

Internship Task Documentation

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Internship Organization: CodeAlpha

Internship Domain: Python Programming

Project Title: Stock Portfolio Tracker

Objective:

The objective of this project is to develop a command-line based Stock Portfolio Tracker using Python. The application allows users to input their stock holdings, calculates the total investment, displays a detailed summary, and provides an option to save the summary in both TXT and CSV formats.

Project Overview:

The Stock Portfolio Tracker is designed to:

- Allow users to input stock symbols and corresponding quantities.
 - Validate user inputs for correct stock symbols and valid quantities.
 - Calculate the total value of stocks based on predefined stock prices.
 - Display a detailed summary of the user's portfolio.
 - Provide functionality to save the summary to TXT and CSV files for future reference.
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Technology Stack:

- **Language:** Python
 - **Libraries Used:**
 - os (for file path management)
 - csv (for CSV file creation and management)
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Key Functionalities:

1. Stock Price Mapping:

Predefined stock prices are stored in a dictionary with stock symbols as keys.

```
stock_prices = {  
    "AAPL": 180,  
    "TSLA": 250,  
    "GOOGL": 140,  
    "AMZN": 130,  
    "MSFT": 320  
}
```

2. User Input (Portfolio Entry):

- The user is prompted to enter stock symbols and their respective quantities.
- Input is validated for valid stock symbols and positive integer quantities.

3. Portfolio Summary Display:

- After user inputs, the program calculates and displays:
 - Stock-wise quantity, price, and total value.
 - Overall total investment.

4. File Saving Feature:

- The summary can be saved into:
 - portfolio_summary.txt (plain text file)
 - portfolio_summary.csv (spreadsheet compatible CSV file)
 - Files are saved in the directory where the script is located.
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Code Structure:

1. get_stock_input() Function:

Handles user input, validates stock symbols, ensures positive quantities, and builds the portfolio dictionary.

2. display_summary(portfolio) Function:

Calculates and displays the portfolio summary and total investment. Also prepares data for file saving.


3. save_to_files(summary, total, directory) Function:

Saves the portfolio summary to both TXT and CSV formats in the specified directory.


4. main() Function:

Coordinates the overall program flow including user interaction, summary display, and file saving options.

Sample Execution Flow:

 Welcome to Stock Portfolio Tracker!
Available Stocks: AAPL, TSLA, GOOGL, AMZN, MSFT

- ◆ Enter stock symbol (or type 'done' to finish): AAPL
- 📦 Enter quantity of AAPL: 10
- ◆ Enter stock symbol (or type 'done' to finish): TSLA
- 📦 Enter quantity of TSLA: 5
- ◆ Enter stock symbol (or type 'done' to finish): done

 Your Portfolio Summary:
AAPL: 10 shares @ \$180 => \$1800
TSLA: 5 shares @ \$250 => \$1250

💰 Total Investment: \$3050

 Do you want to save this summary to a file? (yes/no): yes

✅ Summary saved to:

- TXT: /path/to/portfolio_summary.txt
- CSV: /path/to/portfolio_summary.csv

Conclusion:

This Stock Portfolio Tracker project demonstrates practical usage of core Python programming concepts such as:

- User input handling
- Data validation
- File operations (reading and writing)
- Data structures (dictionary, list)
- Basic calculations and formatted output

It provides a functional and extendable base for further development, such as real-time stock price integration using external APIs.

Submitted by:

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