**Hidden Markov Model**

We are working on the HP stock data between the years 1970-2017.

The types of observations that we have:

* Open: Opening stock price of the day
* Close: Closing stock price of the day
* High: Highest stock price of the day
* Low: Lowest stock price of the day

We assume that there are 2 hidden states:

* Up: the stock market is up
* Down: the stock market is down