Date:
10/31/2018

Attendance
- Our Team:
  - Blake, Nick, Lee
- Principal:
  - Ben

Questions going into the meeting
- Covariance matrix issues
- Annualized expected returns calculated correctly? (Geometric Mean?)
- Areas requiring data persistence (portfolio, asset, expected returns, covariance matrix)
- Constraints as percent ranges only over market/geography, property type, or both

Overview on what was Discussed
- X CAGR - Compounded Annual Growth Rate : assumes annual data
- Geo Mean to annual with AGR
- How do users want to see returns (annual or quarterly?)
- Pandas with numpy
- Lots of code discussion

Discussion
- X ~~CAGR - Compounded Annual Growth Rate : assumes annual data~~
  - Therefore use pow(x, 4/n)
  - Use ((final / beg index value) to n-th root) - 1 gets quarterly
    - (Raise to 4th power) -1 to get annual
- Geo Mean to annual with AGR
- How do users want to see returns (annual or quarterly?)
- Pandas and numpy are buddies
- ~~Covariance / 100~~
- Use sharpe ratio with risk free rate? (Art , John)
- 2 options for markwotiz
  - Max returns with risk constraint in range(.01, 0.2, 0.01)
  - Two variables returns and risk
- Use std dev formula for risk
  -
- Std dev as user constraint, %
- ~~DCP Rules~~
- ~~Nbviewer.jupyter~~
- Reasonable range of risk constants for efficient frontier (40 values)
  - In terms of std dev preferred over variance
- Persistence wanted in future