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Check if string has duplicate letters

Posted on [December 29, 2018](#) | by [Prashant Yadav](#)

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An algorithm to check if there are duplicate letters in the [string](#).

We will check if the given string has duplicate letters and if found we will return `true`, `false` otherwise.

Example

Input:

```
'learnersbucket'  
'abcdefghijk'  
'I Love learnersbucket'
```

Output:

```
true  
false  
true
```

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Implementation

- We will create a [Set](#) and add letters of the string to it.
- While storing the letter we will check if [Set](#) has duplicate letters. If it is present then return `true` else return `false`.
- We will check for both case-sensitive and incase-sensitive letters.
- Everything will be written in [ES6](#).

For incase-sensitive letters

```
let containsDuplicates = (str) => {  
  let set = new Set();  
  
  //convert str to lowercase  
  //Remove this if you want to check for incase-sensitive strings  
  str = str.toLowerCase();  
  
  //If it is not whitespace the check if aplhabet is present or not  
  for(let i = 0; i < str.length; i++){  
  
    if(str[i] != ' '){  
  
      if(set.has(str[i])){  
        return true;  
      }  
  
      set.add(str[i]);  
    }  
  }  
  
  return false;  
}
```

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Input:
console.log(containsDuplicates("learnersbucket"));
console.log(containsDuplicates("abcdefghijk"));
console.log(containsDuplicates("I Love learnersbucket"));

Output:
true
false
true

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For case-sensitive letters

```
let containsDuplicates = (str) => {  
  let set = new Set();  
  
  //If it is not whitespace the check if aplhabet is present or not  
  for(let i = 0; i < str.length; i++){  
  
    if(str[i] != ' '){  
  
      if(set.has(str[i])){  
        return true;  
      }  
  
      set.add(str[i]);  
    }  
  }  
  
  return false;  
}
```

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[Copy](#)**Input:**

```
console.log(containsDuplicates("learnersbucket"));
console.log(containsDuplicates("abcdefghijk"));
console.log(containsDuplicates("I Luv life"));
```

Output:

```
true
false
false
```

Time Complexity: $O(n)$.

Space Complexity: $O(n)$.

Time and Space complexity

- We are traversing whole string and will be checking each character of it, so Time complexity is $O(n)$.
- We will be storing each character of given string, so Space complexity is $O(n)$.

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