Assignment ID: **#748544**

*Submissions (part) of Weekly Exercises to*

**Weekly Exercises on AI-Powered Automation for Data Science Using GitHub Copilot in VS Code - May 2025**

***Week Duration:18/05/2025 - 25/05/2025***

Responses are for

Exercise 1, Task 6

Student Name : Arindam Mitra

Registration Code: STU20250430/14045

Email: [arinmitra@gmail.com](mailto:arinmitra@gmail.com)

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# 6. Analyze Results and Write Summary: After obtaining the outputs, interpret them. Write a short summary of insights in your notebook or document:

* Which branch had the highest sales? How much higher was it than others roughly (e.g. 10% higher)?
* Which product line is the top seller? Does it significantly outsell the others?
* Do members spend more than normal customers on average? Quantify the difference.
* (If analyzed) Which branch has the highest customer satisfaction rating? Any notable differences?
* What patterns or surprises do you see in the data? Write these observations in a few sentences or bullet points. This summary will be useful for your report and portfolio. You can include it as markdown text in a Jupyter notebook or as comments in your .py file (and later transfer to your submission write-up).

After analysing the results, the summary of such analysis is as given below:

## Branch with the highest sales:

A graph of a graph with a bar chart

AI-generated content may be incorrect.

Branch C is the top-performing location with ₹110,568.71 in total sales, signalling strong operational effectiveness and customer engagement. It sets a benchmark for other branches and presents an opportunity to replicate its success model across the network. It was marginally higher than the other two branches by approximately about (~5%) on the totals by the store from the graph

## Highest Selling Product:

1. **Top product line by total sales:** *Food and Beverages*
2. **Total sales value:** ₹56,144.84

Observations:

* *Food and Beverages* is the **highest revenue-generating category**, suggesting strong customer demand and high turnover in this product line.

Food and Beverages is the top-selling product line, contributing ₹56,144.84 in total sales. This highlights it as a key revenue driver and a strategic area for continued investment and growth initiatives.

## Average Spending Comparison:

1. **Members** spend an average of **₹327.79**.
2. **Normal customers** spend an average of **₹318.12**.

Observations:

* **Members spend approximately ₹9.67 more** on average than normal customers.
* This **indicates higher customer value** among members, possibly due to loyalty programs, personalized offers, or perceived benefits of membership.
* While the difference is modest (~3%), over a large customer base, this **can translate into significant revenue gains**.

Members show slightly higher average spending than normal customers, suggesting that membership programs may be effective in encouraging higher spending behavior. This insight can inform strategies for customer retention and upselling.

## Average Customer ratings by branch:

Branch A – 7.027059; Branch B – 6.818072 and Branch C – 7.072866

Branch C leads in customer satisfaction with an average rating of 7.07, followed closely by Branch A. Branch B lags slightly, indicating potential areas for improvement in customer experience and service delivery.

## Patterns in the data:

The overall performance is showing a regular trend of good performance with respect to sales, service delivery or overall customer satisfactions. However, there are scope for improving upon the current performances and expand the business by doing further analysis on the data.