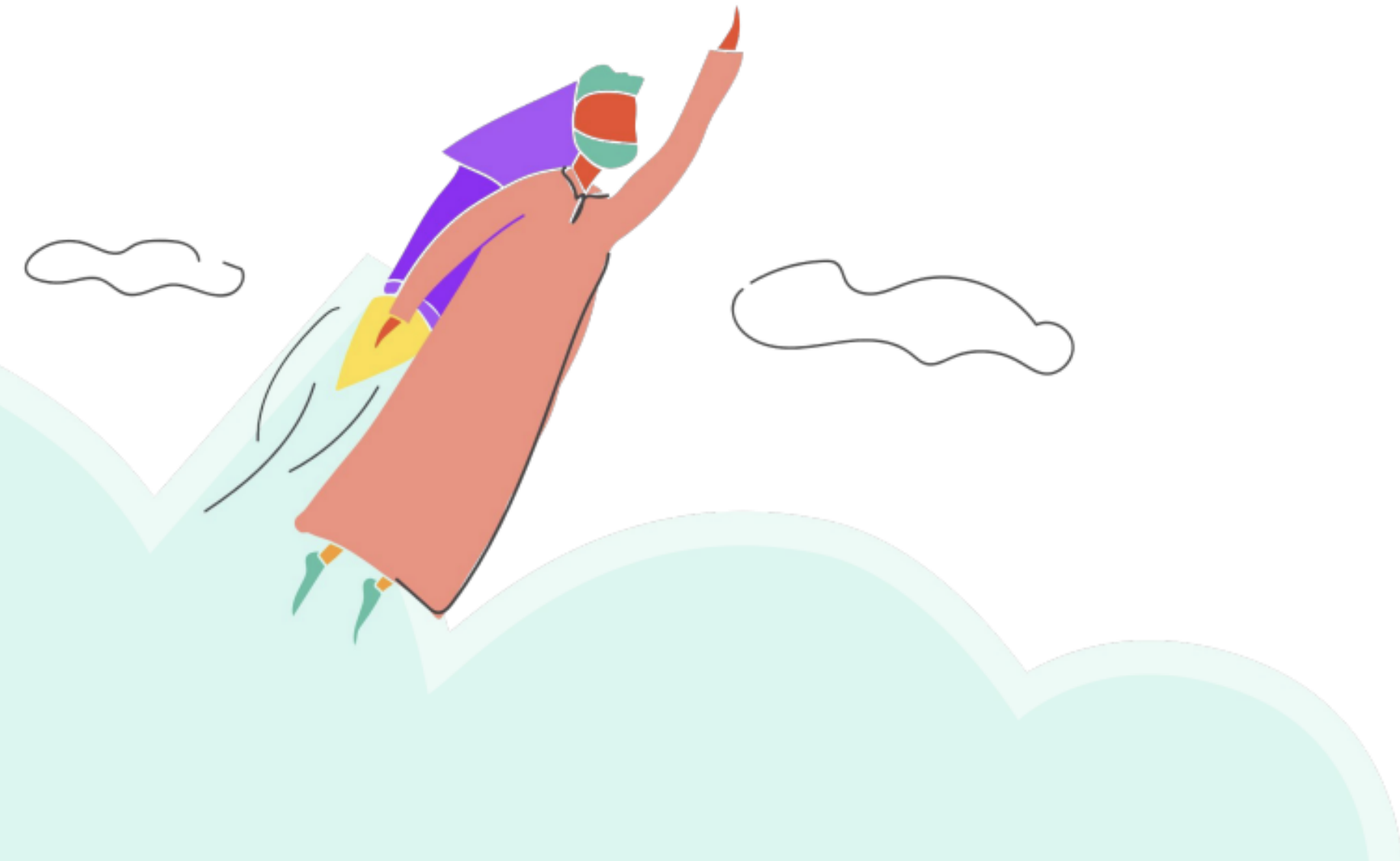## Overview

The aim of this test is to determine whether this position is a good fit for you or not. This is a take home test so feel free to use any tool you're comfortable with.

Have fun! If this is test isn't fun, probably this position isn't for you!

Keep in mind plagiarism is not how we roll...

Activity

You're part of **ConCruise,** a boat ride-sharing platform based in Russia that provides boat rides across the rivers from one side to another. ConCruise is facing an optimization problem in demand fulfillment between customers and the cruisers (drivers).

You and your team have decided to optimize the boat ride requests fulfillment by depending on the following metrics:
1. Rating
2. Distance: the distance between the customer and the cruiser
3. Number of Rides

The above metrics apply for each individual in the pool of the customers and the cruisers correspondly by adding points/weight to optimize the matching.

Activity

The following table determines the weight for each metric:

Factor	Rule(s)	Points
Distance	Distance <= 3.0 km	7
	Distance <= 5.0 km	3
Rating	Customer Rating >= Cruiser's Rating (1 <= rating <= 5)	2
Number of rides	Customer's Rides <= 2 and Cruiser's Rides >= 3	5
	Customer's Rides > 2 and Cruiser's Rides < 3	2

Part 1: Backend Development

You are required to build the APIs for ConCruise on Node Js, TypeScript, Nest Framework. Here are the requirements from the product manager:

- The user should be able to create new customers with the following information:
  - Full Name
  - Current Location
  - Number of Rides
  - Average Rating
- The user should be able to edit the customers information
- The user should be able to delete one or more customers

Part 2: Demand and Supply Development

Import the following <u>data</u> to your system, and develop a solution that would sort the drivers & customers based on the factors above. Please build a CLI interface that would allow the operation team to achieve the best demand fulfillment.

CLI Commands

The following CLI command are available for the execution:

customer	Show existing list of customers
cruiser	Show existing list of cruisers
match	- Show each customer and assigned driver - List of failed fulfilment customers if any exists. - List of idle drivers if any exist.
manual	Show this help.
exit	Kill the CLI (and the rest of the application)