

# Assignment\_2\_filtering\_sorting(Questions)

January 30, 2026

## 1 Assignment 2 (Questions): (Knowing your data, filtering, and sorting)

### 1.1 Supermarket Sales Data Analysis – Filtering, Sorting & Aggregation Description & Objectives

This assignment evaluates your proficiency in Exploratory Data Analysis using Python Pandas. Working with the `SuperMarket Analysis.csv` dataset (1,000 transactions across three branches), you will demonstrate competency in data ingestion, quality assessment, conditional filtering, multi-criteria sorting, and group-based aggregation. The exercise requires you to extract actionable business insights including revenue patterns by branch/demographic, product performance metrics, and customer behavior indicators—through programmatic data manipulation without modifying source data.

**Instructions:** Complete the following questions:

#### 1.1.1 Q1. Load the (`SuperMarket Analysis.csv`) dataset and display the first 5 rows.

[ ]:

#### 1.1.2 Q2. Display the dataset shape (rows and columns).

[ ]:

#### 1.1.3 Q3. List all column names.

[ ]:

#### 1.1.4 Q4. Identify categorical and numerical columns.

[ ]:

#### 1.1.5 Q5. Check for missing values in each column.

[ ]:

1.1.6 Q6. Display the data types of each column.

[ ]:

1.1.7 Q7. Show summary statistics for numerical columns (use pandas method).

[ ]:

1.1.8 Q8. Filter rows where Sales > 500.

[ ]:

1.1.9 Q9. Filter sales in City = “Yangon” and Sales > 200.

[ ]:

1.1.10 Q10. Sort all orders by Sales in descending order.

[ ]:

1.1.11 Q11. Sort by Date (ascending) and then Time (ascending).

[ ]:

1.1.12 Q12. Sort by Unit price and Quantity.

[ ]:

1.1.13 Q13. Calculate the total sales in “Sales” per Branch.

[ ]:

1.1.14 Q14. Calculate average Sales per City.

[ ]:

1.1.15 Q15. Find the quantities sold per product line.

[ ]:

1.1.16 Q16. Calculate average gross income per Gender.

[ ]:

1.1.17 Q17. Count number of sales per Payment method.

[ ]:

1.1.18 Q18. Find maximum Sales per Branch.

[ ]:

1.1.19 Q19. Find minimum Unit price per Product line.

[ ]:

1.1.20 Q20. Find the sum of gross income per Product line and Branch.

[ ]:

1.1.21 21. What is the total quantities sold in Product line: “Electronic accessories”?

[ ]:

1.1.22 22. What is the average Sales for female customers?

[ ]:

1.1.23 23. What is the most expensive Unit price among Customer type members only?

[ ]:

1.1.24 24. How many orders with Rating  $\geq 9$  ?

[ ]:

1.1.25 25. What is the total Sales for Payment “Credit card” in Branch C?

[ ]: