Data Science Assignment Report

Name: Utkarsha Kakulte
Project Title: Trader Profit/Loss Analysis Based on Market Sentiment

1. Objective

The main objective of this project is to analyze how market sentiment such as Fear and Greed affects trader profit and loss. The project aims to combine trader transaction data with sentiment data and find the average profit or loss under different sentiment conditions.

2. Dataset Description

Two datasets were used in this project:

Dataset	Description
Trader Dataset	Contains trader transaction details including closed_pnl values.
Sentiment Dataset	Contains market sentiment classification such as *Fear* and *Greed*.

Both datasets were downloaded from Google Drive using the gdown library and stored in the csv_files folder.

3. Methodology

The following steps were performed:

1. Created project folders using Python.
2. Downloaded CSV datasets from Google Drive.
3. Loaded datasets into Pandas DataFrames.
4. Merged trader data with sentiment data.
5. Grouped the merged data by sentiment classification.
6. Calculated the average profit or loss (closed_pnl) for each sentiment.
7. Visualized the result using a bar chart.
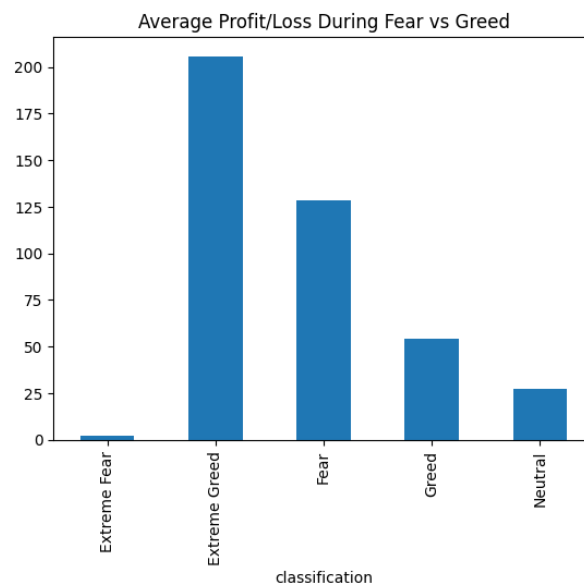8. Saved the chart into the outputs folder.

4. Tools & Libraries

- Python
- Pandas
- Matplotlib
- gdown
- Google Colab

5. Results & Observations

A bar chart was generated that shows the **average profit/loss during Fear vs Greed sentiment**.

Key observation:

- Traders tend to perform differently depending on the market sentiment.
- The analysis clearly shows how profit and loss varies between *Fear* and *Greed* periods.

Average Profit/Loss During Fear vs Greed

6. Conclusion

This project successfully demonstrates how market sentiment impacts trading performance. By combining multiple datasets and visualizing results, meaningful insights were extracted. The project enhanced practical understanding of real-world data analysis, data merging, and visualization techniques using Python.