

Project Name: FinHeinzer

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Description

This Python code assists investors in selecting an optimal portfolio based on various financial metrics and risk factors. The code utilizes financial data and modern portfolio theory to recommend a diversified set of assets for investment.

Installation

Make sure you have Python installed on your machine. You can download it from [python.org](https://www.python.org/downloads/).

Installing Required Packages

The following Python packages are required for this project. You can install them using the package manager [pip](https://pip.pypa.io/en/stable/) in your terminal:

```
C:\Users\JkL>pip install PACKAGENAME
```

```
pip install sys
pip install tk
pip install matplotlib
pip install requests
pip install json
pip install pandas
pip install datetime
pip install yfinance
pip install numpy
pip install scipy
pip install random
pip install time
```

Run The Project

Description video can be found at: https://www.youtube.com/watch?v=NsZX_3NQLVo

In your terminal, first start the application by navigating to the file that contains the .py files. Then run the application by typing *python main.py*. (That is: Run the file called main.py to start our application)

```
C:\Users\JkL\DFP\Project\zipfile>python main.py
```

Tips:

1. Please **click and drag the scrollbar on the right-hand side** to navigate through the information. Note that **scrolling with the mouse wheel** is **NOT** enabled for this window.
2. If the window does not display all the content on your device, you may **manually resize** the window to view the full content.

The application will show a survey containing **20** questions on evaluating your risk tolerance.

Risk Tolerance Assessment

1. In general, how would your best friend describe you as a risk taker?
Select an Option

2. You are on a TV game show and can choose one of the following. Which would you take?
Select an Option

3. You have just finished saving for a "once-in-a-lifetime" vacation. Three weeks before you plan to leave, you lose your job. You would:
Select an Option

4. If you unexpectedly received \$20,000 to invest, what would you do?
Select an Option

5. In terms of experience, how comfortable are you investing in stocks or stock mutual funds?
Select an Option

6. When you think of the word "risk" which of the following words comes to mind first?
Select an Option

7. Some experts are predicting prices of assets such as gold, jewels, collectibles, and real estate (hard assets) to increase in value; bond prices may fall, however, experts tend to agree that government bonds are relatively safe. Most of your investment assets are now in high-interest government bonds. What would you do?
Select an Option

8. Given the best- and worst-case returns of the four investment choices below, which would you prefer?
Select an Option

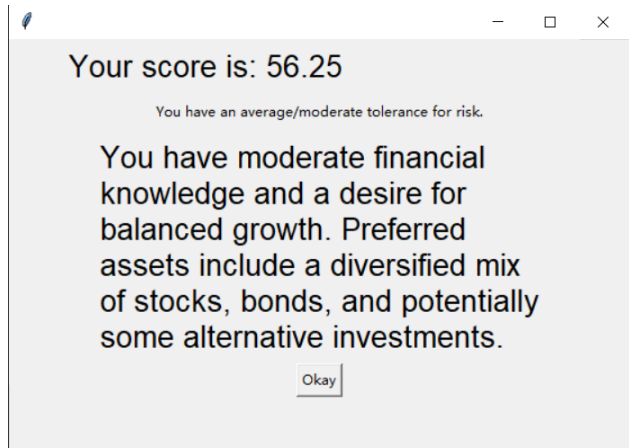
9. In addition to whatever you own, you have been given \$1,000. You are now asked to choose between:
Select an Option

10. In addition to whatever you own, you have been given \$2,000. You are now asked to choose
Select an Option

Submit

IMPORTANT: TO PROCEED, YOU MUST ANSWER ALL THE 20 QUESTIONS.

Next, your risk tolerance score will be calculated and shown with descriptions. And then you could click “Okay” to see the next content.



The application will automatically use this score to calculate and recommend a portfolio based on data of popular stocks on Yahoo Finance as well as data on treasury returns.

It will provide you recommended weights of different kinds of portfolios, its expected return, its beta(risk), and a pie chart for visualization. It will also provide you a bar chart comparing the recommended portfolio with 5 random chosen stocks or treasuries. At the end of the window, you can enter a stock ID based on Yahoo Finance and days from today to inspect the trend of your chosen stock.

After finishing everything, click quit to end the application.