In-Class-Assigment1:

Discover the relationship between TMDB and stock market fluctuation To complete this assignment, you will need to use Yahoo API, NLP libraries, and ChatGPT

Assignment Type: Individual lab work

Weight: 15% , Time: In Class/ …../

In this assignment, you will extract and analyze data from both sources to gain insights into how movie releases might impact the performance of related companies' stocks.

In this exercise, you'll work with two datasets:

1. TMDb Dataset: This dataset contains information about movies, including their titles, release dates, genres, ratings, and more.
2. Stock Market Dataset: This dataset contains historical stock market data for companies related to the movie industry, such as production companies, distributors, or theater chains.

Objectives

1. Collect data from different sources
2. Perform sentiment analysis
3. Integrate data from different sources and perform data analysis on collected data
4. Data summary and visualization
5. Transform the summary into narrative

Tasks:

1. Data Collection
    1. Select a unique production company that trades on stocks and confirm with the professor
    2. Collect 10 moves' details of selected company
    3. Collect stock markets of the production companies on a release day
2. Data Integration:

1. Merge the two datasets based on relevant attributes. For example, you might match movie release dates with stock performance data for the companies involved in producing or distributing those movies.

3. Data Analysis:

    1. Conduct sentiment analysis for collected movie titles, descriptions, or both
    2. Analyze how movie releases affect the stock prices of related companies. Look for patterns or correlations between the release dates of blockbuster movies and changes in stock prices.
    3. Explore whether movie description has an impact on stock performance.
    4. Consider additional factors such as critical acclaim, box office performance, or audience demographics to see how they correlate with stock market trends.

<u>Deliverables:</u>

1. Submit a professional report (PDF file) including at least:
    a. Explanation of data extraction process
    b. A report summarizing your findings, including insights gained from the data analysis and visualizations.
    c. Visualizations such as charts or graphs to support your analysis.
    d. Validation steps
    e. Detailed explanations of your solution including snippets of your source code.
    f. Your experience reflection
2. Jupiter notebook
        1. Comments in code
        2. Fully working solution