GOLDEN YEARS

Project Team

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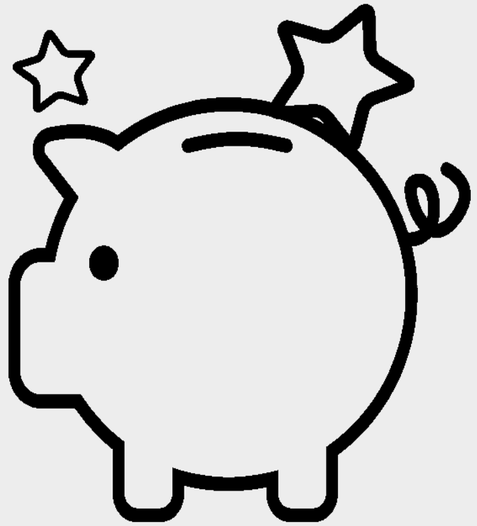
Problems?

Solutions!



What Does Our Product Do?

Data Sources & Analysis

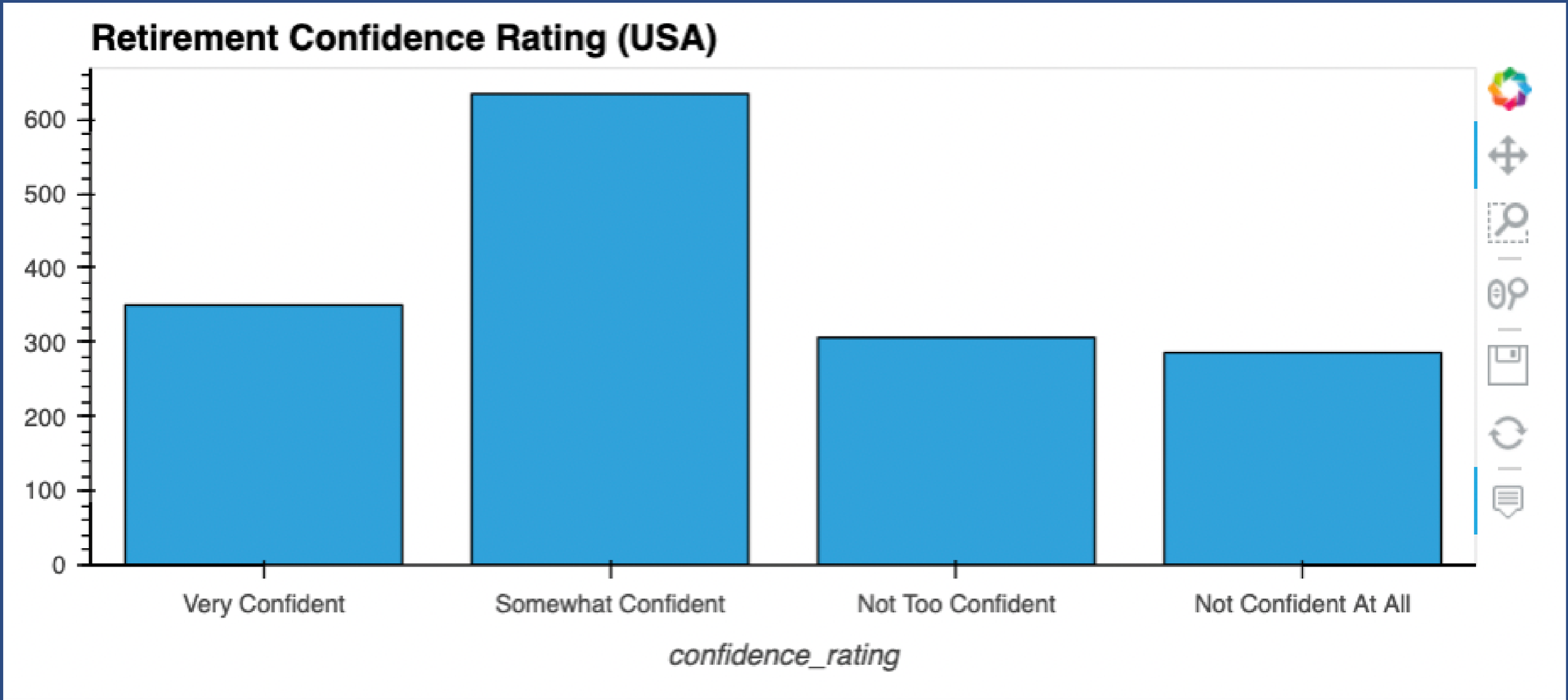
Sources:

Retirement Confidence Data
User Input
Financial Forecast

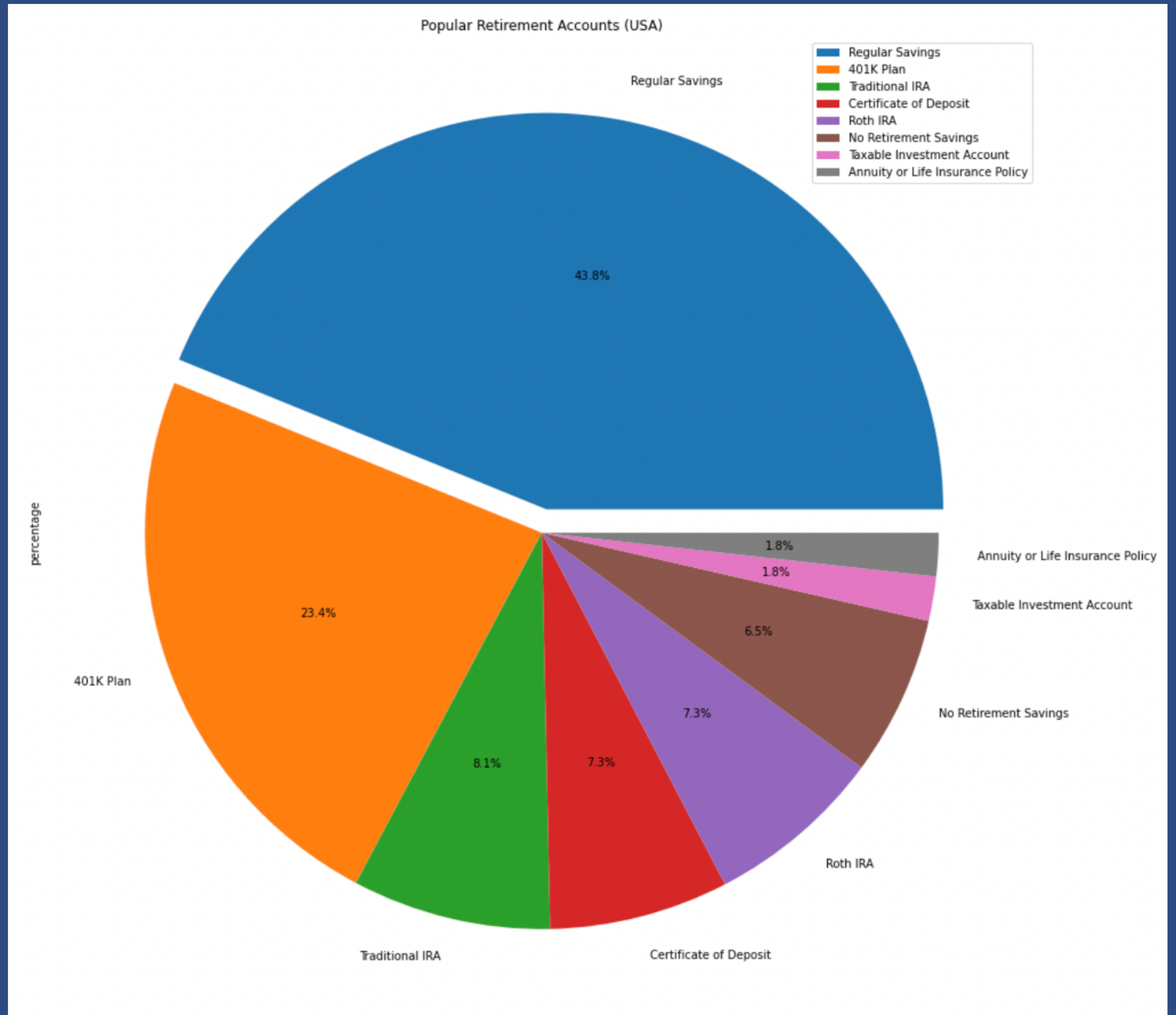
Analysis:

Part 1: Analysis of USA Retirement Data
Part 2: User Input
Part 3&4: Financial Forecast and Simulations

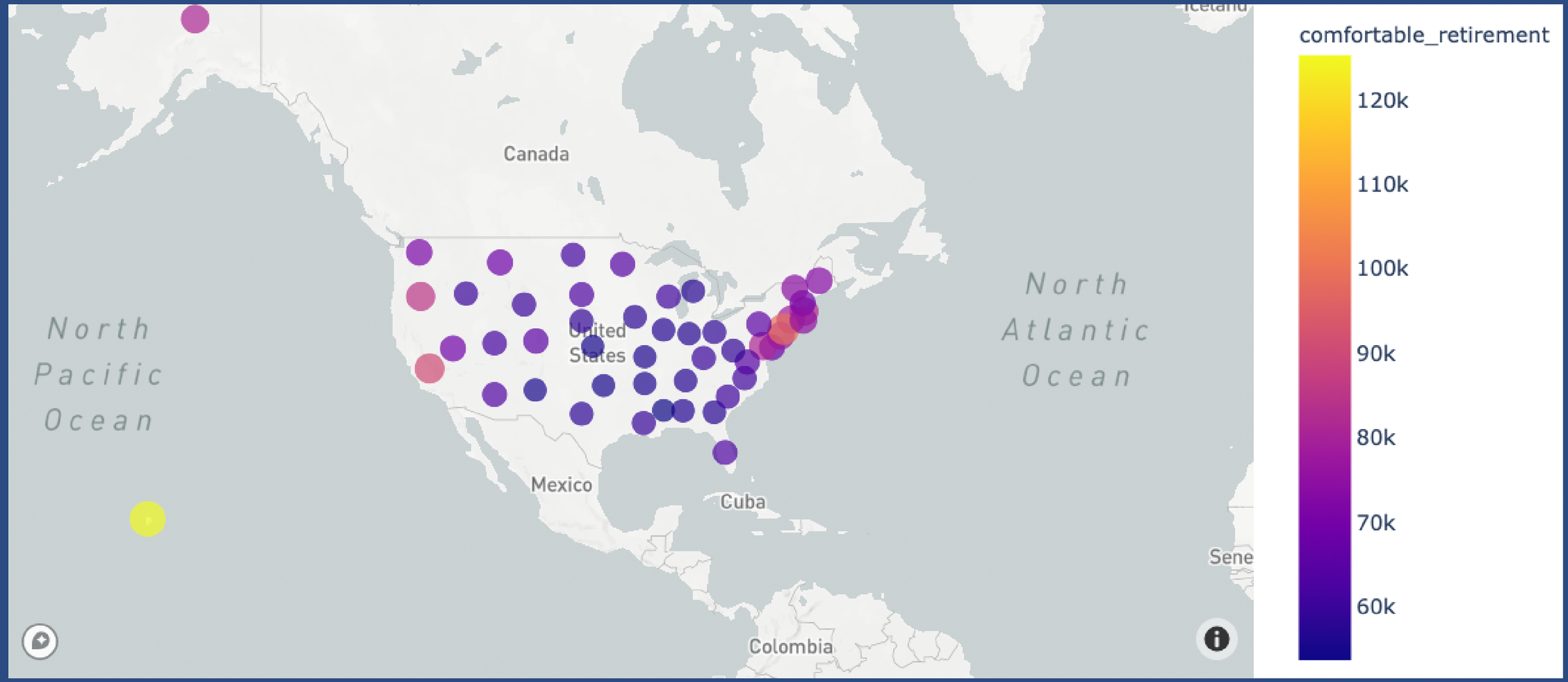
Retirement Confidence Rating - USA



Popular Retirement Accounts - USA



Comfortable Retirement - USA



User Input

```
? Select a state to get started Arizona
Wonderful! This how much you need to live comfortably in Arizona $63453
? Do you plan to invest to increase your savings? No
? Would you like to view investment options anyway? Yes
? Select either 'Stock' or 'Crypto' or 'Both' to get started Crypto
? Crypto is an amazing way to start saving. Select a crypto to continue: (Use arrow keys)
 » ETH
   BTC
```

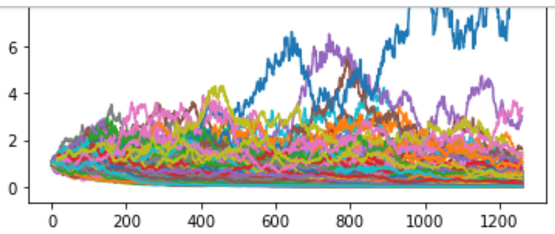
Savings Account Calculation

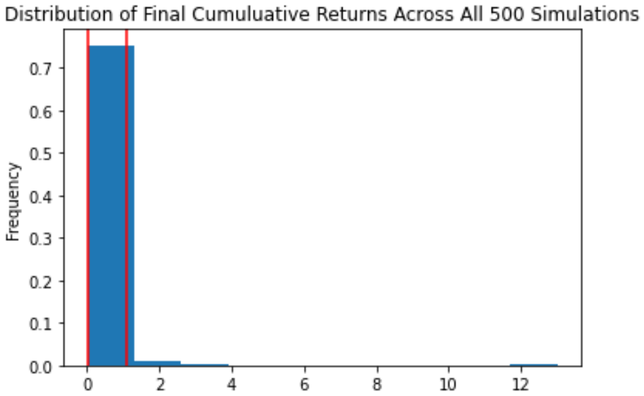
```
Enter starting principle please.  1000
Enter number of compounding periods per year.  1
Enter annual interest rate. e.g. 15 for 15%  5
Enter the amount of years.  5
The final amount after 5 years is $1,276.28.
```

Crypto Simulation

simulations.ipynb

Code






```
count           500.000000
mean              0.203888
std               0.652378
min               0.001470
25%               0.033952
50%               0.078178
75%               0.182644
max              13.009218
95% CI Lower      0.006223
95% CI Upper      1.077835
Name: 1260, dtype: float64
```

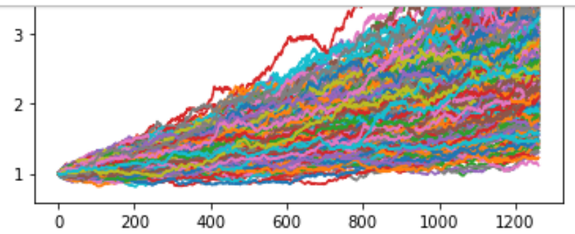
```
The current investment into cryptocurrency is $1,000.00
```

```
There is a 95% chance that your investment over the next 5 years will end within in the range of $6.22 and $1,077.83.
```

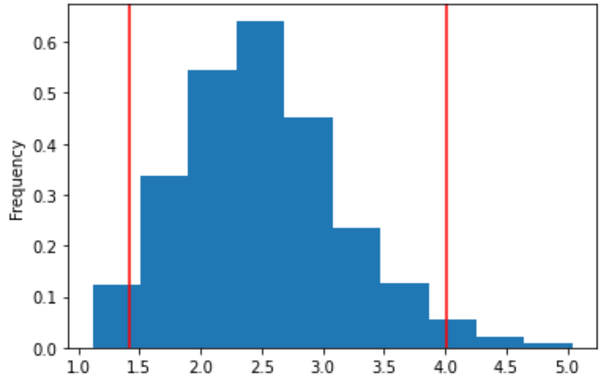
Mutual Fund Simulation

simulations.ipynb

Code



Distribution of Final Cumuluative Returns Across All 500 Simulations

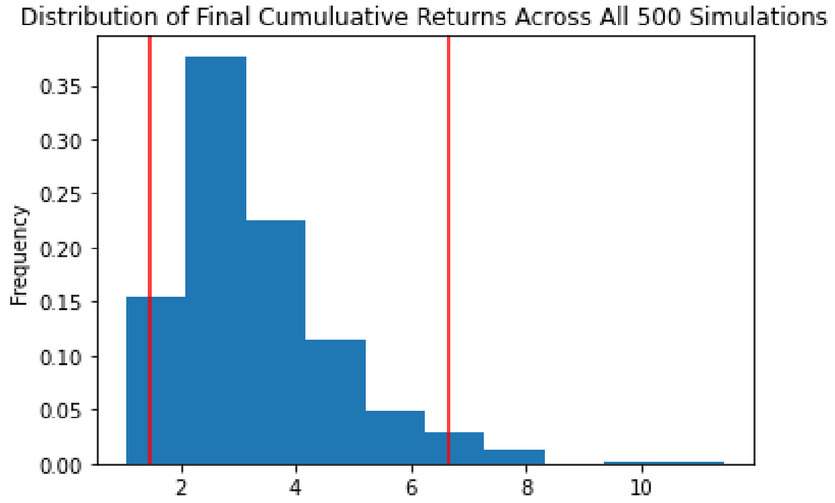



```
count           500.000000
mean              2.510075
std               0.651239
min               1.115382
25%               2.072619
50%               2.439829
75%               2.900110
max               5.042842
95% CI Lower      1.421982
95% CI Upper      4.013808
Name: 1260, dtype: float64
```

```
The current balance of your investing in mutual funds is $1,000.00
```

```
There is a 95% chance that the portfolio over the next 5 years will end within in the range of $1,421.98 and $4,013.81.
```

Stocks Simulation




```
count           500.000000
mean              3.315784
std               1.388407
min               1.048663
25%               2.353841
50%               3.004835
75%               3.989563
max              11.448371
95% CI Lower      1.449550
95% CI Upper      6.666150
Name: 1260, dtype: float64
```

```
The current balance of your investing in FAANG stocks is $1,000.00
```

```
There is a 95% chance that the portfolio over the next 5 years will end within in the range of $1,449.55 and $6,666.15.
```

Deployment of Program and UI

Step 1

IDENTIFY PROBLEM AND POTENTIAL SOLUTION. USER STORY.

Step 2

LAYOUT COMPONENTS OF CODE. COLLECT RELEVANT DATASETS, APIS, AND CSVS.

Step 3

DEVELOPMENT OF CODE, TESTING, AND DEBUGGING

Step 4

COMBINE CODE. CREATE, TEST, AND DEPLOY UI.

Next Steps!

Free Tier:

- Options for selecting forecast data
- Expansion to mobile and ease of access for users
- Risk analysis

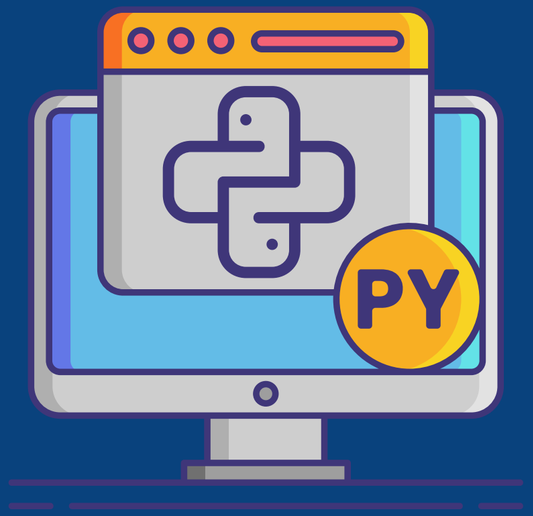
Subscription:

- Financial analysis using premium APIs and for pay data
- AI to track patterns in market data and alert users to anticipated market changes
- Financial data based on lifestyle

Technology

The following was used to create the program:

programming language- python 3.7
text editor- visual studio code
IDE- jupyter lab
repository- Github
APIs: Alpaca (stocks) and Mapbox (maps/navigation)
UI: Anvil



Python libraries used:

Pathlib
Fire
Questionary
Requests
Pandas
Plotly
Matplotlib

Notes on deployment

Errors encountered:

U issues: Anvil -> free did not support pandas, flask volt
-> need more time to for css/html, voila -> issues
deploying to heroku

needs bug fixes