Digi-X Lightning Assessment for Interns

Congratulations on advancing to the next stage!

There are two (2) sections to this assessment! You should try to answer both sections as best as you can. Use one (1) preferred language of your choice to answer Section 2. You may not need to write code for everything, so explain your answers as you see fit.

Please submit your answers via email by replying to the last email we sent you. Include the relevant Github or Google Drive links to show your code / explanations (preferably using markdown code blocks).

Ideally this assessment should take no more than two (2) days. We encourage you to try submitting your response in the fastest time possible.

Go on, give it your best shot. Good luck!

Section 1:

You are tasked to build a new product, an online restaurant reservation platform - choose a front-end language/framework, back-end language/framework and a database management system. Tell us why you've chosen this stack:

Section 2:

In the programming language of your choice, write the solution for the following questions:

1. Write a for loop that prints all the multiples of 3 and 5 up to 100:
    a. 3, 5, 6, 9, 10...100

2. The highest common factor of N numbers is the largest positive integer that divides all numbers without giving a remainder. Write an algorithm to determine the highest common factor of N positive integers.

    Input
    The input to the function / method consists of two arguments:
    - *num*, an integer representing the number of positive integers (N)
    - *arr*, a list of integers
    - findHCF(*num*, *arr*) → HCF

    Output
    Return an integer representing the highest common factor of the given positive integers.
    a. findHCF(5, [2, 4, 6, 8, 10]) → 2
    b. findHCF(5, [2, 3, 4, 5, 6]) → 1
    c. findHCF(3, [-3, -1, 1, 3, 21]) → 3
    d. findHCF(4, [-1, 4, 48, 12, 8]) → 4
    e. findHCF(1, [-1, -2, -3, -4, 21]) → 21

3. Write a function that detects whether a string is a palindrome:
    a. ‘tacocat’ → true
    b. ‘racecar’ → true
    c. ‘beanbag’ → false
    d. ‘Hannah’ → true

Contact Details:

Name:
Email:
Contact number:
Starting date:
Internship duration:
Portfolio link (optional):