Georgia Institute of Technology

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Computational Investing, Part I

133: Homework 3 Suggestions

Find out how modern electronic markets work, why stock prices change in the ways they do, and how computation can help our understanding of them. Learn to build algorithms and visualizations to inform investing practice.

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Overview

- Read CSV into “trades” array
- Scan trades for symbols and dates
- Read in data
- Scan trades to update cash
- Scan trades to create ownership array & value
- Scan cash and value to create total fund value

Read CSV Into “trades” array, then scan it

- Build list of symbols
- Build date boundaries

Read Data

- Read in using date boundaries
- Read all symbols
- Focus on adjusted close

Read Data

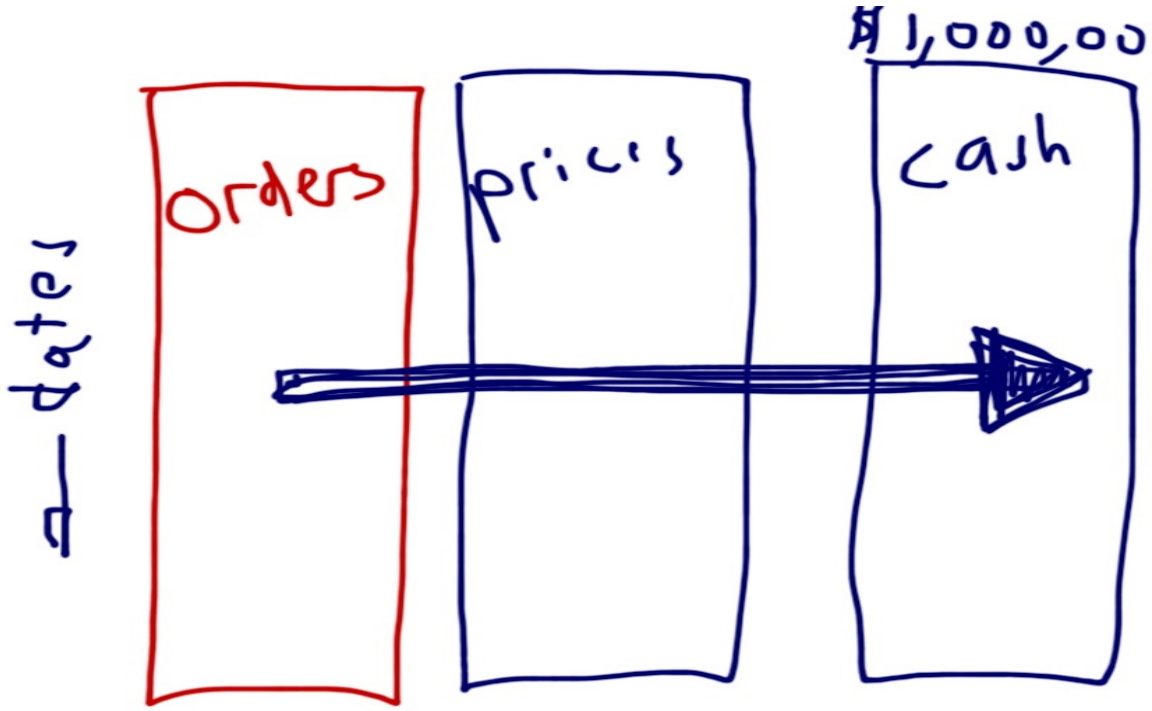
historical prices

symbols →

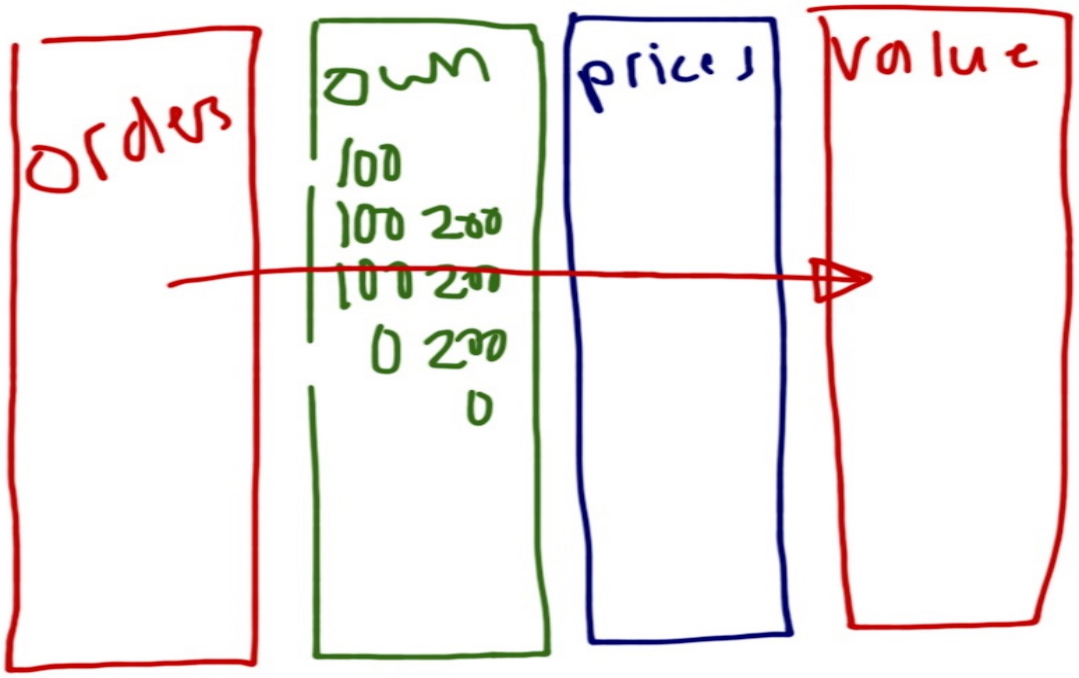
time ↓

AAPL	GOOG	IBM	XOM
600	490	120	50
601	495	130	55
620	500	100	60
623	510	90	70
500	490	85	65

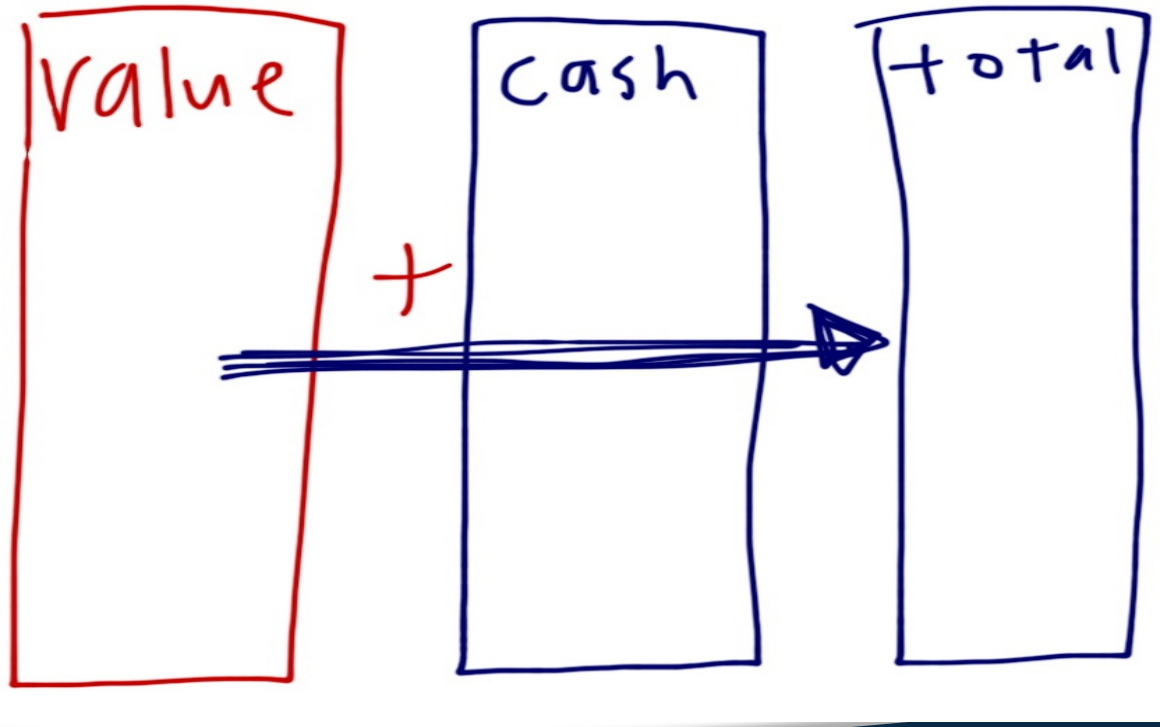
Can Trades to Update Cash



Scan Trades to Create Value Array



Create Total Fund Value



What's Left?

- Charting
- Computing metrics
  - Sharpe Ratio
  - Total Return
  - STDDEV