**General Project overview**

This project is designed to handle stock market data for different groups of stocks, including American (S&P 500) and European (Euro Stoxx 50) indices. The project involves collecting, preprocessing, and analyzing stock data to assist in manual financial analysis performed in Excel. This document outlines the folder structure, workflows, and preprocessing steps used in the project.

**Folder Structure**

The project is organized as follows:

/stock\_project/

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├── /sp500/

│ ├── /raw\_data/ # Stores raw S&P 500 data files

│ ├── /processed\_data/ # Stores preprocessed S&P 500 data

│ ├── /metadata/ # Contains metadata files related to S&P 500

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├── /eurostoxx50/

│ ├── /raw\_data/ # Stores raw Euro Stoxx 50 data files

│ ├── /processed\_data/ # Stores preprocessed Euro Stoxx 50 data

│ ├── /metadata/ # Contains metadata files related to Euro Stoxx 50

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├── /scripts/

│ ├── /preprocessing\_scripts/ # Python scripts for data preprocessing

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├── /deprecated/ # Archive for outdated files and scripts

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├── /docs/ # Stores project documentation and references

│ ├── eurostoxx50.pdf # Reference document for Euro Stoxx 50 analysis

│ ├── description.docx # General project description file

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**Workflow**

1. **Data Collection**

**Raw Data**: The raw data for each stock group (e.g., S&P 500, Euro Stoxx 50) is stored in their respective /raw\_data/ folders. Files are typically in .csv or .xlsx format and are imported into the project directly from external sources.

**Metadata**: Any additional information regarding the datasets, such as descriptions or special considerations, are stored in the /metadata/ folders. These files help document the data's source, update frequency, or any important notes.

1. **Data Preprocessing**

**Python Scripts**: Preprocessing is done using Python scripts stored in the /scripts/preprocessing\_scripts/ folder. These scripts are responsible for tasks such as:

Cleaning the raw data (e.g., handling missing values, normalizing formats)

Applying basic transformations (e.g., calculating stock returns, adjusting for splits)

Saving the preprocessed data in a format ready for Excel (e.g., cleaned .csv or .xlsx files).

Processed Data: The output of the preprocessing scripts is saved in the /processed\_data/ folders for each stock group. These files will be used for manual calculations and analysis in Excel.

1. **Analysis in Excel**

**Manual Analysis**: Once the data is preprocessed, it can be imported into Excel for manual financial analysis. This step involves using Excel functions to calculate metrics like price-to-earnings ratios, moving averages, or portfolio returns.

**Excel Templates**: If needed, you can create a standard Excel template to streamline the analysis. This template can be updated periodically with the latest preprocessed data.

1. **Archiving**

**Deprecated Folder**: Outdated files or scripts that are no longer used in the project are moved to the /deprecated/ folder to keep the workspace clean and organized. This ensures that historical data or legacy scripts are not lost but do not clutter the main project directories.