



Assignment

Thank you for your continued interest in a career at Mudano and congratulations on reaching the next round of the process.

We look for everyone in Mudano to help us move towards our vision - whether that is contributing to our cutting-edge project management platform, Sharktower, or delivering outstanding results for our clients. We'd like to hear your understanding of our proposition, where you believe you would add value at Mudano and for our clients, as well as your vision for the future of large-scale IT change.

Background

This assignment is a test of your predictive analytics skills. As an applicant for a Data Science role, we want to understand how you apply your expertise and previous experience to a problem that you might never have thought about before. Please remember that this assignment forms part of a technical interview and that you are being judged primarily on how you apply your Data Science skills to solve the sorts of problems we're working on right now.

How to format your response

You are invited to consider the scenario presented below and to prepare a 15-minute presentation that addresses the questions raised within it. You will be asked to deliver your presentation at the start of your next interview with us and your interviewers will not ask questions during this initial 15-minute period. Following your presentation, we will drill down into some of the details of your approach and explore the depth and technical rigour of your thinking.

Your presentation should be emailed to Mudano using jobs@mudano.com at least 1 full day before your interview and should be in a standard format such as ppt or pdf. Please also send a copy of any analysis script/code you produce as part of this assignment – in compressed format if needed. You are strongly advised to avoid using distractions such as entry/exit animations, garish colours or unusual fonts in your presentation. A clear and simply-formatted presentation will always be scored more highly than one attempting to hide lack of substance with flashy effects.



15
minute
presentation

understand the
problem

seek clarification
if needed

have a rationale
for your approach

be prepared to
discuss your
solution

Assessment criteria

You will score high marks on this assignment if you demonstrate:

- / A clear understanding of the problem
- / A well-reasoned and logical solution
- / A clear explanation of both what you would deliver in your solution and how you would deliver it
- / A consideration of why you have chosen the approach you have, rather than an alternative solution
- / Full understanding of the Data Science and algorithms underpinning your solution
- / A discussion of the strengths, weaknesses and limitations of your proposed solution
- / Novelty of approach
- / Understanding of the impact of any assumptions you have made, which you should clearly state

Requests for clarification

We hope that this document will have all the information you need to produce your assignment presentation and we look forward to hearing your presentation at your next interview. However, if there is anything you are not clear about, please contact Ami Islam on ami.islam@mudano.com and we will respond to your query as soon as we can.

We strongly advise you not to leave any requests for clarification to the last minute and please be aware that we won't be able to respond to you over a weekend.

Please note that, in fairness to all candidates, we are not able to provide guidance or offer any form of technical help or advice. We want you to be clear on what we are looking for in your assignment presentation, so you stand the greatest possible chance of success. We can therefore clarify any potential misunderstandings you might have, but we cannot go beyond that to provide any form of assistance.

Assignment: scenario

The marketing team in a large retail bank has asked for our help. Their goal is to improve a new marketing campaign by identifying which customers are most likely to take a product that they sell.

You have been provided with two further files:

- / a csv data file called "BANK-FULL"
- / a txt data dictionary called "README"

Note: If you do not have these files, please contact Ami Islam via ami.islam@mudano.com immediately, as you will not be able to attempt this assignment without them.

You should not use any additional data in this scenario, and you should use the data provided to determine which customers should be targeted by the marketing campaign to yield the maximum number of predicted sales.

Assignment question

You have been asked to deliver your findings in a 15-minute presentation to the client's marketing team, who are totally unfamiliar with Data Science and a little sceptical about what it can do. The client's team is made up of non-technical, but highly experienced, marketing specialists.

The main aim of your presentation is to demonstrate how Data Science can help solve a business problem, whilst also being realistic about its limitations. You should not "overplay your hand" in your presentation and must not make any claims that cannot be supported by the data available to you.

Your presentation should address the following, as a minimum:

- / a summary of the problem
- / an outline of the approach you used, along with the reasons for this choice
- / a statement of the tools and/or analysis languages that you used
- / a brief explanation of the algorithms you chose to use and what each algorithm does
- / a response to the question posed – which customers should be targeted for maximum sales?
- / a statement of your level of confidence in this prediction
- / your recommendation for the next steps and what this might be expected to achieve.