1. \*\*Importing Libraries:\*\*

- `math`: Provides mathematical functions.

- `warnings`: Allows control over warning messages.

- `pandas as pd`: Importing the pandas library for data manipulation and analysis.

- `numpy as np`: Importing the NumPy library for numerical operations.

- `seaborn as sns`: Importing the Seaborn library for statistical data visualization.

- `matplotlib.pyplot as plt`: Importing the Matplotlib library for creating visualizations.

- `InteractiveShell` from `IPython.core.interactiveshell`: Configuring the interactive shell for displaying multiple outputs.

2. \*\*Styling and Configuration:\*\*

- `InteractiveShell.ast\_node\_interactivity = 'all'`: Configuring the interactive shell to display all expressions, not just the last one.

- `plt.style.use('ggplot')`: Setting the style of Matplotlib plots to 'ggplot.'

- `%matplotlib inline`: Configuring Jupyter or IPython to display Matplotlib plots inline within the notebook.

3. Observations on boxplot

* Presence of outliers in personal age
* Potential outliers in personal income
* Presence of outliers in person\_emp\_length
* Presence of missing values
* Loan Status is recognized by pandas as int64
* Dropping outliers in person\_age will take care of the outliers in person\_income

4. Observation on histograms

* Distributions are skewed
* People under 30 takes more loans than the people above 30
* The majority of loan takers have an income of 25,000
* Tendency to take loan decreases due to spending more time in employment
* The most common loan percent income is between 20% and 30%

Topics

Does a borrower's credit history length affect their loan repayment habits?

How does a lender's loan grade affect the interest rates offered to borrowers?

Are there significant differences in loan amounts requested by borrowers based on whether they own a home or not?

What is the average percentage of income borrowers allocate to loan repayment in various loan purpose categories?