Assumptions and notes:

The initial list is sorted using by ticker symbol and then by date. I was told we could assume this in writing our script. This means the script does not check for duplicate ticker symbols and uses the first and last row of a ticker symbol for the open and close prices rather than comparing the dates. A similar loop would be performed for the dates to determine open and close prices. Normally, for a project of this type, I would have included error checks for duplicate ticker symbols and allowed the dates and tickers to not be sorted, but this would possibly require special management of the memory used.

The open price is the open price in the first day listed and did not require an actual trade occur. Since the first calendar day of the year is usually a holiday on which no trades occur, the open price recorded is the closing price from the prior year, not the price the stock traded at in the first trade of the year. The actual opening price for the year is the price of the stock in the first trading of the year, which does not provide the annual return. Returns in the year are usually based on the last price at market close on the last trading day of the prior year and the closing price on the last trading day of the current year. The assumption used provides the information as would be normally considered.

I assumed the data provided was correct without verification. I did a cursory review of it for reasonableness and did not find anything which would indicate further review was needed.

No consideration was given to the effects of companies changing ticker symbols within the year. If a listed stock did not trade or did not have a price at the beginning of the year, the return was set to 0, since it would produce a division by error message otherwise. (Normally, I would have excluded these or computed them separately.)

This was performed as an assignment for illustrative and educational purposes only and is not a statement of actuarial opinion.