Week 1: Javascript

This week's focus will be (re)mastering Javascript. We will practise skill by solving programming problems.

This curriculum is meant to enforce self-learning, use the materials provided in order to complete the assessments. Coaches are available to help guide you and direct you to the correct resources. Call upon them when you are stuck, don't understand a concept.

Objectives

- Master the Javascript basics
    - Expressions & operators
    - Functions, closures
    - Data types and data structures
- Able to interact with the DOM
- Acquainted with NPM and how to set up a new Javascript projects

Prework

Read and study the chapters programming, the internet, html and css from the Hack Your Future web fundamentals study book.

Materials

Javascript fundamentals:

- Javascript - HYF Study Book
- JavaScript Fundamentals - Javascript.info

API's/Network

- API - HYF Study Book
- Network requests - Javascript.info

DOM

- Dom manipulation - HYF Study Guide
- Document - Javascript.info

Assessments

Create a new repository on Github on Github `hyf-digitalents-typescript-week1`.

Clone your new repository locally on your computer and create the following in the project folders.

- assessment1
- assessment2
- assessment3

Please submit each assessment on Github and update your instructor about the submission.

> ℹ️ **Info:** Each assessment has a test suite associated with it to validate if the assessment is correct. The tests in this curriculum are built with Jest, a Javascript testing framework. Testing is an integral part of assuring quality in software development.

> ⚠️ **Attention:** Your code will be checked for plagiarism. You are encouraged to use google and the help of other students but don't plainly copy the work of others without a good understanding of the solution.

https://github.com/HackYourFutureBelgium/typescript-week1

Assessment 1: Multiples

Tags: `Javascript, Functions, Conditionals, Array`

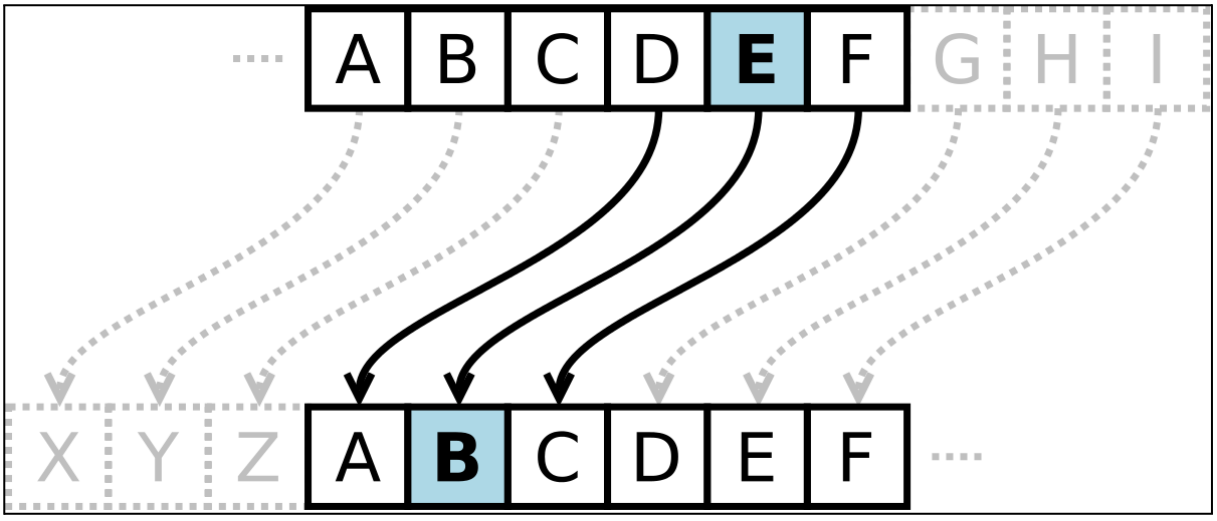
```
If we list all the natural numbers below 10 that are multiples of 3
or 5, we get 3, 5, 6 and 9. The sum of these multiples is 23.

Find the sum of all the multiples of 3 or 5 below 1000.

The answer should be: 233168
```

Assessment 2: Caesar's cipher

Tags: `Javascript, DOM, HTML, CSS`

```
Complete an application that encrypts a piece of text using Caesar's
Cipher. The cipher uses an encryption algorithm where each letter is
replaced with a letter by some fixed number of positions down the
```

alphabetical series (e.g., a shift of 1 replaces the letter a with b, the letter e with f, the word hello with ifmmp, etc.).



The application has the following requirements:

- Text from the textarea is encrypted and rendered for the user
    - Encryption happens when the “shift” value is set
    - Encryption of the text is updated which each new character typed by the user given there is a value set for “shift”
- Application has an appealing design and provides a great user experience.
    - A picture from Julius Caesar is displayed
    - There is a section that explains how the cipher works
    - At least 2 colours are used

Assessment 3: Quiz

Tags: Refactor, API, Fetch, Javascript, DOM

Everybody loves a good quiz, right?.
Why not make one ourselves.

Continue with the provided code and fetch questions to display from the Trivia API.

- Fetch a question by using the endpoint https://the-trivia-api.com/api/questions. Complete the code modules/question.api.js.
- Display the category of the question, modify the code in modules/question.component.js to make this happen.