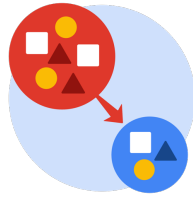# Course Four
From Data to Insight: The Power of Statistics

Instructions

Use this PACE strategy document to record decisions and reflections as you work through this end-of-course project. As a reminder, this document is a resource that you can reference in the future, and a guide to help you consider responses and reflections posed at various points throughout projects.

Course Project Recap

Regardless of which track you have chosen to complete, your goals for this project are:

- Complete the questions in the Course 4 PACE strategy document

- Answer the questions in the Jupyter notebook project file

- Compute descriptive statistics

- Conduct a hypothesis test

- Create an executive summary for external stakeholders

Relevant Interview Questions

Completing this end-of-course project will empower you to respond to the following interview topics:

- How would you explain an A/B test to stakeholders who may not be familiar with analytics?

- If you had access to company performance data, what statistical tests might be useful to help understand performance?

- What considerations would you think about when presenting results to make sure they have an impact or have achieved the desired results?

- What are some effective ways to communicate statistical concepts/methods to a non-technical audience?

- In your own words, explain the factors that go into an experimental design for designs such as A/B tests.

Reference Guide

This project has four tasks; the visual below identifies how the stages of PACE are incorporated across those tasks.

Task 1
Imports & data loading

Task 2
Data exploration

Task 3
Statistical test(s)

Task 4
Communicate insights with stakeholders

Data Project Questions & Considerations

PACE: Plan Stage

- What is the main purpose of this project?

- What is your research question for this project?

- What is the importance of random sampling?

- Give an example of sampling bias that might occur if you didn't use random sampling.

PACE: Analyze & Construct Stages

● In general, why are descriptive statistics useful?

● How did computing descriptive statistics help you analyze your data?

● In hypothesis testing, what is the difference between the null hypothesis and the alternative hypothesis?

● How did you formulate your null hypothesis and alternative hypothesis?

● What conclusion can be drawn from the hypothesis test?

PACE: Execute Stage

● What key business or organizational insight(s) emerged from your A/B test?

● What recommendations do you propose based on your results?