Lab: Strings and Regular Expressions

1. Pascal or Camel Case

Write a function that takes **two string parameters** as an input.

- **The first parameter** will be the text that you need to modify depending on the second parameter. The words in it will **always** be **separated by space**.
- **The second parameter** will be either "`Camel Case`" or "`Pascal Case`". In case of a different input, you should print **"`Error!`"**

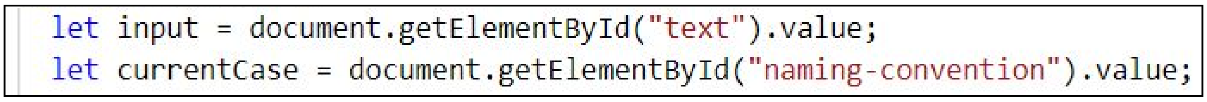
Convert the first string to either of the cases. The **output** should consist of only **one word** - the string you have modified. For more information, see the examples below:

Example

Input	Output
`"this is an example", "Camel Case"`	`thisIsAnExample`
`"secOND eXamPLE", "Pascal Case"`	`SecondExample`
`"Invalid Input", "Another Case"`	`Error!`

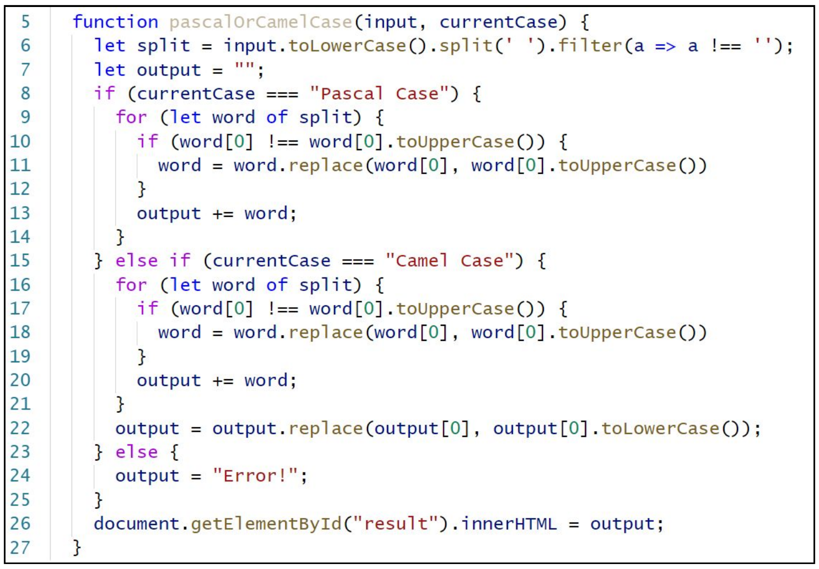
Hints

First, take the two values from the input fields:



```
let input = document.getElementById("text").value;
let currentCase = document.getElementById("naming-convention").value;
```

Then, write a function that generates the result:



```
function pascalOrCamelCase(input, currentCase) {
  let split = input.toLowerCase().split(' ').filter(a => a !== '');
  let output = "";
  if (currentCase === "Pascal Case") {
    for (let word of split) {
      if (word[0] !== word[0].toUpperCase()) {
        word = word.replace(word[0], word[0].toUpperCase())
      }
      output += word;
    }
  } else if (currentCase === "Camel Case") {
    for (let word of split) {
      if (word[0] !== word[0].toUpperCase()) {
        word = word.replace(word[0], word[0].toUpperCase())
      }
      output += word;
    }
    output = output.replace(output[0], output[0].toLowerCase());
  } else {
    output = "Error!";
  }
  document.getElementById("result").innerHTML = output;
}
```

- First, convert all the **letters to lower-case**
- Depending on the command, make the input either **`Pascal Case`** or **`Camel Case`**
- If another command is received, print **"`Error!`"**

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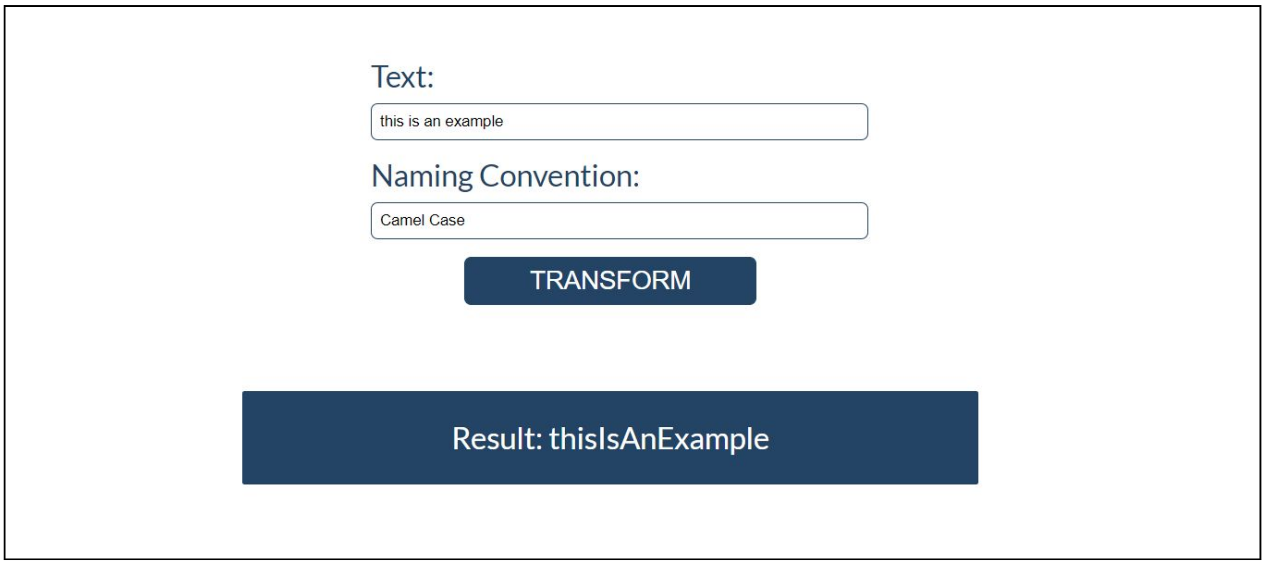


What to submit?

Zip file containing the following:

- solution.js
- template.css
- template.html

File Name: PASCAL-CAMEL-CASE.zip

2. Find ASCII Equivalent

Write a function which receives **one string parameter** as an input. It will contain different words and numbers which will **always** be **separated by space**. Your job is to find **all the numbers** and convert them to their **ASCII char** equivalent and find **all the words** and convert **each letter** to its **ASCII number**. If there are **other symbols** such as "%", "@", "!" etc., **convert** them to their ASCII number **as well**.

The **output** should consist of each number that corresponds to each letter from the ASCII table for each word, on **separate lines**, **separated by space**. The final word to print is received by **appending all the chars**, converted from the input numbers.

For more information, see the example below:

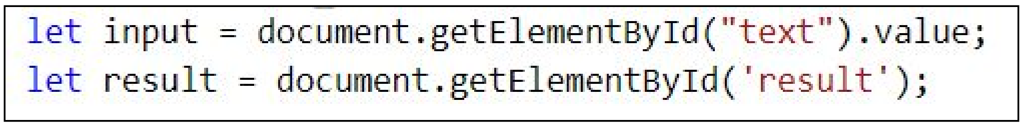
Example

Input	Output

`75 105 John Adams 110 103 115 Roger 108 97 110 100`	`74 111 104 110`
	`65 100 97 109 115`
	`82 111 103 101 114`
	`Kingsland`

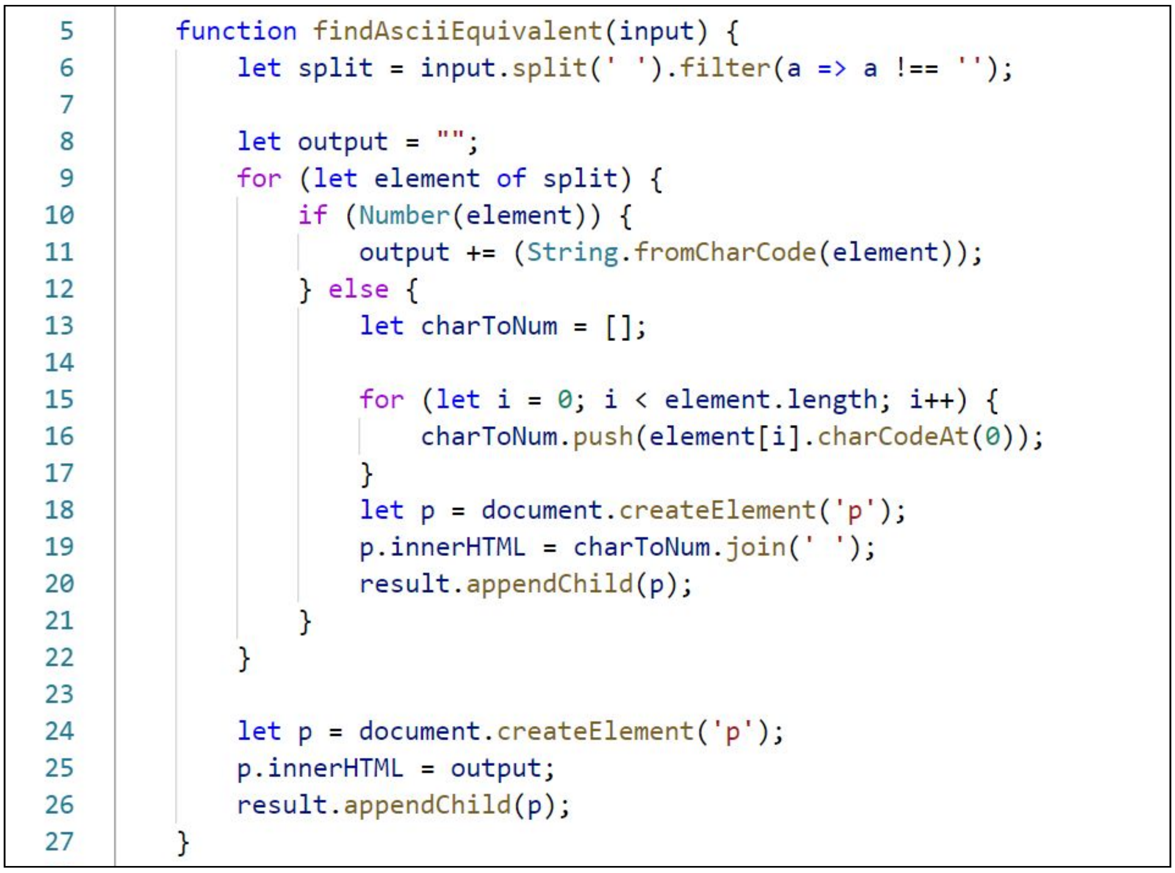
Hints

First, get the input and the result:



```
let input = document.getElementById("text").value;
let result = document.getElementById('result');
```

Then, create a function that generates the result:



```
function findAsciiEquivalent(input) {
    let split = input.split(' ').filter(a => a !== '');

    let output = "";
    for (let element of split) {
        if (Number(element)) {
            output += (String.fromCharCode(element));
        } else {
            let charToNum = [];

            for (let i = 0; i < element.length; i++) {
                charToNum.push(element[i].charCodeAt(0));
            }
            let p = document.createElement('p');
            p.innerHTML = charToNum.join(' ');
            result.appendChild(p);
        }
    }

    let p = document.createElement('p');
    p.innerHTML = output;
    result.appendChild(p);
}
```

- If the current **element is a number**, convert it to **character**
- Otherwise, loop through each **character** and **convert it into number**
- Finally, append the result

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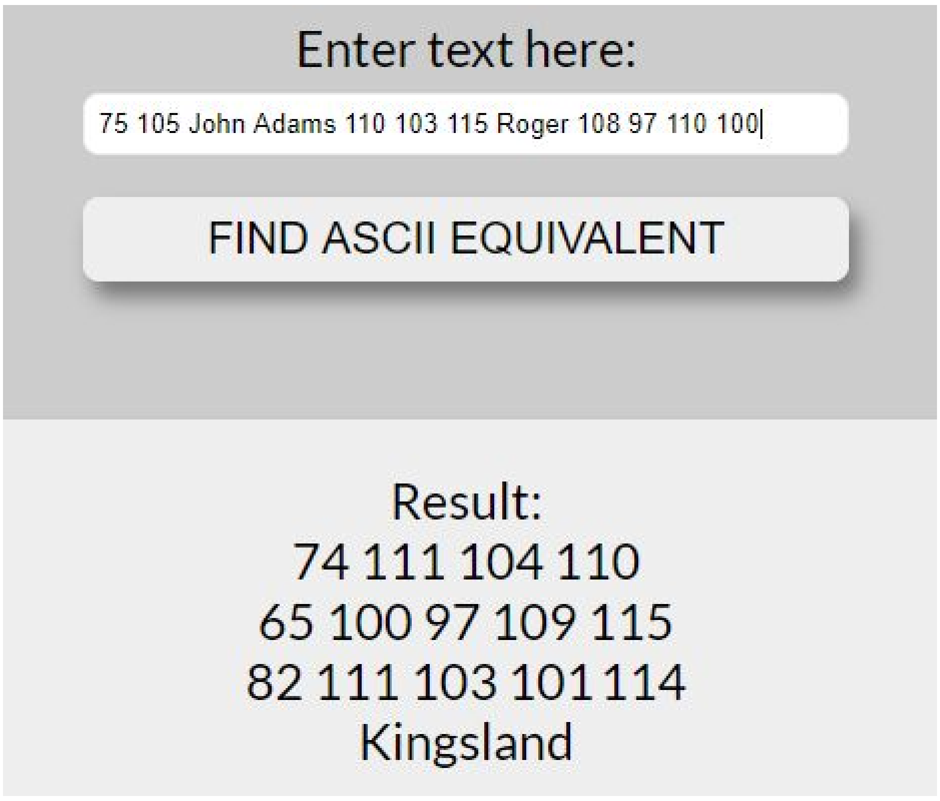

Enter text here:

75 105 John Adams 110 103 115 Roger 108 97 110 100

Result:
74 111 104 110
65 100 97 109 115
82 111 103 101 114
Kingsland

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Zip file containing the following:

- solution.js
- template.css
- template.html

File Name: FIND-ASCII-EQUIVALENT.zip

3. Split String Equally

Write a function that takes **two parameters** as an input.

- The **first parameter** will be of type **string**
- The **second parameter** will always be **a positive integer**, **bigger than 0**

Your task is to **split the string equally by the number** you have received, **separated by space**. However, if the string **cannot** be split into equal parts, fill the last sequence until its **length** is **equal** to the **second parameter**, starting from the **beginning** of the string.

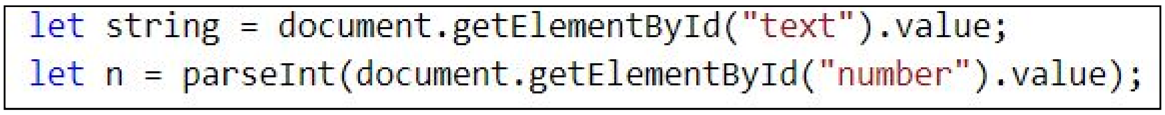
For more information, see the examples below:

Example

Input	Output
`"RandomInput1234", 2`	`Ra nd om In pu t1 23 4R`
`"Test", 8`	`TestTest`
`"JavaScript", 14`	`JavaScriptJava`

Hints

First, get the two input fields:



```
let string = document.getElementById("text").value;
let n = parseInt(document.getElementById("number").value);
```

Then, create the function that splits the resulting string:

- Split the string into separate parts
- Add them to an array
- Set the result to equal that array joined by a space

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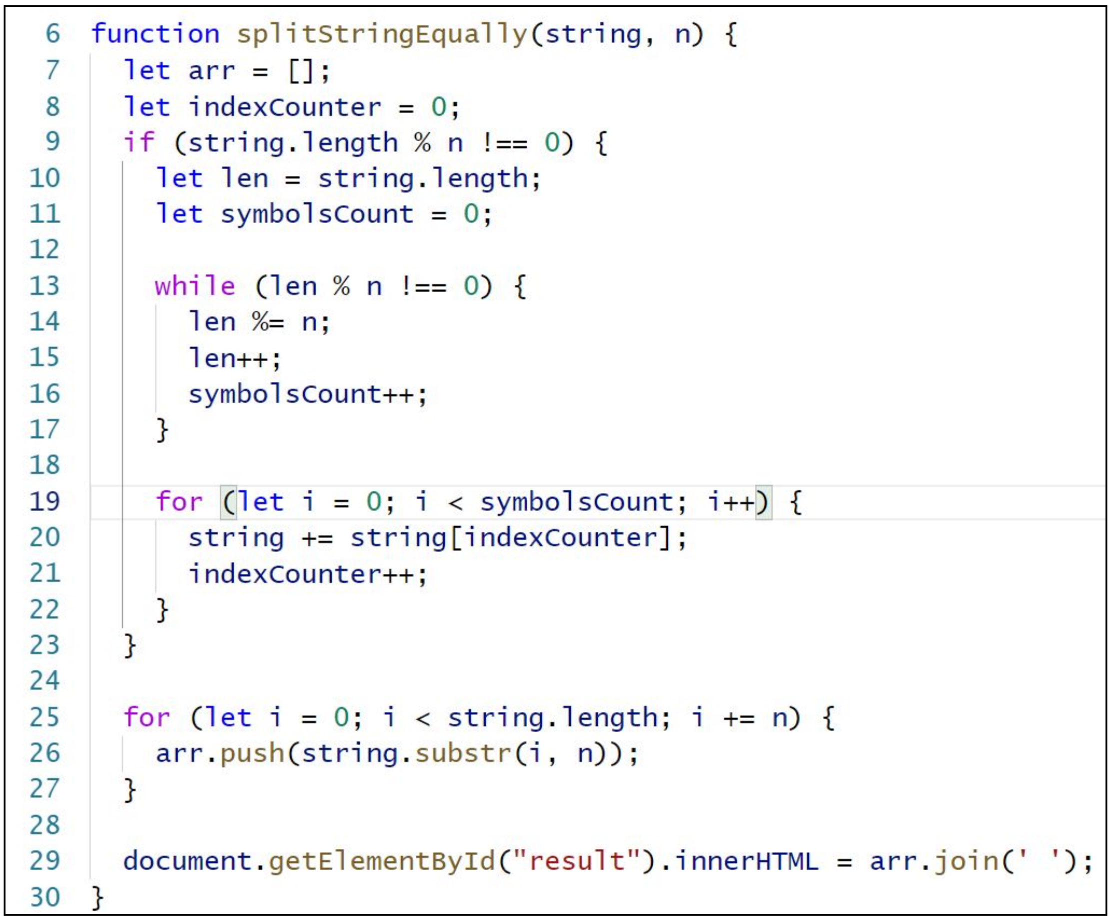


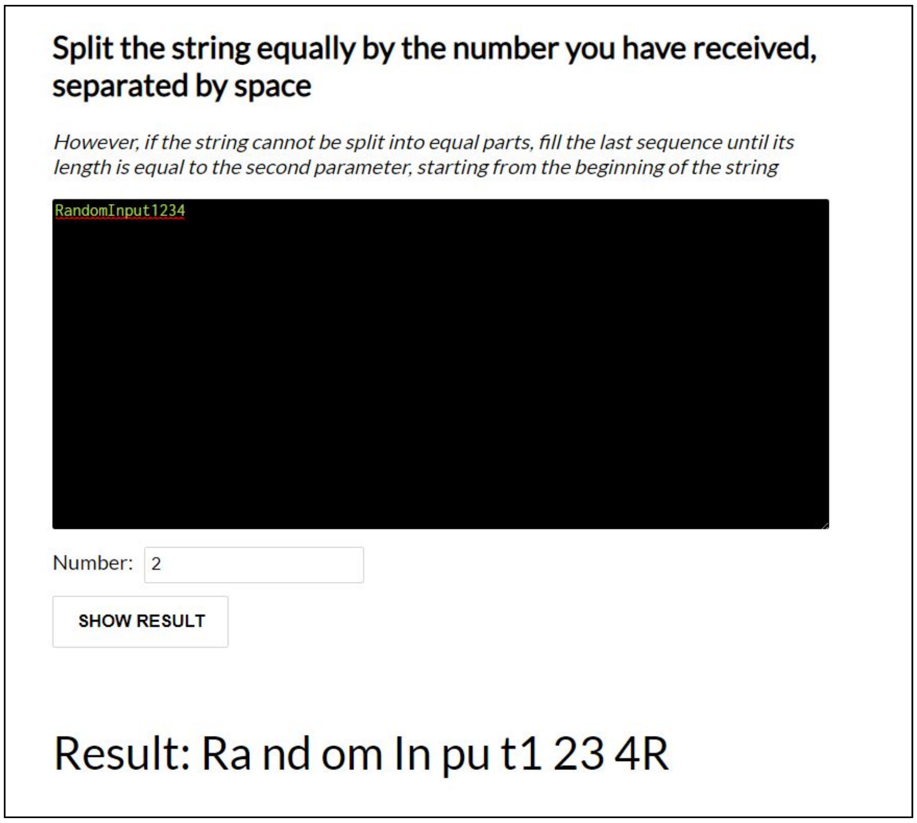
```
function splitStringEqually(string, n) {
  let arr = [];
  let indexCounter = 0;
  if (string.length % n !== 0) {
    let len = string.length;
    let symbolsCount = 0;

    while (len % n !== 0) {
      len %= n;
      len++;
      symbolsCount++;
    }

    for (let i = 0; i < symbolsCount; i++) {
      string += string[indexCounter];
      indexCounter++;
    }
  }

  for (let i = 0; i < string.length; i += n) {
    arr.push(string.substr(i, n));
  }

  document.getElementById("result").innerHTML = arr.join(' ');
}
```



Split the string equally by the number you have received, separated by space

However, if the string cannot be split into equal parts, fill the last sequence until its length is equal to the second parameter, starting from the beginning of the string

```
RandomInput1234
```

Number: 2

SHOW RESULT

Result: Ra nd om In pu t1 23 4R

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What to submit?

Zip file containing the following:

- solution.js
- template.css
- template.html

File Name: SPLIT-STRING-EQUALLY.zip

4. Replace a Certain Word

Write a function that receives **two parameters** as an input.

- The **first parameter** will be **a string** - the **word** that will be **used for replacing**.
- The **second parameter** will be **an array of strings**.

The word that needs to be **replaced** in each of the strings will **always** be found in the **first string** of the array **at the second index**. Your task is to **replace every word with the given** one from the input. Have in mind that the cases are **case-insensitive**.

Print **each** of the strings from the array on a **new <p> element**.

For more information, see the examples below:

Example

Input	Output

`"JavaScript", ["I love pROgRaMminG",`
`"proGramMing is fun",`
`"ProgrAmmIng.",`
`"JSProgramming", "!@#$proGRAMming!@#$"]`
	`I love JavaScript`
	`JavaScript is fun`
	`JavaScript.`
	`JSJavaScript`
	`!@#$JavaScript!@#$`

Hints

- Get the input fields
- Create a separate function that replaces each element of the array with the given string (use **RegEx**)
- Add paragraphs to the **<span>** containing the new strings

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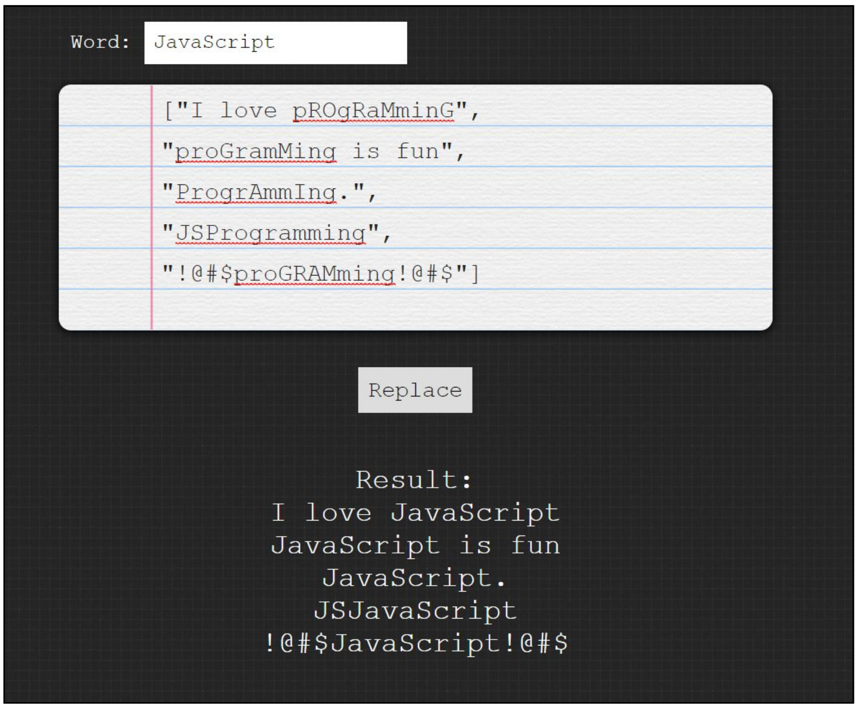

```
["I love pROgRaMminG",
"proGramMing is fun",
"ProgrAmmIng.",
"JSProgramming",
"!@#$proGRAMming!@#$"]
```

```
Result:
I love JavaScript
JavaScript is fun
JavaScript.
JSJavaScript
!@#$JavaScript!@#$
```

What to submit?

Zip file containing the following:

- solution.js
- template.css
- template.html

File Name: REPLACE-A-CERTAIN-WORD.zip

5. Extract User Data

Write a function that receives **an array of strings** as an input.

Your task is to **extract** all **valid user data** from each of the strings. **Valid data** consists of:

- It will always start with a **name**. A valid name will always consist of **first name** and **surname separated by space**. Note that the first name will **always start with an uppercase letter** and can be followed by lowercase ones (**but not necessarily**). The surname will always start with a **capital letter**, followed by **one or more** lowercase ones.
- The name will be followed by **a phone number**. A valid phone number will be in the following format: *+359 2 569 789*, *+359 3 759 846*, *+359-5-789-359*. Note that it will **always start with +359** and the digits can be separated by **either spaces** or **dashes** but **NOT** both.
- The phone number will be followed by **an email**. A valid email can consist of only **lowercase Latin letters** or **digits**, followed by **@** and **one or more lowercase Latin letters**. There will always be **a dot before the domain**, which can consist of **at least** two lowercase Latin letters **BUT** no more than three.

Note that the data will be **always separated by a single space**.

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In case part of the above described data is **missing** or is **invalid**, print `"Invalid data"` on the console. Otherwise, print each of the extracted information **on a new line** in the following format:

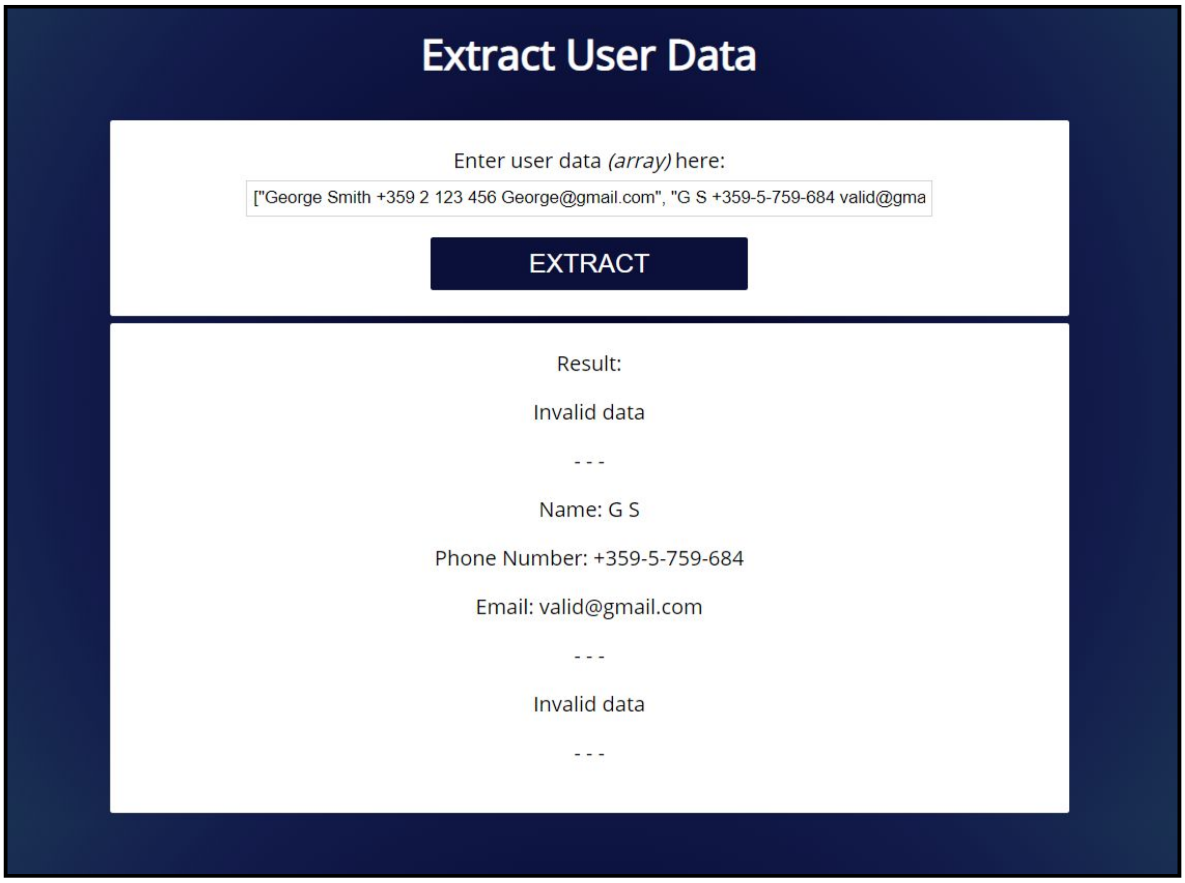
```
Name: {extractedName}

Phone Number: {extractedPhoneNumber}

Email: {extractedEmail}

- - -
```

For more information, see the examples below:

Example

Input	Output

`["George Smith +359 2 123 456 George@gmail.com", "G S +359-5-759-684 valid@gmail.com", "Smith +359-5 789 654 smith@gmail.com"]`	`Invalid data`
	`- - -`
	`Name: G S`
	`Phone Number: +359-5-759-684`
	`Email: valid@gmail.com`
	`- - -`
	`Invalid data`
	`- - -`



Extract User Data

Enter user data *(array)* here:

["George Smith +359 2 123 456 George@gmail.com", "G S +359-5-759-684 valid@gma

Result:

Invalid data

- - -

Name: G S

Phone Number: +359-5-759-684

Email: valid@gmail.com

- - -

Invalid data

- - -

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What to submit?

Zip file containing the following:

- solution.js
- template.css
- template.html

File Name: EXTRACT-USER-DATA.zip

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