

Assignment 4

Question 1

Write a JavaScript function to capitalize the first letter of each word in a string.

Test Data :

```
(capitalize_Words('js string exercises'));  
Output: "Js String Exercises"
```

Code

```
<!DOCTYPE html>  
<html lang="en">  
  
<head>  
  <title>1</title>  
  <script>  
    function capitalize_word(string) {  
      var arr = string.split(" ");  
      var ans = ""  
      for (let i of arr) {  
        ans += i.charAt(0).toUpperCase() + i.slice(1) + " ";  
      }  
      return ans;  
    }  
    function main() {  
      input1 = document.getElementById("input1");  
      temp = capitalize_word(input1.value)  
      document.getElementById("output").value = temp;  
    }  
  </script>  
</head>  
  
<body>  
  Input: <input id="input1" type="text"> <br />  
  Output: <input id="output" type="text"> <br />  
  <input type="button" value="Capitalize" onclick="main()">  
</body>  
  
</html>
```

Output

Input: js string exercises

Output: Js String Exercises

Capitalize

Question 2

Write a JavaScript function that takes a string which has lower and upper case letters as a parameter and converts upper case letters to lower case, and lower case letters to upper case.

Test Data:

```
(swapcase('AaBbc'));  
Output: "aAbBC"
```

Code

```
<!DOCTYPE html>  
<html lang="en">  
  
<head>  
  <meta charset="UTF-8">  
  <title>2</title>  
  <script>  
    function changecase(s) {  
      if ('a' <= s && s <= 'z') return s.toUpperCase();  
      else return s.toLowerCase();  
    }  
  
    /* change the case of each character */  
    function swapcase(s) {  
      var ans = s.split('').map(changecase).join('');  
      return ans;  
    }  
  
    function main() {  
      input1 = document.getElementById("input1");  
      temp = swapcase(input1.value)  
      document.getElementById("output").value = temp;  
    }  
  </script>  
</head>  
  
<body>  
  Input: <input id="input1" type="text"> <br />  
  Output: <input id="output" type="text"> <br />  
  <input type="button" value="Swap Case" onclick="main()">  
</body>  
  
</html>
```

Output

Input: AaBbc

Output: aAbBC

Swap Case

Question 3

Develop and demonstrate a HTML file that includes JavaScript script that uses functions for the following problems:

- Parameter: A string
Output: The position in the string of the left-most vowel
- Parameter: A number
Output: The number with its digits in the reverse order.

Code

```
<!DOCTYPE html>
<html>

<head>
  <meta charset="UTF-8">
  <title>3</title>
  <script>
    function isVowel(c) {
      return ['a', 'e', 'i', 'o', 'u'].includes(c.toLowerCase());
    }
    function index0fLeftVowel(str) {
      for (var i = str.length - 1; i >= 0; i--) {
        if (isVowel(str[i])) return i;
      }
      return i;
    }
    function reverseNo(x) {
      if (Number.isNaN(Number(x)) || !Number.isInteger(Number(x))) {
        alert("Enter a valid number!");
        return;
      }
      var ans = 0;
      while (x > 0) {
        ans = ans * 10 + x % 10;
        x = Math.floor(x / 10);
      }
      return ans;
    }
    function main() {
      input1 = document.getElementById("input1");
      temp = index0fLeftVowel(input1.value)
      document.getElementById("output1").value = temp;
    }
    function main2() {
      input1 = document.getElementById("input2");
      temp = reverseNo(input2.value)
      document.getElementById("output2").value = temp;
    }
  </script>
</head>

<body>
  Input: <input id="input1" type="text"> <br />
  Output: <input id="output1" type="text"> <br />
  <input type="button" value="Index of Left Vowel" onclick="main()"> <br />
```

```
<hr />
Input: <input id="input2" type="text"> <br />
Output: <input id="output2" type="text"> <br />
<input type="button" value="Reverse Number" onclick="main2()">
</body>

</html>
```

Output

Input:

Output:

Index of Left Vowel

Input:

Output:

Reverse Number

Question 4

Write a JavaScript function that takes a string as a parameter and count occurrence of each alphabet in a given string.

Code

```
<!DOCTYPE html>
<html lang="en">

<head>
  <title>4</title>
  <style>
    table {
      font-size: smaller;
    }

    table,
    th,
    td {
      border: 1px solid black;
      border-collapse: collapse;
    }
  </style>
  <script>
    /* return a map of each character count */
    function func1(s) {
      const m = new Map();
      for (let i = 0; i < s.length; i++) {
        if (m.has(s[i])) m.set(s[i], m.get(s[i]) + 1);
        else m.set(s[i], 1);
      }
      return m;
    }
    function main() {
      input1 = document.getElementById("input1");
      const m = func1(input1.value);
      tbody = document.getElementById('characters');
      tbody.innerHTML = "";
      for (const [key, value] of m) {
        console.log(key + ' = ' + value)
        row = document.createElement('tr');
        h1 = document.createElement('td'); h1.innerHTML = key;
        h2 = document.createElement('td'); h2.innerHTML = value;
        row.appendChild(h1); row.appendChild(h2);
        tbody.appendChild(row);
      }
    }
  </script>
</head>

<body>
  Input: <input id="input1" type="text">
  <input type="button" value="Count" onclick="main()">
  <table>
    <thead>
      <tr>
        <th>Character</th>
```



```
        <th>0ccurrence</th>
    </tr>
</thead>
<tbody id="characters">
    <tr>
        <td>...</td>
        <td>...</td>
    </tr>
</tbody>
</table>
</body>

</html>
```

Output

Input:

Character	Occurrence
j	1
a	4
v	1
s	1
c	3
r	2
i	2
p	2
t	2
	1
l	1