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Analyze A/B Test Results

REVIEW

HISTORY

Meets Specifications

CONGRATULATIONS !!!! You passed this project.

Good links:
<https://adespresso.com/guides/facebook-ads-optimization/ab-testing/>
<https://www.designforfounders.com/ab-testing-examples/>
<https://www.optimizely.com/optimization-glossary/ab-testing/>

Some stats on A/B testing:
<https://www.abtasty.com/blog/learn-from-5-ab-test-case-studies/>

Khan Academy videos on Hypothesis: <https://www.khanacademy.org/math/statistics-probability/significance-tests-one-sample/more-significance-testing-videos/v/hypothesis-testing-and-p-values>

OLS Regression: Scikit vs. Statsmodels?

Interpreting Results from Linear Regression

Code Quality

✓ All code cells can be run without error.

Perfect!!

✓ Docstrings, comments, and variable names enable readability of the code.

PART - 1

- Every thing is fine.
- To remove duplicate a good way is to use, https://pandas.pydata.org/pandas-docs/stable/generated/pandas.DataFrame.drop_duplicates.html

PART - 2

When possible, it is always more computationally efficient to use numpy built-in operations over explicit for loops. The short reason is that numpy -based operations attack a computational problem based on vectors by computing large chunks simultaneously.

Additionally, using loops to simulate 10000 can take a considerable amount of time vs using numpy
<https://softwareengineering.stackexchange.com/questions/254475/how-do-i-move-away-from-the-for-loop-school-of-thought>

Fast code:

```
new_converted_simulation = np.random.binomial(n_new, p_new, 10000)/n_new
old_converted_simulation = np.random.binomial(n_old, p_old, 10000)/n_old
p_diffs = new_converted_simulation - old_converted_simulation
```

PART - 3
All Good!!
INTERPRETING LOGISTIC REGRESSION COEFFICIENTS: <http://www.juanshishido.com/logisticcoefficients.html>

Statistical Analyses

✓ All results from different analyses are correctly interpreted.

The null and the alternative hypothesis are appropriate.

Considering the results of the statistical test (p-value) and the suggested p-critical. Since p-value > p-critical, we can't reject the null. <http://www.itl.nist.gov/div898/handbook/prc/section1/prc131.htm>

✓ For all numeric values, you should provide the correct results of the analysis.

AWESOME

Getting the stats calculations for both the simulation and z-test correct is difficult at this stage. Great work.

✓ Conclusions should include not only statistical reasoning, but also practical reasoning for the situation.

Spot On!!! Great intuition with the relationship between the different hypotheses statements.

- Part iii is a two-tailed test and Part ii is a one-tail test, can you convert the p-values between each other?
One-Tailed and Two-Tailed Results
<https://stats.idre.ucla.edu/other/mult-pkg/faq/pvalue-htm/>

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