Q.1 Input a String S, and check its length and if the length is greater than 4, truncate the input String and output the result -
Input: Ice Output: Ice
Input: Icecream Output: Icec…

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>String Truncation</title>
    <script>
        function truncateString() {
            // Get the input value
            var inputString = document.getElementById("inputText").value;

            // Check if the length is greater than 4
            if (inputString.length > 4) {
                // Truncate the string
                var truncatedString = inputString.substring(0, 4) + "…";
                // Output the result
                document.getElementById("outputResult").innerText =
truncatedString;
            } else {
                // Output the original string if its length is 4 or less
                document.getElementById("outputResult").innerText =
inputString;
            }
        }
    </script>
</head>
<body>
    <label for="inputText">Input String:</label>
    <input type="text" id="inputText" placeholder="Enter a string">
    <button onclick="truncateString()">Truncate</button>

    <p>Output:</p>
    <div id="outputResult"></div>
</body>
</html>
```

Output

Input String: icecream Truncate

Output:

icec…

Input String: ice Truncate

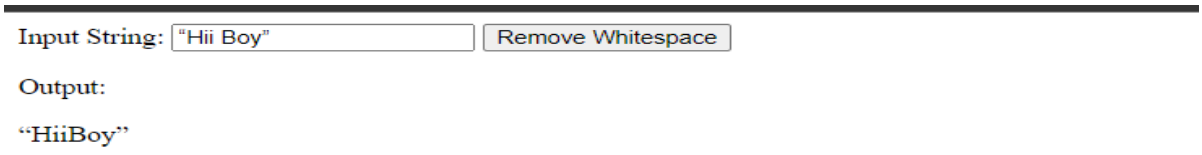
Output:

ice

Q.2 Input a String S with multiple words, and remove whitespaces and output the result - Input: “Hii Boy” Output: “HiiBoy”

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Remove Whitespace</title>
    <script>
        function removeWhitespace() {
            // Get the input value
            var inputString = document.getElementById("inputText").value;

            // Remove whitespaces from the string
            var resultString = inputString.replace(/\s/g, "");

            // Output the result
            document.getElementById("outputResult").innerText = resultString;
        }
    </script>
</head>
<body>
    <label for="inputText">Input String:</label>
    <input type="text" id="inputText" placeholder="Enter a string with
spaces">
    <button onclick="removeWhitespace()">Remove Whitespace</button>

    <p>Output:</p>
    <div id="outputResult"></div>
</body>
</html>
```

Output



Q.3 Input a String S with two words, and replace first word with second word and display the result -
Input: “Hii Boy” Output: “Boy Hii”

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Replace Words</title>
    <script>
        function replaceWords() {
            // Get the input value
            var inputString = document.getElementById("inputText").value;

            // Split the input string into an array of words
            var words = inputString.split(" ");

            // Check if there are at least two words
            if (words.length >= 2) {
                // Swap the first and second words
                var resultString = words[1] + " " + words[0];

                // Output the result
                document.getElementById("outputResult").innerText =
resultString;
            } else {
                // Display an error message if there are not enough words
                document.getElementById("outputResult").innerText = "Please
enter at least two words.";
            }
        }
    </script>
</head>
<body>
    <label for="inputText">Input String (Two Words):</label>
    <input type="text" id="inputText" placeholder="Enter two words separated
by a space">
    <button onclick="replaceWords()">Replace Words</button>

    <p>Output:</p>
    <div id="outputResult"></div>
</body>
</html>
```

Output

Q. 4 Input a String S with a word, and replace character “a” with “x” and display the result -
Input: “apple” Output: “xpple”

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Replace Character</title>
    <script>
        function replaceCharacter() {
            // Get the input value
            var inputString = document.getElementById("inputText").value;

            // Replace character "a" with "x"
            var resultString = inputString.replace(/a/g, "x");

            // Output the result
            document.getElementById("outputResult").innerText = resultString;
        }
    </script>
</head>
<body>
    <label for="inputText">Input String:</label>
    <input type="text" id="inputText" placeholder="Enter a word">
    <button onclick="replaceCharacter()">Replace Character</button>

    <p>Output:</p>
    <div id="outputResult"></div>
</body>
</html>
```

Output

Q.5 What string method can be used to convert string into array?

Ans: In JavaScript, the split method is frequently used to convert a string into an array. This function divides a text into an array of substrings according to the supplied delimiter, which can be a character or a regular expression.

Q.6 What string method can be used to check the occurrence of a specified text in a string?

Ans: The include method can be used to check the occurrence of a specified text in a string in JavaScript. The include method returns a boolean value indicating whether a particular substring is present in the given string.

Q.7 How can you break a string to a newline in Javascript ?

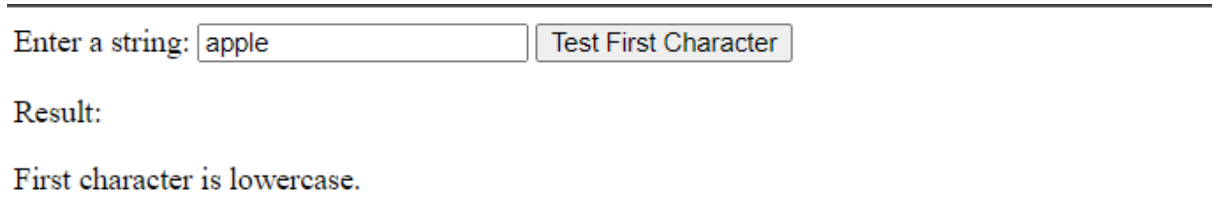
Ans: To break a string into multiple lines or add a newline character in JavaScript, you can use the newline character (\n) within the string.

We can also create multi-line strings using template literals in modern JavaScript.

Q.8 Write a Javascript function to test whether the first character of a string is lowercase.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Test Lowercase First Character</title>
    <script>
        function isFirstCharacterLowercase(inputString) {
            // Check if the first character is lowercase
            return /^[a-z]/.test(inputString);
        }

        function testFirstCharacter() {
            // Get the input value
            var inputString = document.getElementById("inputText").value;

            // Test whether the first character is lowercase
            var result = isFirstCharacterLowercase(inputString);

            // Output the result
            document.getElementById("outputResult").innerText = result ?
"First character is lowercase." : "First character is not lowercase.";
        }
    </script>
</head>
<body>
    <label for="inputText">Enter a string:</label>
    <input type="text" id="inputText" placeholder="Type a string">
    <button onclick="testFirstCharacter()">Test First Character</button>

    <p>Result:</p>
    <div id="outputResult"></div>
</body>
</html>
```

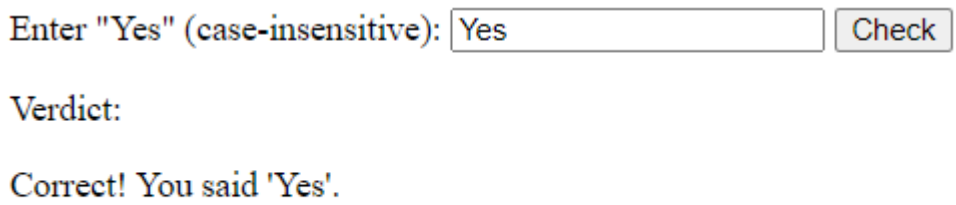
Output



Q.9 Give a correct verdict to users input if he enters "yes", "YES","Yes" ,etc (any combination) using string methods. How will you handle that ?

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Verdict for "Yes"</title>
    <script>
        function checkYes(inputString) {
            // Convert the input to lowercase and compare with "yes"
            return inputString.toLowerCase() === "yes";
        }

        function provideVerdict() {
            // Get the input value
            var userInput = document.getElementById("inputText").value;

            // Check if the input is a variation of "yes"
            var isYes = checkYes(userInput);

            // Provide the verdict
            document.getElementById("verdict").innerText = isYes ? "Correct!
You said 'Yes'." : "Incorrect. Please enter 'Yes' in any case combination.";
        }
    </script>
</head>
<body>
    <label for="inputText">Enter "Yes" (case-insensitive):</label>
    <input type="text" id="inputText" placeholder="Type 'Yes'">
    <button onclick="provideVerdict()">Check</button>

    <p>Verdict:</p>
    <div id="verdict"></div>
</body>
</html>
```

Output



We can handle variations in user input by converting the input to lowercase or uppercase and then checking if it matches the expected value. Above an example of an HTML page with a JavaScript function that provides a correct verdict for variations of "yes".

Q.10 Given a String S, achieve following tasks
a) Convert the String into upper case.
b) Convert only the first character to uppercase.
c) Convert the String into lower case.
d) Break the string into two halves and swap them.
e) Count the repeating characters.
f) Reverse the string.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>String Manipulation</title>
    <script>
        function convertToUpperCase() {
            var inputString = document.getElementById("inputText").value;
            var result = inputString.toUpperCase();
            document.getElementById("outputResult").innerText = result;
        }

        function convertFirstCharToUpperCase() {
            var inputString = document.getElementById("inputText").value;
            var result = inputString.charAt(0).toUpperCase() +
inputString.slice(1);
            document.getElementById("outputResult").innerText = result;
        }

        function convertToLowerCase() {
            var inputString = document.getElementById("inputText").value;
            var result = inputString.toLowerCase();
            document.getElementById("outputResult").innerText = result;
        }

        function swapStringHalves() {
            var inputString = document.getElementById("inputText").value;
            var length = inputString.length;
            var halfIndex = Math.floor(length / 2);
            var result = inputString.slice(halfIndex) + inputString.slice(0,
halfIndex);
            document.getElementById("outputResult").innerText = result;
        }

        function countRepeatingCharacters() {
```

```
            var inputString = document.getElementById("inputText").value;
            var charCount = {};

            for (var char of inputString) {
                charCount[char] = (charCount[char] || 0) + 1;
            }

            var result = JSON.stringify(charCount);
            document.getElementById("outputResult").innerText = result;
        }

        function reverseString() {
            var inputString = document.getElementById("inputText").value;
            var result = inputString.split('').reverse().join('');
            document.getElementById("outputResult").innerText = result;
        }
    </script>
</head>
<body>
    <label for="inputText">Enter a string:</label>
    <input type="text" id="inputText" placeholder="Type a string">
    <button onclick="convertToUpperCase()">Convert to Uppercase</button>
    <button onclick="convertFirstCharToUpperCase()">Convert First Char to
Uppercase</button>
    <button onclick="convertToLowerCase()">Convert to Lowercase</button>
    <button onclick="swapStringHalves()">Swap String Halves</button>
    <button onclick="countRepeatingCharacters()">Count Repeating
Characters</button>
    <button onclick="reverseString()">Reverse String</button>

    <p>Result:</p>
    <div id="outputResult"></div>
</body>
</html>
```

Output

Enter a string: star | Convert to Uppercase | Convert First Char to Uppercase | Convert to Lowercase | Swap String Halves | Count Repeating Characters | Reverse String

Result:

rats

Enter a string: star | Convert to Uppercase | Convert First Char to Uppercase | Convert to Lowercase | Swap String Halves | Count Repeating Characters | Reverse String

Result:

{"s":1,"t":1,"a":1,"r":1}

Enter a string: star | Convert to Uppercase | Convert First Char to Uppercase | Convert to Lowercase | Swap String Halves | Count Repeating Characters | Reverse String

Result:

arst

Enter a string: star Convert to Uppercase Convert First Char to Uppercase Convert to Lowercase Swap String Halves Count Repeating Characters Reverse String

Result:

star

Enter a string: star Convert to Uppercase Convert First Char to Uppercase Convert to Lowercase Swap String Halves Count Repeating Characters Reverse String

Result:

Star

Enter a string: star Convert to Uppercase Convert First Char to Uppercase Convert to Lowercase Swap String Halves Count Repeating Characters Reverse String

Result:

STAR