

Course One

Foundations of Data Science



Instructions

Use this PACE strategy document to record decisions and reflections as you work through this end-of-course project. You can use this document as a guide to consider your responses and reflections at different stages of the data analytical process. Additionally, the PACE strategy documents can be used as a resource when working on future projects.

Course Project Recap

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

- Complete the PACE Strategy Document to plan your project while considering your audience members, teammates, key milestones, and overall project goal.
- Create a project proposal for the data team.

Relevant Interview Questions

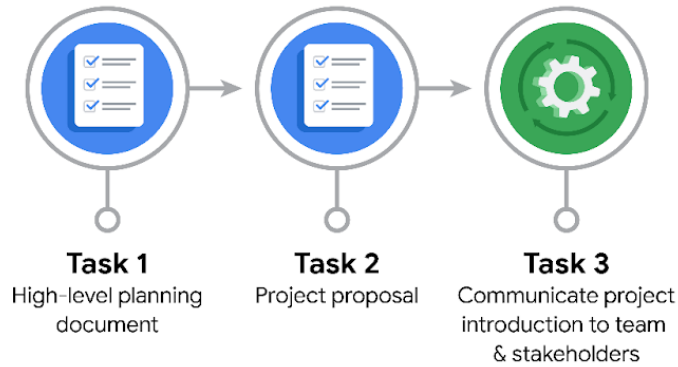
Completing this end-of-course project will empower you to respond to the following interview topics:

- As a new member of a data analytics team, what steps could you take to get 'up to speed' with a current project? What steps would you take? Who would you like to meet with?
- How would you plan an analytics project?
- What steps would you take to translate a business question to an analytical solution?
- Why is actively managing data an important part of a data analytics team's responsibilities?
- What are some considerations you might need to be mindful of when reporting results?



Reference Guide

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



Data Project Questions & Considerations



PACE: Plan Stage

- Who is your audience for this project?

My audience is Waze data team and cross-functional team members.

- What are you trying to solve or accomplish? And, what do you anticipate the impact of this work will be on the larger needs of the client?

Build and develop a machine learning model to predict user churn.

- What questions need to be asked or answered?

What is the quality of the provided dataset? What variables are the most important? How to reduce bias? Are there any trends in data?

- What resources are required to complete this project?

I will need the dataset for my project, Python or Jupyter notebook and input from stakeholders.



- What are the deliverables that will need to be created over the course of this project?

A scrubbed dataset for exploratory analysis, visualizations, statistical model, regression analysis and ML model.

THE PACE WORKFLOW



[Alt-text: The PACE Workflow with the four stages in a circle: plan, analyze, construct, and execute.]

You have been asked to demonstrate for the company's data team how you would use the PACE workflow to organize and classify tasks for the upcoming project. Select a PACE stage from the dropdown buttons. A few tasks involve more than one stage of the PACE workflow. Additionally, not every workplace scenario will require every task. Refer back to the Course 1 end-of-course portfolio project overview reading if you need more information about the tasks within the project.

Project tasks

Following are a group of tasks your company's data team has determined need to be completed within this project. The data analysis manager has asked you to organize these tasks in preparation for the project proposal document. First, identify which stage of the PACE workflow each task would best fit under using the drop down menu. Next, give an explanation of why you selected the stage for each task. Review the following readings to help guide your selections and



explanation: [The PACE stages](#) and [Communicate objectives with a project proposal](#). You will later reorder these tasks within a project proposal.

1. Evaluating the model: Execute

Why did you select this stage for this task?

After the model construction, data will be put through to test whether it meets expectations and goals for the project.

2. Conduct hypothesis testing: Analyze and Construct

Why did you select these stages for this task?

In the analyze stage, it is established that a statistical test will be used. In the construct stage, the test is executed.

3. Begin exploring the data: Analyze

Why did you select this stage for this task?

I will understand the dataset deeper and comprehend all the information within it in the analyze stage.

4. Data exploration and cleaning: Plan and Analyze

Why did you select these stages for this task?

Firstly the needed methods will be selected. Then the data will be in cleaning process.

5. Establish structure for project workflow (PACE): Plan

Why did you select this stage for this task?

Creating a workflow is a must in the plan stage. It helps with the best approach for a project.



6. Communicate final insights with stakeholders: Execute

Why did you select this stage for this task?

In the execute stage, final insights are communicated and shared with stakeholders.

7. Compute descriptive statistics: Analyze

Why did you select this stage for this task?

Looking into statistics within data is made during the analysis phase.

8. Visualization building: Analyze and Construct

Why did you select these stages for this task?

Data assessment comes first and then the visualization is created during the construction stage.

9. Write a project proposal: Plan

Why did you select this stage for this task?

We use project proposal to define a project.

10. Build a regression model: Analyze and Construct

Why did you select this stage for this task?

The model is examined in detail to make sure it will meet the needs of the task. Then the regression model will be built in the construction stage.



11. Compile summary information about the data: Analyze

Why did you select this stage for this task?

Using summary or inspecting a dataset is done in the analysis stage.

12. Build machine learning model: Construct

Why did you select this stage for this task?

Data model is created and built in the construct stage.