## Data Description

The dataset consists of customer information collected from a retail company. It includes details about each customer's demographics (such as gender and age), financial information (annual income), spending habits (spending score), profession, work experience, and family size. The data is intended for analysis to understand customer behaviour better, segment customers, and tailor marketing strategies accordingly.

## Data Dictionary

* **CustomerID**: An integer that uniquely identifies each customer.
* **Gender**: A string indicating the gender of the customer, with possible values including 'Male' and 'Female'.
* **Age**: An integer representing the age of the customer.
* **Annual Income** ($): An integer representing the customer's annual income in dollars.
* **Spending Score** (1-100): An integer representing a score assigned to the customer based on their spending behaviour, where 1 is the lowest and 100 is the highest.
* **Profession**: A string indicating the customer's profession. Examples include 'Healthcare', 'Engineer', 'Lawyer', and 'Entertainment'.
* **Work Experience**: An integer indicating the number of years of work experience the customer has.
* **Family Size**: An integer representing the number of people in the customer's family.

## Questions

*Descriptive Analysis*

1. What is the distribution of customer ages?

Visualize the age distribution of customers to understand which age groups are more prevalent in the dataset.

1. How is the annual income distributed among the customers?

Plot the distribution of annual income to see how income varies across the customer base.

1. What is the distribution of spending scores?

Analyze how spending scores are distributed to identify common spending behaviors.

*Comparative Analysis*

1. Is there a difference in spending habits between genders?

Compare the average spending scores between male and female customers to see how gender influences spending behavior.

1. How does annual income correlate with spending score?

Use a scatter plot to explore the relationship between customers' annual income and their spending scores.

1. What are the common professions among the top spenders?

Identify the professions of customers with high spending scores to see if certain professions tend to spend more.

*Demographic Analysis*

1. How does family size affect spending habits?

Analyze spending scores based on family size to understand if and how family obligations impact spending behavior.

1. What is the relationship between age and annual income?

Plot age against annual income to see if there's a trend indicating income increases or decreases with age.

1. Are there differences in work experience across different professions?

Compare the average work experience years in each profession to see if certain fields tend to have more experienced individuals.

*Behavioral Insights*

1. Do customers with higher annual incomes have higher spending scores?

Investigate the correlation between annual income and spending scores to understand if wealthier individuals tend to spend more or less.

1. How does age affect a customer's spending score?

Plot age against spending scores to determine if spending habits vary significantly with age.

1. Is there a predominant gender in specific professions within your dataset?

Create a chart showing the distribution of genders across different professions.