Mint Classics Analysis
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Approach and Thought Process:

Understanding the Business Problem:

I began by analyzing the structure of the Mint Classics relational database, focusing on key tables like `products`, `warehouses`, `orders`, and `orderdetails`. The primary goal was to determine how inventory levels and sales were distributed across different warehouses to address inventory optimization and potential warehouse consolidation. This included identifying which products were performing well and which were tying up valuable storage space without contributing significantly to revenue.

Data Exploration with SQL:

I used SQL queries to explore the data and summarize key metrics such as total sales, profit margins, and inventory levels. Grouping the data by month and region allowed me to identify trends such as seasonal demand and regional preferences for specific products. These insights laid the foundation for the recommendations related to stock reduction, product prioritization, and regional sales strategies.

Key Insights and Recommendations:

Warehouse Optimization & Stock Reduction:

- **Observation**: Some warehouses, like the **East Warehouse**, had higher stock levels but lower overall sales compared to others. The **West Warehouse**, on the other hand, stored fewer products and exhibited lower sales volumes. Products like the **Dodge Coronet** and **Lancia Delta** were identified as low-selling items with significant stock levels, tying up space without yielding strong returns.
- **Recommendation**:
    - **Consolidate Inventory**: Consider closing the **West Warehouse** and merging its stock into the **East Warehouse** or another higher-performing facility. This will reduce operational costs while maintaining service efficiency. Focus on utilizing space for high-selling and high-margin products like the **Toyota Supra**.
    - **Reduce Stock of Low-Performing Products**: Gradually reduce the inventory of low-selling products, such as the **Lancia Delta** and **Dodge Coronet**, by 5-10%. This will free up space for better-performing items and reduce costs associated with excess stock.

Product Line Optimization:

- **Observation**: Products like the **Ferrari 360 Spider** and **Toyota Supra** have high profit margins and consistent sales, making them valuable to the company's bottom line. Other products, despite being in stock, showed low sales and minimal profitability.
- **Recommendation**:
  - **Prioritize High-Margin Products**: Focus on stocking and promoting high-margin products like the **Ferrari 360 Spider** and **Toyota Supra**. These products generate significant revenue per sale and should be prioritized in stock allocation and marketing strategies.
  - **Discontinue Low-Performing Products**: Consider discontinuing or reducing stock for products with low sales and margins, like the **Lancia Delta** and **Dodge Coronet**. This will allow more space for profitable products and improve overall profitability.

Leverage Seasonal Trends & Sales Strategy:

- **Observation**: The sales data revealed fluctuations in demand during specific months, indicating potential seasonal trends. Products like the **Ferrari 360 Spider** showed stronger performance during peak seasons.
- **Recommendation**:
  - **Leverage Seasonal Trends**: Use the sales data to plan inventory according to high-demand periods. Products like the **Ferrari 360 Spider** should be promoted heavily during peak months to maximize revenue.
  - **Run Promotions on Slow-Moving Items**: Offer promotions or discounts on slow-moving products during off-peak periods to clear inventory and drive additional sales.

Customer and Regional Focus:

- **Observation**: Sales data indicated varying performance across different regions, with certain products performing better in specific countries.
- **Recommendation**:
  - **Region-Specific Marketing**: Use customer region data to create targeted marketing campaigns. For example, products with high sales in **France** or the **USA** should receive more focused marketing efforts in those regions, while products that underperform in certain regions can have their stock levels reduced.

Profitability Improvement:

- **Observation**: High-margin products like the **Toyota Supra** consistently contributed to profitability, while others with lower margins tied up resources.
- **Recommendation**:
  - **Maximize High-Margin Products**: Allocate more inventory and marketing efforts to high-margin products like the **Toyota Supra** and the **Ferrari 360 Spider**. Consider slight price increases for these products, which could further improve profitability without negatively affecting sales volume.
  - **Monitor and Adjust Pricing**: Regularly review pricing strategies to ensure margins are maintained. Adjust pricing for high-demand products to optimize profitability.

Conclusion:

By implementing these recommendations, Mint Classics can reduce operational costs, improve inventory management, and enhance profitability. The focus should be on consolidating underperforming warehouses, reducing stock of low-performing items, promoting high-margin products, and leveraging regional and seasonal sales trends for better business outcomes. My approach to this project used SQL analysis to identify key inventory and sales trends, allowing for data-driven recommendations that balance immediate operational needs with long-term profitability goals.