



Outline

Full Stack - Developer Challenge

Instructions

Backend Component

– Frontend Component



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Instructions

The goal of this challenge is to create a simple web app consisting of:

- A frontend using [React.js](#)
- A [Node.js](#) backend using a framework of your choice (e.g. [Express](#), [Koa](#), pure [http](#), etc.)
- Tests for both sections using a framework of your choice (e.g. [Jest](#), [Mocha/Chai](#), etc.)
- Any NPM package is allowed although which packages are included and their use will be considered as part of the sample
- We will be assessing the challenge based on code style, working functionality, usage of modern JavaScript (ES6), and test practices. [TypeScript](#) is allowed and encouraged, as is the use of [React hooks](#).

Backend Component

Set up a Node.js server with a single route. This route should execute your implementation of the following function, and return its output:

Function

Given an upper limit of n , write a javascript function that will find the median prime number(s) of the set of prime numbers **less than n** .

Example

- a) If $n = 10$, the set of prime numbers less than 10 is [2,3,5,7], and so the medians are [3,5]
b) If $n = 18$, the set of prime numbers less than 18 is [2,3,5,7,11,13,17], and so the median is [7]

Hint

Look up the Sieve of Eratosthenes algorithm if you want your implementation to work in a realistic amount of time when $n > 10,000$. Googling is encouraged!

Frontend Component

Set up a frontend where a user can input a number, and receive the result of the above function (or an appropriate error message).

Testing

Include appropriate tests (as you define them) in both the frontend and backend components.

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Submitting

Please create a README.md in the root directory of your project and add your answers to the following questions:

1. Do you have production experience with Node prior to the submission of this code challenge? If yes, for how long?
2. Do you have production experience with React prior to the submission of this code challenge? If yes, for how long?
3. Your full name (to ensure we can map back your submission to your resume)

Commit your code into a personal private GitHub repository and let us know when you are ready for us to review it! Best of luck!

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