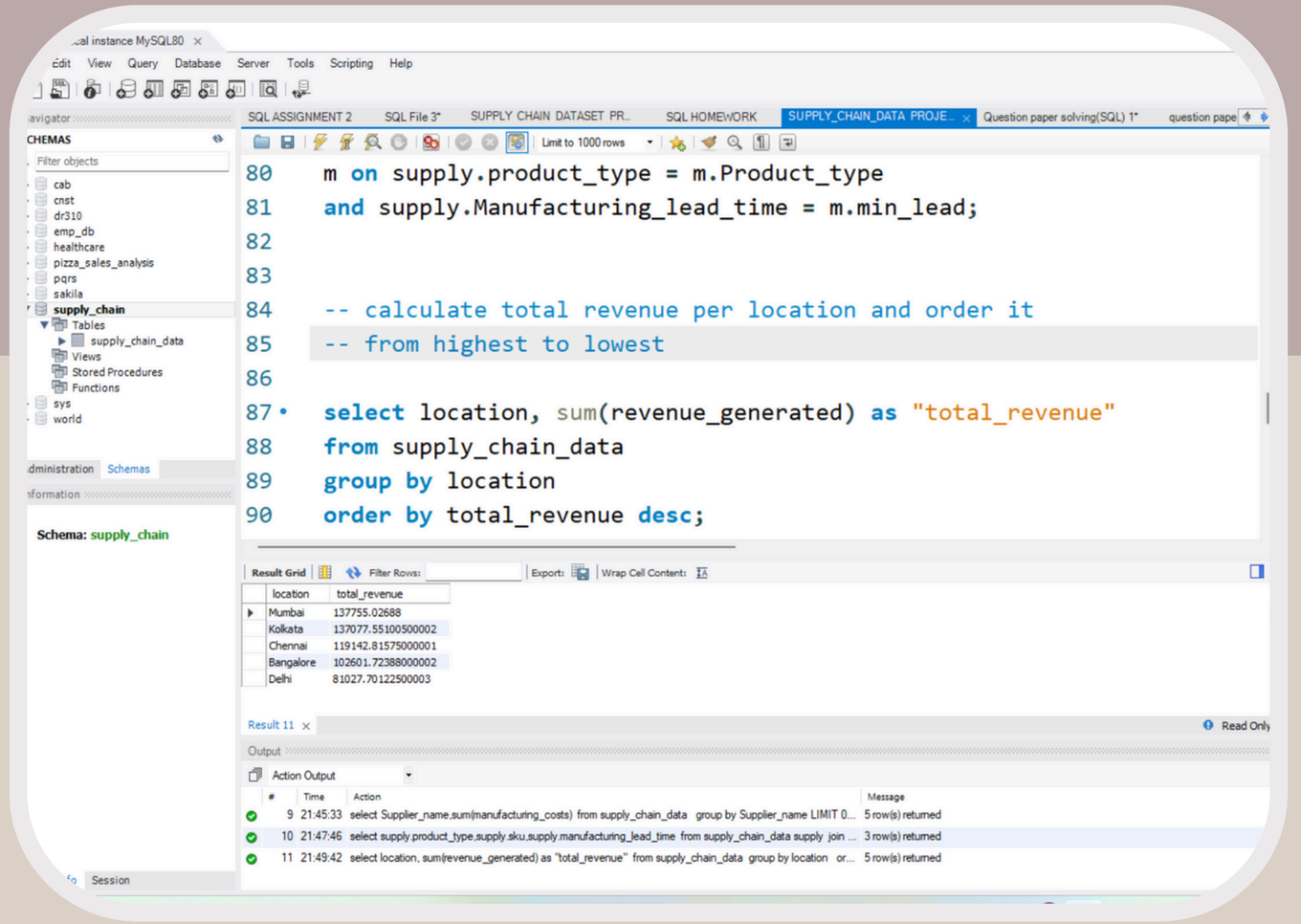
Problem statement 11

- Find the product with the shortest Manufacturing lead time for each Product type.



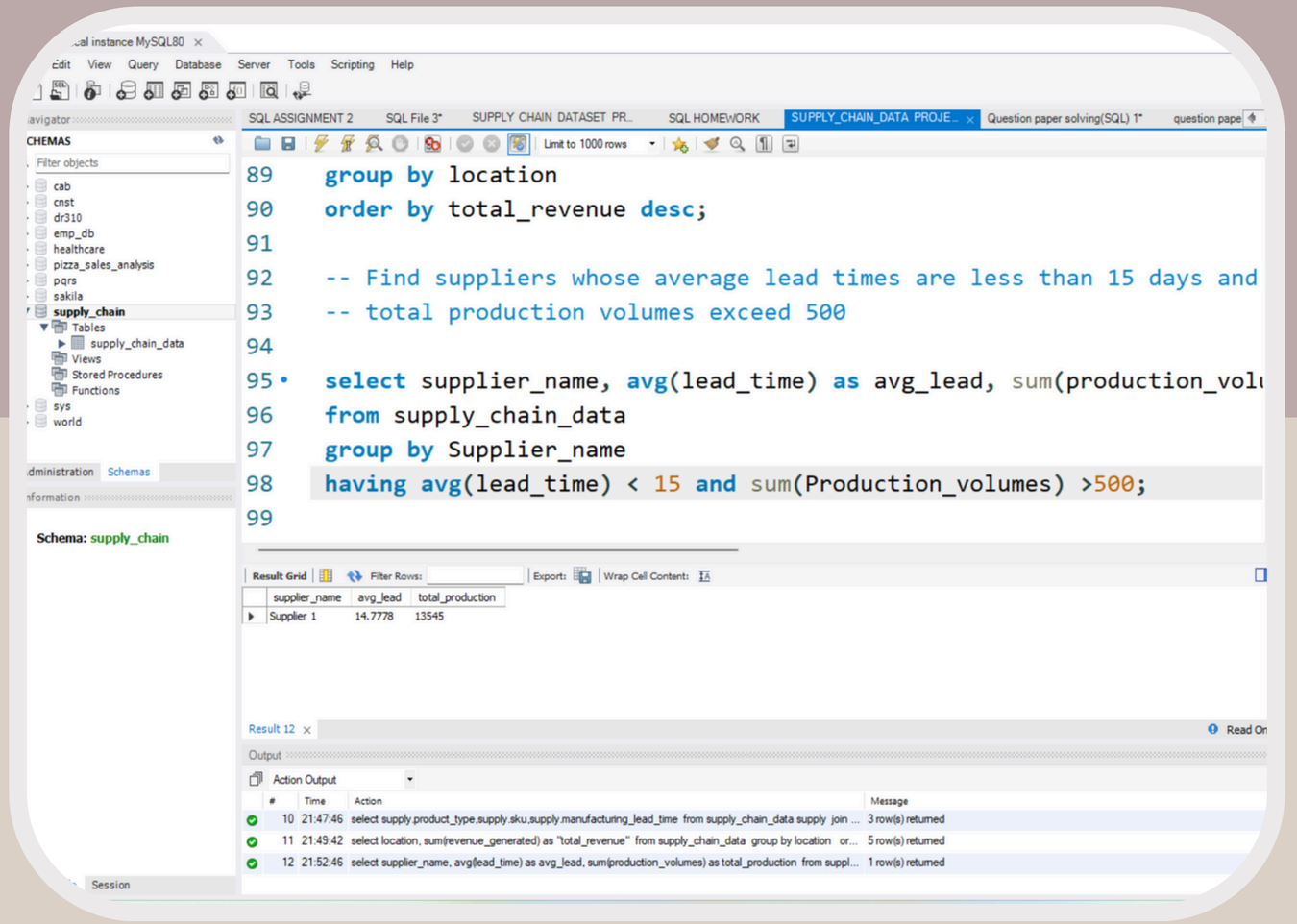
Problem statement 12

- calculate total revenue per location and order it from highest to lowest



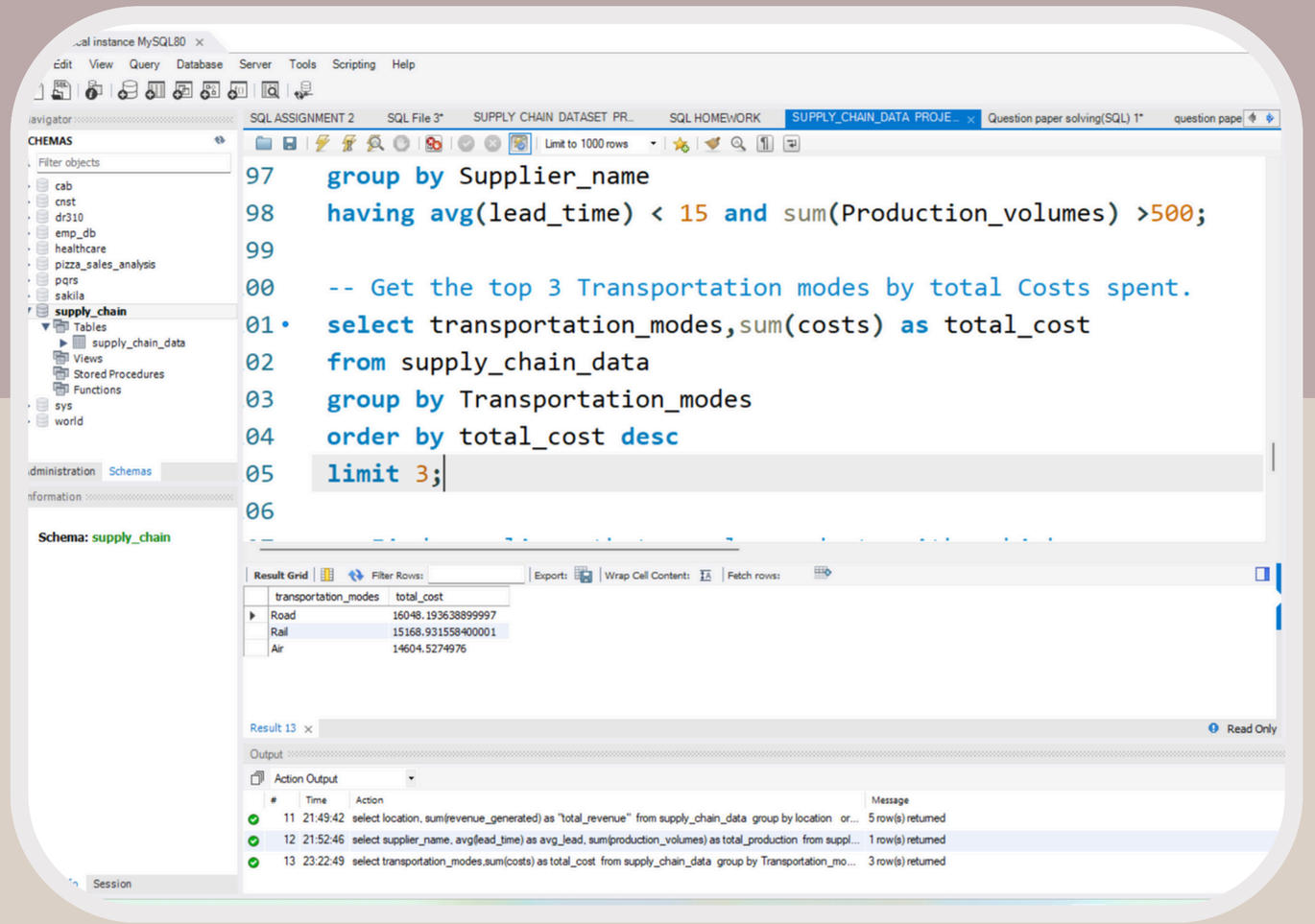
Problem statement 13

- Find suppliers whose average lead times are less than 15 days and total production volumes exceed 500



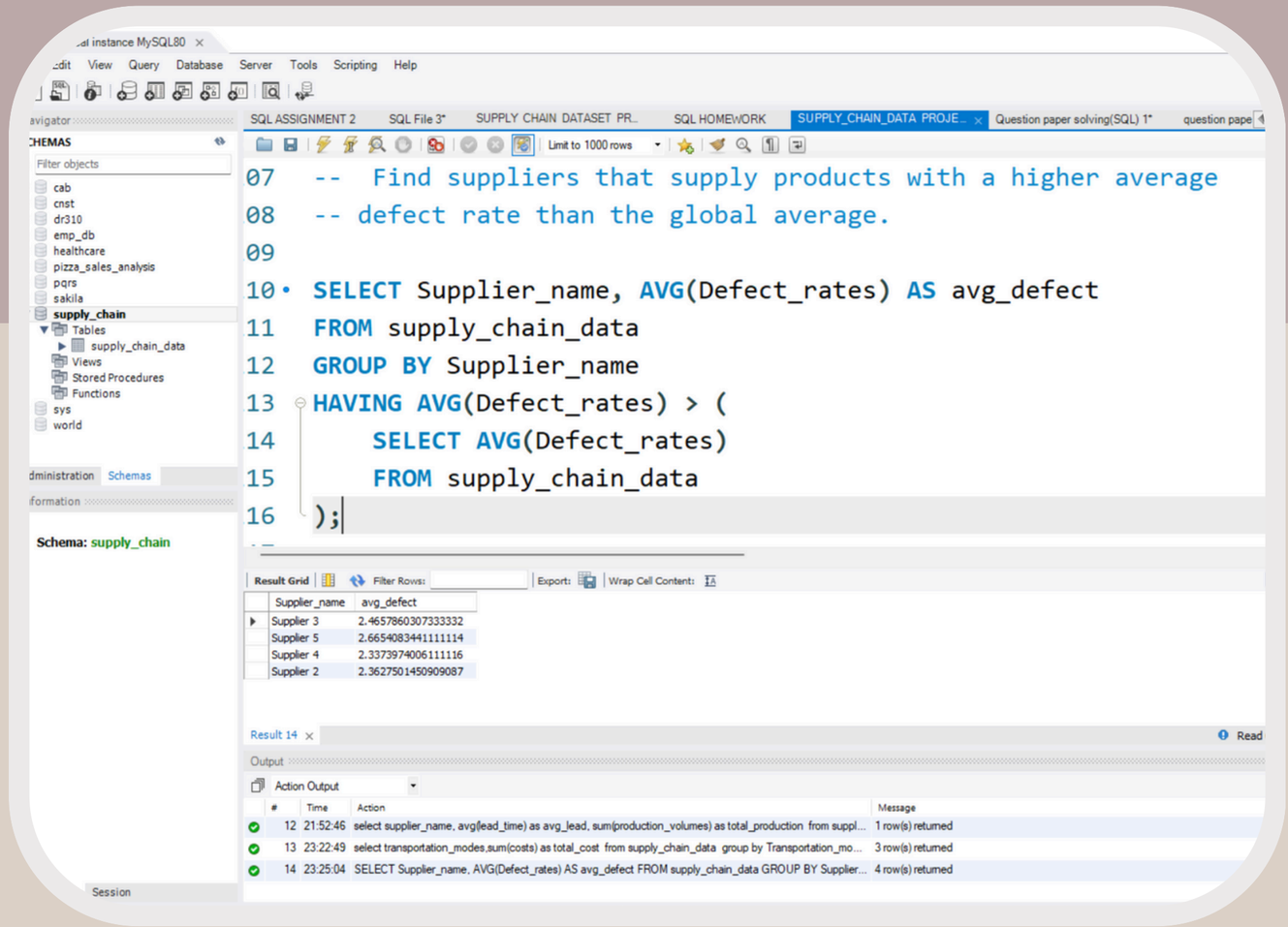
Problem statement 14

- Get the top 3 Transportation modes by total Costs spent.



Problem statement 15

- Find suppliers that supply products with a higher average defect rate than the global average.



Future Scope

- Integration with Real-Time Data: Build live dashboards for continuous supply chain tracking.
- Predictive Analytics: Use machine learning to forecast demand, lead times, and defect rates.
- Optimization Techniques: Minimize logistics costs and improve transportation mode selection.
- Sustainability Tracking: Monitor eco-friendly practices, carbon footprint, and supplier compliance.
- Global Expansion: Extend analysis to international supply chains with diverse markets and regulations.

Conclusion

- SQL analysis provided deep insights into product performance, customer demographics, supplier efficiency, and logistics.
- Identified top-performing products and locations contributing maximum revenue.
- Highlighted operational challenges such as defect rates, lead times, and high transportation costs.
- Demonstrated the value of data-driven decision-making in supply chain management.
- Strengthened understanding of the end-to-end supply chain for skincare, haircare, and cosmetics.


Thank you!