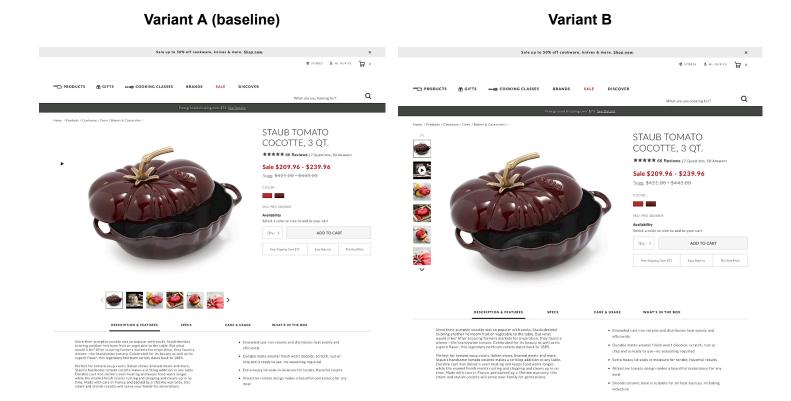# DA25 - Assessment for the Math and Statistics module

Note: the following case is fictive, I simulated the data. I borrowed the visuals from https://goodui.org/patterns/126/tests/411/ , anything else is a product of my own imagination.

Case

Variant A (baseline)	Variant B

A cooking website sells cooking equipment. They want to improve their product page. The product page has a rail with media (images or videos). Up until now, they have had a horizontal rail, a UX designer suggested having a vertical one. As a data analyst in the company, you suggested doing an AB test. You now have the results of the test and need to advise the company on whether they should ship the feature (vertical media rail) or not.

The results of the experiment is in the file named `assessment_da25.csv` in
https://github.com/alize-papp/teaching/tree/main/data

Questions

What you should do:
- Analyze the data on your own

● Send me: a video (10 min max), slides and link to your code on github, presenting your analysis and answering the questions for each learning objective

S8 Formulate and define a hypothesis for a research question
- What is the business problem you are trying to solve?
- Why does it matter to the company?
- What are the benefits and drawbacks of the new variant in your opinion?
- What is the hypothesis you are trying to test? What is the null hypothesis, what is the alternative hypothesis?

S9 Apply the most appropriate statistical technique to evaluate a hypothesis, using a data analysis tool
- Why is an AB test a good method for testing the hypothesis?
- Propose another method that could have been used and compare pros and cons of an AB test vs this method.
- What metrics did you select in the AB test, and why? What is the primary metric? Are there other metrics you wished you had?
- How do the distribution of your metrics compare between the two variants? Show me plots comparing the distributions.
- What test did you apply? How did you specify your test and why (type of test, underlying distribution, parameters of the distribution, sample size, p-value…)
- What is the result of the test?
- What do you recommend the company to do?

Instructions

Deadline: Sunday 10th of March at 20h.
Submissions:
- https://drive.google.com/drive/folders/1vyl431e8XHV8LAJx3z71Iwp5E5xiE-Ju?usp=share_link
- Please upload each assessment in its correct folder, in a subfolder named firstname_lastname (eg: mine would be alize_papp).
    - eg: if you want to validate K7 by datacamp certifications, create a subfolder in your name in K7 attendance - DataCamp certifications and put your certificates there
    - eg: to submit your work towards S8 and S9, create a subfolder in your name in S8 S9 - practical case and put your work there.