**Week Ten Assignment: Stock Portfolio Program**

Master of Science

Information and communication Technology

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**1. Program Overview**

A Python application for tracking stock portfolio performance with:  
✅ Database storage (SQLite)  
✅ CSV import/export  
✅ Portfolio analytics  
✅ Visualizations (matplotlib)  
✅ GUI interface (Tkinter)

**2. Setup Instructions**

**Requirements**

* Python 3.8+
* Required packages: pip install yfinance pandas matplotlib

**Installation**

1. Download StockPortfolio.py
2. Run: python3 StockPortfolio.py

**3. How to Use**

**Adding Stocks**

1. Select *"Add Stock"* from the menu
2. Enter:
   * Stock symbol (e.g., AAPL)
   * Number of shares
   * Purchase price
   * Purchase date (YYYY-MM-DD)

A screenshot of a computer

Description automatically generated

**Generating Reports**

1. Choose *"Generate Report"*
2. System creates:
   * portfolio\_allocation.png
   * portfolio\_report.csv

**4. Sample Outputs**

**Portfolio Allocation Chart**

A screenshot of a graph

Description automatically generated

**CSV Export Example**

csv

Copy

Download

ID,Symbol,Shares,Purchase Price,Purchase Date

1,AAPL,10,150.50,2023-01-15

2,MSFT,5,250.75,2023-02-20

**5. Code Explanation**

**Key Features**

class StockPortfolio:

def add\_stock(self, symbol, shares, price, date):

*# Adds stock to SQLite database*

def generate\_report(self):

*# Creates visualizations + CSV export*

**6. Reflection**

**Challenges Solved:**

* Implemented error handling for Yahoo Finance API
* Fixed file path issues for cross-platform compatibility

**Future Improvements:**

* Add email report functionality
* Implement machine learning predictions

**Attachments:**

* StockPortfolio.py
* portfolio\_allocation.png
* portfolio\_report.csv