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# Trading with Momentum

## REVIEW

## CODE REVIEW

## HISTORY

### Meets Specifications

Keen Student,

Congratulations you made it! 🎉

It is quite outstanding how much of the concepts you have mastered. It is so exceptional you made it this great in just the first submission I was most delighted to have reviewed this submission. Your discussions were great and this clearly shows how well you understood the concepts here. Keep up with this great passion and never let it down 🏆

### Market Data

The function `resample_prices` computes the monthly prices.



! The function correctly uses the Pandas resample method to resample prices to the argument freq , which is monthly by default, and the last method to get the last price in each bucket. The function correctly returns a dataframe. 👍

The function `compute_log_returns` computes the log returns from the prices.

Nice work! The function correctly calculates the difference between the natural log of the price at each time and the natural log of the price at the time before, utilizing Numpy `log` and the Pandas method `shift` , and returns a dataframe of the calculated values

## Tips

Please checkout the following for more information on this section of the work:

- [Calculating returns from a dataframe with financial data](#)
- [Python For Finance: Algorithmic Trading.](#)

The function `shift_returns` computes the shifted returns.

periods, using the Pandas `shift` method.

## Tips

Please checkout the following for more information on this section of the work:

- [Calculating returns from a dataframe with financial data](#)
- [Python For Finance: Algorithmic Trading.](#)

## Portfolio

The function `get_top_n` selects the `top_n` number of the top performing stocks.

Well done with the work here.

## Tips

Pls check out these other topics to try other implementations.

- <https://stackoverflow.com/questions/51645934/using-iterrows-with-series-nlargest-to-get-the-highest-number-in-a-row-in-a/51645946#51645946>
- <https://stackoverflow.com/questions/19350082/how-to-get-top-n-value-in-python/19350185#19350185>

The function `portfolio_returns` calculates the projected returns.

Greatly done 🎉

`portfolio_returns` function calculates the projected returns.

## Statistical Tests

The function `analyze_alpha` calculates the t-value and p-value.

Excellent! The function correctly calculates the t-statistic and p-value.

## Tips

You may want to checkout the following:

- <https://plot.ly/python/t-test/>
- <https://stackoverflow.com/questions/35788140/scipy-stats-ttest-1samp-hypothesis-testing-for-comparing-previous-performance-to>
- [https://www.programcreek.com/python/example/100329/scipy.stats.ttest\\_1samp](https://www.programcreek.com/python/example/100329/scipy.stats.ttest_1samp)

The student correctly identifies the p-value they got. The student indicates what the p-value indicates about their signal.

Outstanding discussions here. The values obtained for the `p-value` and `alpha value` are just fine 🙌🙌

As the p-value is greater than alpha, we cannot reject null hypothesis. So the returns from this signal are not expected to be different from zero. So there is no alpha in this signal.

- A small p-value (typically  $\leq 0.05$ ) indicates strong evidence against the null hypothesis, so you reject the null hypothesis.
- A large p-value ( $> 0.05$ ) indicates weak evidence against the null hypothesis, so you fail to reject the null hypothesis.
- p-values very close to the cutoff (0.05) are considered to be marginal (could go either way). Always report the p-value so your readers can draw their own conclusions.

Please checkout [this link](#) for more on the significance of `p-values`

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