Quantopian

This is an open book exercise. However, you must do it completely alone. You should not post any kind of results or ask for tips or help in the course's chat. **No late submission** will be accepted for this evaluation.

Your final submission should include the following signed paragraph:

I affirm that I have not plagiarized, used unauthorized materials, or gived or received illegitimate help on this evaluation. I also uphold equity and honesty in the evaluation of my work and the work of others. I do so to sustain a community built around this Code of Honor.

(You can write your name in the line below without writing your original signature as you will submit this evaluation from your account).

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Name Date

Prerequisite: complete the three Quantopian tutorials described in homework 4, and review the following lectures:

Lecture 32 Fundamental Factor Models How fundamental data can be used in factor models.

Lecture 39 Factor Analysis with Alphalens The statistics of determining whether a factor is suitable for a long-short equity algorithm.

You do not have to report anything related to these tutorials lectures, it is only to prepare you for this case study.

Study and run the case study: Traditional Value Factor.

https://www.quantopian.com/lectures/case-study-traditional-value-factor

Steps:

1. Explore alternative fundamental factors, and extend the original program with your new fundamental factors.

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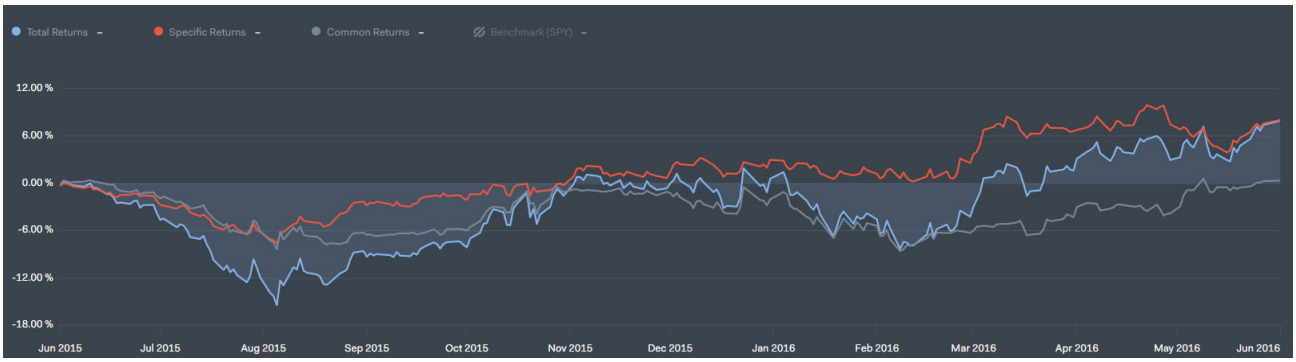
2. Evaluate your factors and the original factors of the lecture using Alphalen's full tear sheet based on return, information analysis, and turnover. Analyze your results (you do not have to explain every graph and every indicator. It is enough if you discuss your results in about half page).

3. Implement a trading algorithm using your selected factors, and backtest with Quantopian.

Build the following table based on the performance tab of Quantopian's backtest facility:

	Using original factors	Using your factors
Total Returns		
Specific Returns		
Common Returns		
Sharpe		
Max Drawdown		
Volatility		
Changes introduced in the simulations		

4. Include a graph as the following for the two simulations:



5. Discuss the results of your algorithm when you run it with the original factors and with your selected factors (about 1 page without including graphs or tables). Explain why your results are better, equal or worse than the simulation using the original factors.

6. Conclusions. What did you learn from this exercise? How can you improve your algorithm for a future test? (you do not have to run an extra test, this is only a discussion). (about half page)

Your final submission should include a report in word or a pdf file where you answer the above questions and report on your simulations, and the python file(s) of your final simulations with the original factors and your own factors.