Technical Goal of Project:

Write a python script that will analyze the performance of an investment portfolio that tracks the S&P 500.

Narrative Purpose of Project:

In this moment of heightened equity valuations, I want take a look at the life of a portfolio that began with a bulk investment at the very height of the Dot-Com Bubble – mostly for curiosity's sake – but ultimately to prepare psychologically for a possible downturn in the near future and a longer term bear market

Model Snapshot:

The strategy we will be modeling will be one in which, after one initial lump investment into the market is made ($10,000 is the default plug) at the height of the dot-com boom (3/10/2000), monthly purchases will be made at a fixed amount throughout the life of the portfolio ($2,000 is the default plug). In addition to these regular monthly purchases, our model assumes a yearly dividend distribution of 1.5% paid out in quarterly installments, which is fairly conservative for an S&P market portfolio. These dividends are immediately reinvested once they are received at the current market prices.

Data:

SP500.csv is 25 years of daily S&P 500 pricing data.

Project Outcome and Takeaways:

I successfully built the model and was able to get a sense for what would have happened if an investor picked one of the most expensive moments in market history to make her initial investment in the market. Portfolio and market values may fluctuate over time, but if an investor makes regular purchases into the market, given the market conditions we observed over the last 20 years, she will end up with a large portfolio balance in the longer term. In this case, our investor ended with a portfolio balance of over $1,000,000, after only 18 years. Assuming our investor cashes out the end of our analysis, the rate of return for this investment averaged 15% year over year. If this looks higher than the 10-12% per year that is often quoted as the expected return for the S&P 500, it's because it is – because our portfolio reinvested its quarterly dividends, which led to additional compounding.

Next Steps:

Let's do something more statistical and pick 1000 random entry points into the market and see what the aggregated results look like.