Hello,

Greetings,

Welcome to the assessment round of Vamstar. As engineering is wide and critical, we understand that you may have certain skill sets additionally that we haven't spoken about in the interview. But we would like to know them all, hence we would like to give you an option to choose which assessment you would like to execute in this hiring process.

- **Broadly, Assessment -1 is Frontend Specific, and;**
- **Assessment -2 is Backend Specific.**
- **If you are applying for a Full stack role, you are advised to perform both of them.**

But we leave it all up to you! Also, feel free to highlight if you are on the lower side of any particular language or tech stack while submitting the assessment; this will help us to award you with some paid certification courses as a token of appreciation. We believe in learning and growing together!

Assessment 1

Problem statement

Implement this single page listing site https://www.figma.com/file/oKN9NbDMHh99WaQXyvAPN9/Rental-website?node-id=0%3A1
You should be using vanilla CSS, HTML, and React to build this. **Please do not use any CSS framework like Bootstrap, Material UI, etc.**

1. Create build, tests to make sure the code is working as expected and this can later be added to an automation build/testing/deployment pipeline
2. Write a solid production-grade frontend code to solve this problem, imagine this will be used in-product for 1 million shoppers. We are only interested in a standalone frontend code, we are NOT expecting a backend, etc. Simple and clean solution. Please do not use any CSS framework like Bootstrap, Material UI, etc.
3. Check in the documentation, configuration, code, and tests into GitHub, and please email us the link with the URL pattern

https://www.github.com//<owner>/code-<date>-<your full name> and do NOT use Vamstar in URL, title, or description. e.g. for John Doe, it could be
https://www.github.com/johndoe/code-20200917-johndoe
Evaluation Criterion We will be evaluating your project with the following:

- 25% Working code and CSS, React knowledge and clean code, reuse
- 25% Solution Approach and usage of current HTML and CSS standards
- 25% Build and Testing Approach
- 25% Originality, we deduct marks or reject any projects with directly copied or plagiarized code

ASSESSMENT - 2
Given the following JSON data

[{"Gender": "Male", "HeightCm": 171, "WeightKg": 96 }, {"Gender": "Male", "HeightCm": 161, "WeightKg":85 }, { "Gender": "Male", "HeightCm": 180, "WeightKg": 77 }, { "Gender": "Female", "HeightCm": 166,"WeightKg": 62}, {"Gender": "Female", "HeightCm": 150, "WeightKg": 70}, {"Gender": "Female","HeightCm": 167, "WeightKg": 82} as the input with weight and height parameters of a person, we have to perform the following:

Calculate the BMI (Body Mass Index) using Formula 1, BMI Category and Health risk from Table 1 of the person and add them as 3 new columns

2) Count the total number of overweight people using ranges in the column BMI Category of Table 1, check this is consistent programmatically and add any Other observations in the documentation

3) Create build, tests to make sure the code is working as expected and this can be added to an automation build / test / deployment pipeline

Formula 1 - BMI

2 2 BMI(kg/m) = mass(kg) / height(m)

The BMI (Body Mass Index) in (kg/m) is equal to the weight in kilograms (kg) divided by your height in meters squared (m)2 For example, if you are 175cm (1.75m) in height and 75kg in weight, you can calculate your BMI as follows: 75kg / (1.75m2) = 24.49kg/m2.

Table 1 - BMI Category and the Health Risk.

BMI Category

Underweight Normal weight Overweight Moderately obese Severel obese Very severely obese

Challenge

BMI Range (kg/m2)
18.4 and below 18.5
- 24.9
25 - 29.9
30 - 34.9
35- 39.9
40 and above

Health risk

Malnutrition risk, Low risk, Enhanced risk, Medium risk, High, Very high risk

1) Write a solid production grade typescript/javascript Program to solve this problem, imagine this will be used in product for 1 Lac patients.We are only interested in a standalone backend application, we are NOT expecting a UI, webpage, frontend, Mobile App, microsite etc. We want to see what optimal solution you come up with to scale for larger JSON data and perform calculations quickly and write the output efficiently. Feel free to explore and use the standard Node libraries or any open source node modules

2) Automate the setup, build, test, package and run using your favourite tools

3) Check in the documentation, configuration, code and tests into github and please send us the link as https://www.github.com/<owner>/code <date>-<yourfullname> and do NOT use Vamstar in title or description

Evaluation Criterion

We will be evaluating your project with the following:

●25% Working code and node/typescript/javascript Programming Knowledge and clean code, reuse

● 25% Problem Analysis and Solution Approach

● 25% Build and Test Automation Approach

● 25% Originality,we deduct marks or reject any projects with directly copied or plagiarised code

One last thing, please feel free to choose any of the above 2 / or do both assessments and share the Github links with us; we will get back to you in 3 working days of submission with feedback and next steps.

Best of luck!