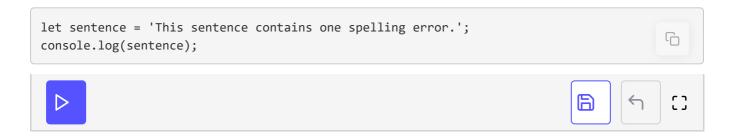# Exercise on Join, Map and Split

Improve your knowledge of the join, map and split functions by solving this exercise.

After correcting the spelling error in the previous exercise, capitalize each word of the sentence. Each word should start with an uppercase letter, while the rest of the letters should be in lower case.

```
let sentence = 'This sentence contains one spelling error.';
console.log(sentence);
```

Solution:

First, we split the sentence into an array of words. Then we slice each word such that we separate their first character and the rest. The third step is to capitalize the first letters with `toUpperCase`. Then we join everything.

```
let sentence = 'This sentence contains one spelling error.';
const words = sentence.split( ' ' );
for ( let i = 0; i < words.length; ++i ) {
    words[i] = words[i].slice(0, 1).toUpperCase() + words[i].slice( 1 );
}

let newsentence=words.join(' ');
console.log(newsentence);
```

Note: an alternative for `words[i].slice( 0, 1 )` is `words[i].charAt( 0 )`.

If you prefer writing the solution in a more concise way, it is possible to use an array helper function called map. Map executes a function on each element of the array and returns an array with the transformed elements. The order of the elements is kept. Example:

```
let numbers = [1, 2, 3];
const tripleEachElement = function( x ) { return 3*x }
// or using the arrow syntax: const triple = x => 3*x;

numbers = numbers.map( tripleEachElement )
console.log( numbers )
```

Let's use the mapping idea to implement a solution:

```
let sentence = 'This sentence contains one spelling error.';
let words = sentence.split( ' ' );

let capitalize = function( word ) {
    return word.charAt(0).toUpperCase() + word.slice(1);
}

words = words
    .map( capitalize )
    .join( ' ' );

console.log(words);
```

No wonder why functional programming is often easier to understand than other programming styles.

If you want to simplify the capitalize function, you can also write it using the fat arrow syntax. If you want to learn a bit ahead, you can watch my Arrow Functions video.

We don't even need to name this function, because an arrow function can also be placed inside the map method as an argument:

```
let words = 'This sentence contains one spelling error.';

words = words
    .split( ' ' )
    .map( w => w.charAt(0).toUpperCase() + w.slice(1) )
    .join( ' ' );

console.log(words);
```