Practice Exercise: EDA With Python

The following is a post-class exercise for practicing exploratory data analysis using Python.

Note: This is neither a graded assessment nor has any time restraints for completion.

Case Study Number & Title	2. Analyzing customer data collected by a supermarket mall to target specific customer segments.
Background Information	A metropolitan supermarket mall has put together data on customer purchase behavior from their database.
Problem Statement/ Business objectives	As the mall owner, you wish to understand the profitable customers who may be targeted for subsequent marketing campaigns.
Data, Information for case analysis	Data is provided as an xlsx file. Below is the source and attribute information. Source link: https://www.kaggle.com/datasets/vjchoudhary7/customer-segmentation-tutorial-in-python Data Description **CustomerID:** Unique ID assigned to the customer **Gender:** Gender of the customer **Age:** Age of the customer **Annual Income (k$):** Annual income of the customer in 1000's **Spending Score (1-100):** Score assigned by the mall based on customer behavior and spending nature
Questions	1. What is the average annual income of female customers who have spending score of less than 65? 2. Explore the relationship (if any) between gender, annual income as well as spending score. What are the conclusions that may be drawn? 3. Create a new column "Age Group" and evaluate the extent of relationship between age and spending score using suitable visualization. • 18-29 – Young adult • 30-59 – Adult

	• 60 & above – Senior 4. Explore the correlation (if any) between annual income and spending score with respect to age group. 5. Determine the highest spending score of an adult male.
Solution	A sample solution also provided with the dataset
Deliverables for Solution and Rubric	Non-graded assessment
Key Takeaways/Results	Exploring and analyzing data using Python and deriving meaningful insights.