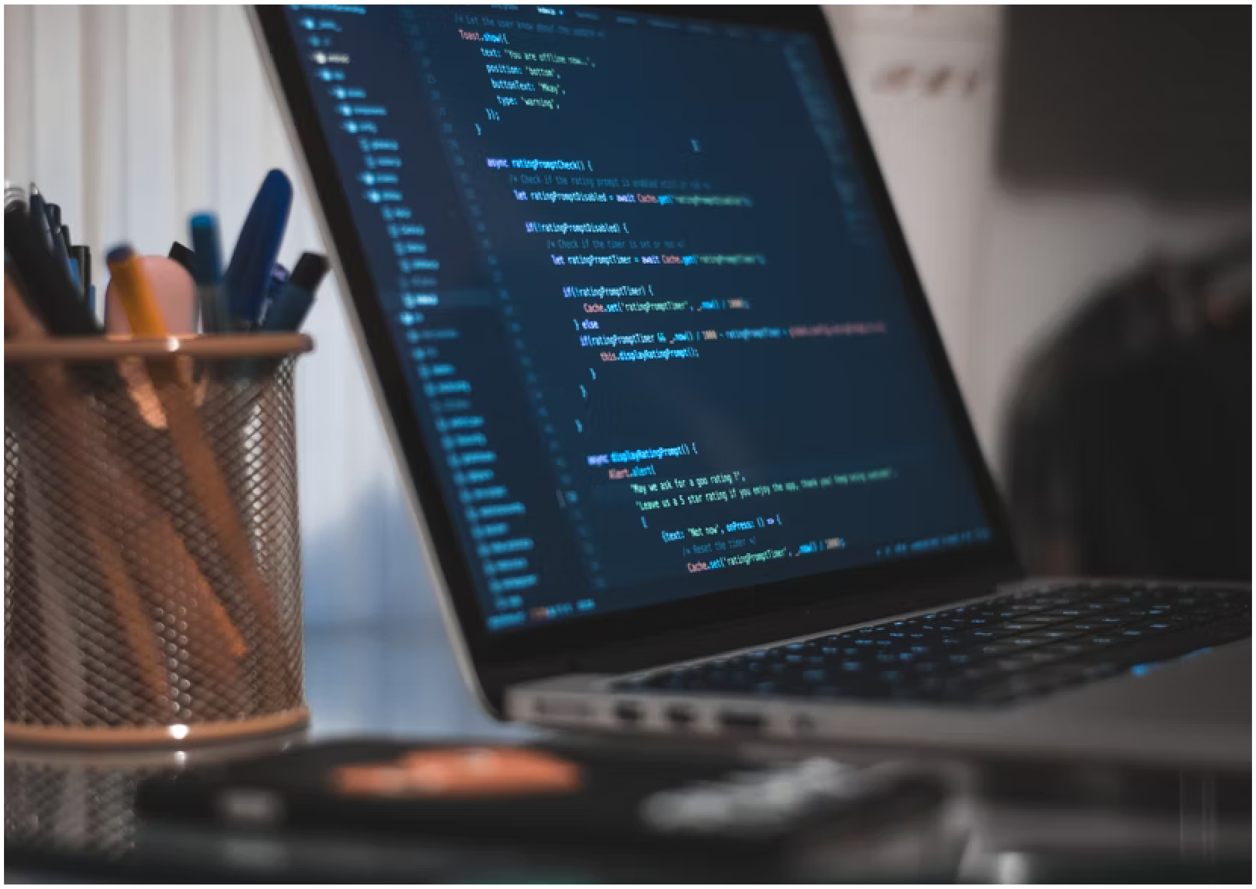

JavaScript Practice Challenges

Problem-Solving.

Project description.

Use your knowledge of JavaScript to work through the code challenges given in this document. **Try to work through these code challenges in your teams**. Aim to have a solution before you google this will help you learn quite a lot and also help you reinforce your problem-solving skills in JavaScript.

You can use Vanilla JavaScript to complete these code challenges. Vanilla JS is recommended because that is what the lessons have covered so far and you should get some practice with it.

Caution:

- **DO NOT** Copy solutions online or from anywhere. Make sure each group member understands and contributes to the solution.

Prerequisites.

- It would be best if you had covered the JS basics (Variables, Control flow, Arrays, and Objects).
- Personal research and prior practice with JavaScript will help you a lot.
- You should create one group GitHub repo for these challenges. Create separate files for each challenge's solution. *(Members of the group should all be contributors to the GitHub repo)*

Submission deadline:
Tuesday 20th June 2023

# Code Challenges (Set 1)

—-----------------------

1. Write a function named **fizzBuzz** that takes in two(2) parameters which are expected to be strings. The function should return the string **Fizz** if the combined length of the parameters is divisible by 3, the string **Buzz** if it is divisible by 5, and the string **FizzBuzz** if it is divisible by both 5 and 3.

2. Write a JavaScript program that **prompts** a user to enter their year of birth and in turn prints a string in the console stating whether the user is a **minor, a youth, or an elder**. Anyone **below 18 years is a minor**,

anyone **between 18 and 36 years is a youth** and the rest are elders.

3. Write a function named **twoSum** which takes two parameters: nums and target. Given an array of integers **nums** and an integer **target**, return indices of the two numbers such that they add up to the **target**. You may assume that each input would have exactly one solution, and you may not use the same element twice.

   You can return the answer in any order.

   Example 1:

   ```
   Input: nums = [2,7,11,15], target = 9
   Output: [0,1]
   Explanation: Because nums[0] + nums[1] == 9, we return [0, 1].
   ```

   Example 2:

   ```
   Input: nums = [3,2,4], target = 6
   Output: [1,2]
   ```

4. Write a function named **firstPalindrome** which takes a parameter: **words**. Given an array of strings **words**, return the first palindromic string in the array. If there is no such string, return an empty string "".

   A string is palindromic if it reads the same forward and backward.

   Example 1:

   ```
   Input: words = ["abc","car","ada","racecar","cool"]
   Output: "ada"
   Explanation: The first string that is palindromic is "ada".
   Note that "racecar" is also palindromic, but it is not the first.
   ```

5. Given an Array containing integers, floats, and one character strings, write a function that takes an Array as a parameter and returns an Object with keys **evens**, **odds**, and **chars**. The value for evens is an array

of sorted even numbers, the value for odds is a list of sorted odd numbers and chars is a list of sorted single-character strings.

Caution: **DO NOT** use the sort array method

Example Input:

```
let someArray = [3.0, 'a', 7, 'x', '20', 'd', 4, 'f', 8]
```

Expected output:

```
{ evens: [4, 8, 20], odds: [3.0, 7], chars: ['a', 'd', 'f', 'x'] }
```

# Code Challenges (Set 2)

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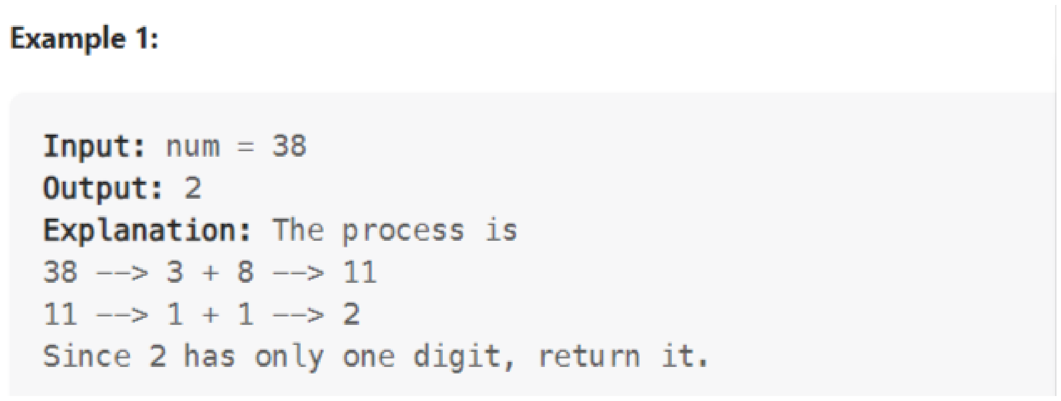
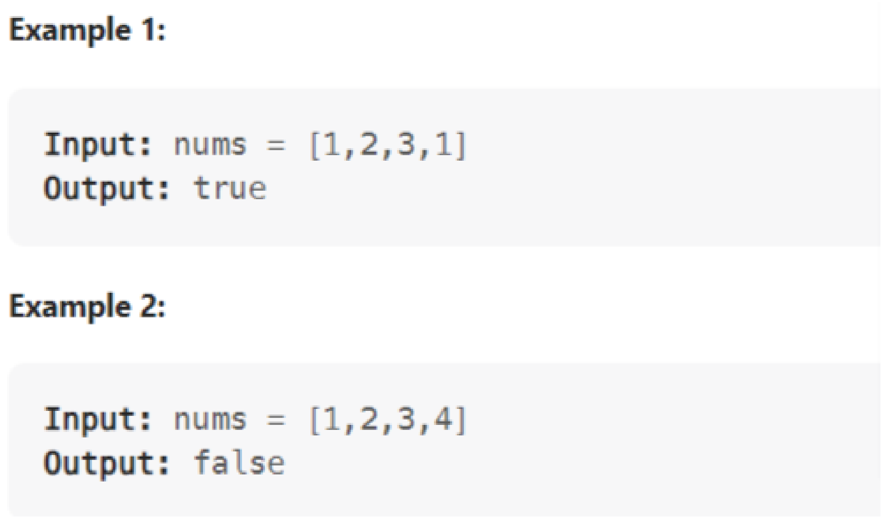
1. Given an integer **num**, write a function that repeatedly adds all its digits until the result has only one digit, and return it.



Example 1:

```
Input: num = 38
Output: 2
Explanation: The process is
38 --> 3 + 8 --> 11
11 --> 1 + 1 --> 2
Since 2 has only one digit, return it.
```

2. Given an integer array **nums**, return **true** if any value appears at least twice in the array, and return **false** if every element is distinct.



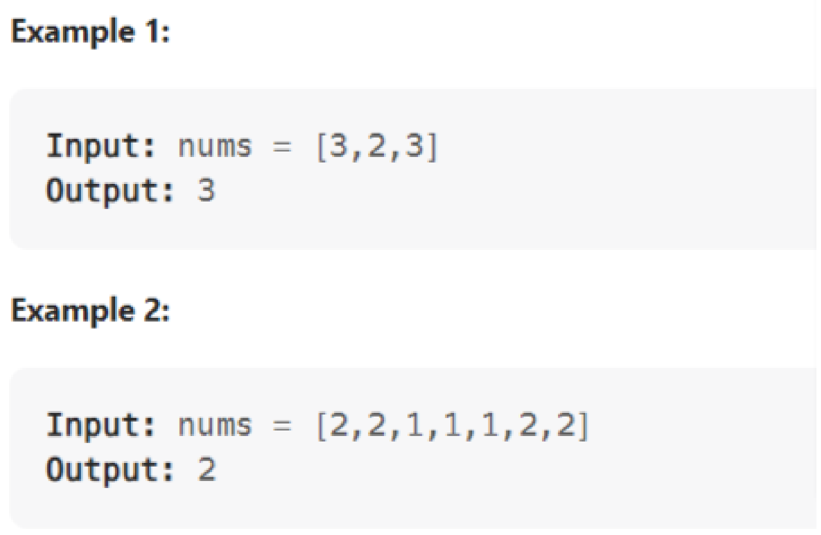
Example 1:

```
Input: nums = [1,2,3,1]
Output: true
```

Example 2:

```
Input: nums = [1,2,3,4]
Output: false
```

3. Given an array **nums** of size **n**, return the majority element. The majority element is the element that appears more than ⌊**n / 2**⌋ times. You may assume that the majority element always exists in the array.



Example 1:

```
Input: nums = [3,2,3]
Output: 3
```

Example 2:

```
Input: nums = [2,2,1,1,1,2,2]
Output: 2
```

4. Given a non-empty array of integers **nums**, every element appears twice except for one. Find that single one.

Example 1:

```
Input: nums = [2,2,1]
Output: 1
```

Example 2:

```
Input: nums = [4,1,2,1,2]
Output: 4
```

5. Write a function to find the longest common prefix string amongst an array of strings. If there is no common prefix, return an empty string **""**.

Example 1:

```
Input: strs = ["flower","flow","flight"]
Output: "fl"
```

Example 2:

```
Input: strs = ["dog","racecar","car"]
Output: ""
Explanation: There is no common prefix among the input strings.
```