Using the dry principle of software engineering, this code could be improved further by creating a method that would compound the investment of $100 and but it would take mean or median as the parameter. That way, there would be only one line of code that could calculate both the median and the mean, depending on which is passed into it, and then print out the answer.

This project needed two different classes, one called Sample and another called SimulateMarket. I thought the best design would be if sample were to hold the sample data and be able to compute the statistics of from that data. The SimulateMarket would handle anything that had to do with the different simulation runs such as linear, distributional, and Monte Carlo.

The Sample class has a constructor that takes a String for the name of the different simulation runs. It also has private instance variable of public ArrayList of type Double called data. The ArrayList is marked public in order to allow SimmulateMarket to access it and modify it during different simulation runs. It also has six more instance variables that are all marked private.

While researching Gaussian, I stumbled on the random walks that was discovered by mathematician George Polya. I discovered that the random walk algorithm has many different applications and is used across different applications of mathematics. It is also used in Google search engine, finance, and much more.