Lab Practice -2 [404184C] : ELECTIVE-III(C) - JavaScript

ACADEMIC YEAR: 2024-25

CLASS	**: BE**	**DIV**	**: 7**	**Batch**	**: R-7**	**DATE**	**:**
Roll No	**42305**	**ABC ID**	**: 810-360-343-871**			**SEMESTER**	**: I**

Experiment No.: 3

HTML ➔

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>String Operations</title>
  <link rel="stylesheet" href="style_3.css">
</head>
<body>
  <div class="container">
    <h1>String Operations</h1>
    <label for="stringInput">Enter a string:</label>
    <input type="text" id="stringInput" placeholder="Enter a string">
    <label for="replaceChar">Character to replace:</label>
    <input type="text" id="replaceChar" placeholder="Character to replace">
    <label for="replaceWith">Replace with:</label>
    <input type="text" id="replaceWith" placeholder="New character">
    <button onclick="reverseString()">Reverse String</button>
    <button onclick="replaceCharacter()">Replace Character</button>
```

```
    <br><br>
    <label for="palindromeInput">Enter a string to check Palindrome:</label>
    <input type="text" id="palindromeInput" placeholder="Check if Palindrome">
    <button onclick="checkPalindrome()">Check Palindrome</button>
    <br><br>
    <label for="substringInput">Enter substring to replace:</label>
    <input type="text" id="substringInput" placeholder="Substring to replace">
    <label for="replaceWithSubstring">Replace with:</label>
    <input type="text" id="replaceWithSubstring" placeholder="New substring">
    <button onclick="replaceSubstring()">Replace Substring</button>
    <div id="resultOutput"></div>
    <div class="info">
      <h2>Name: Teena Bambal</h2>
      <h3>Roll Number: 42305</h3>
    </div>
  </div>
  <script src="script_3.js"></script>
</body>
</html>
```

CSS ➔

```
body {
  font-family: Arial, sans-serif;
  background-color: #f0f0f0;
  display: flex;
  justify-content: center;
  align-items: center;
  height: 100vh;
  margin: 0;
}
.container {
  background-color: white;
  padding: 20px;
  border-radius: 8px;
  box-shadow: 0px 4px 8px rgba(0, 0, 0, 0.1);
  text-align: center;
}
input {
  display: block;
  margin: 10px auto;
  padding: 10px;
  border: 1px solid #ccc;
  border-radius: 4px;
  width: 80%;
}
button {
  padding: 10px 20px;
  margin-top: 10px;
```

```
 background-color: #4caf50;
  color: white;
  border: none;
  border-radius: 4px;
  cursor: pointer;
}
button:hover {
  background-color: #45a049;
}
h1 {
  color: #333;
}
#resultOutput {
  margin-top: 20px;
  background-color: #e0f7fa;
  padding: 10px;
  border-radius: 4px;
  color: #333;
}
```

JavaScript ➔

```
// Function to reverse a string
function reverseString() {
  let str = document.getElementById("stringInput").value;
  // Using standard method
  let reversed = str.split("").reverse().join("");
  // Display result
  document.getElementById(
    "resultOutput"
  ).innerHTML = `Reversed String: ${reversed}`;
  /* Manual logic for reversing a string
  let reversed = '';
  for (let i = str.length - 1; i >= 0; i--) {
      reversed += str[i];
  }
  */
}
// Function to replace characters in a string
function replaceCharacter() {
  let str = document.getElementById("stringInput").value;
  let charToReplace = document.getElementById("replaceChar").value;
  let replaceWith = document.getElementById("replaceWith").value;
  // Using standard method
  let replaced = str.split(charToReplace).join(replaceWith);
  document.getElementById(
    "resultOutput"
  ).innerHTML = `Replaced String: ${replaced}`;
```

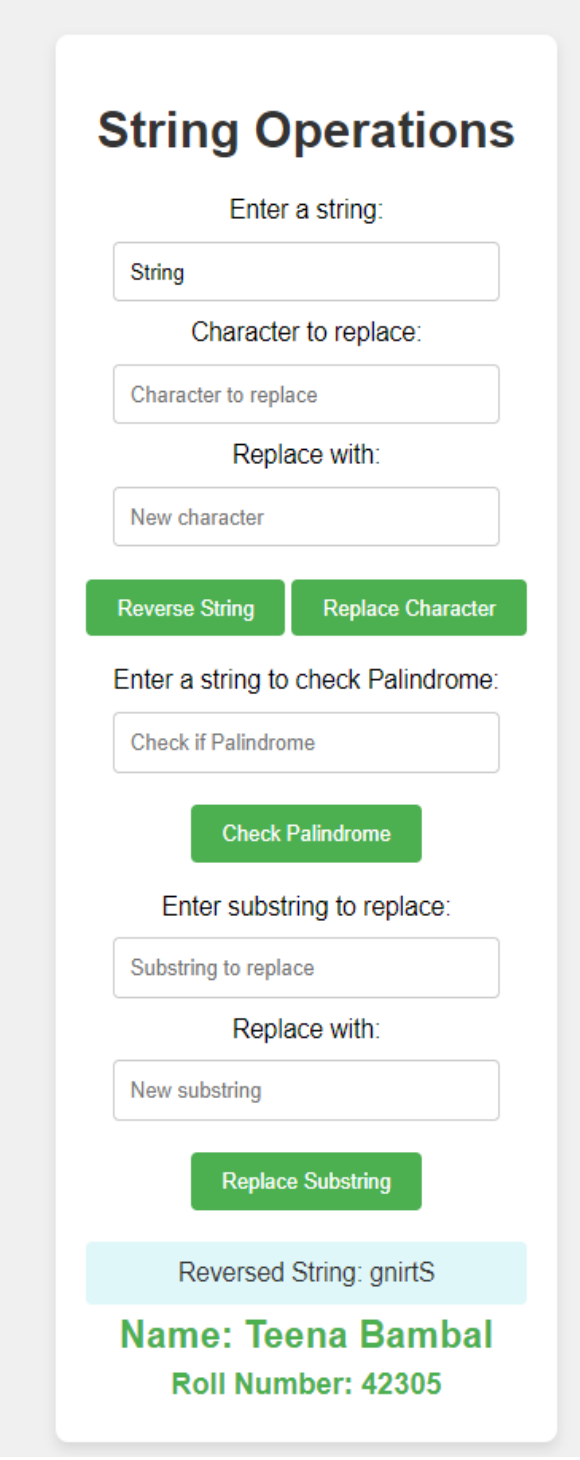
```
  /* Manual logic for replacing characters
  let replaced = '';
  for (let i = 0; i < str.length; i++) {
      if (str[i] === charToReplace) {
          replaced += replaceWith;
      } else {
          replaced += str[i];
      }
  }
  */
}
// Function to check if a string is a palindrome
function checkPalindrome() {
  let str = document.getElementById("palindromeInput").value;
  let originalStr = str.replace(/\s/g, "").toLowerCase();
  let reversedStr = originalStr.split("").reverse().join("");
  // Check palindrome using standard method
  if (originalStr === reversedStr) {
    document.getElementById(
      "resultOutput"
    ).innerHTML = `The string "${str}" is a palindrome.`;
  } else {
    document.getElementById(
      "resultOutput"
    ).innerHTML = `The string "${str}" is not a palindrome.`;
  }
```

```
  /* Manual logic for checking palindrome
  let isPalindrome = true;
  for (let i = 0; i < originalStr.length / 2; i++) {
      if (originalStr[i] !== originalStr[originalStr.length - 1 - i]) {
          isPalindrome = false;
          break;
      }
  }
  if (isPalindrome) {
      document.getElementById("resultOutput").innerHTML = `The string "${str}" is a palindrome.`;
  } else {
      document.getElementById("resultOutput").innerHTML = `The string "${str}" is not a palindrome.`;
  }
  */
}
// Function to replace a substring in a string
function replaceSubstring() {
  let str = document.getElementById("stringInput").value;
  let substringToReplace = document.getElementById("substringInput").value;
  let replaceWith = document.getElementById("replaceWithSubstring").value;
  let replacedStr = str.replace(substringToReplace, replaceWith);
  document.getElementById(
    "resultOutput"
  ).innerHTML = `String after substring replacement: ${replacedStr}`;
```

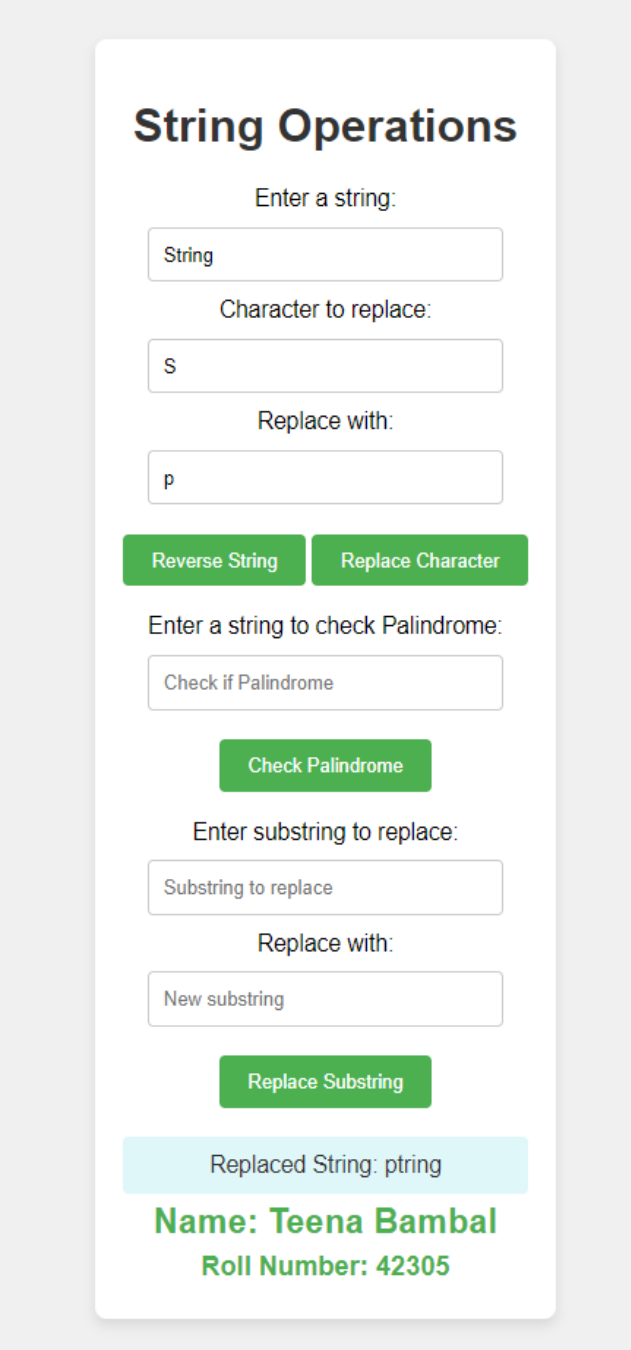
```
  /* Manual logic for replacing a substring
  let replacedStr = '';
  let i = 0;
  while (i < str.length) {
     if (str.substr(i, substringToReplace.length) === substringToReplace) {
        replacedStr += replaceWith;
        i += substringToReplace.length;
     } else {
        replacedStr += str[i];
        i++;
     }
  }
  */
}
```

Output ➔

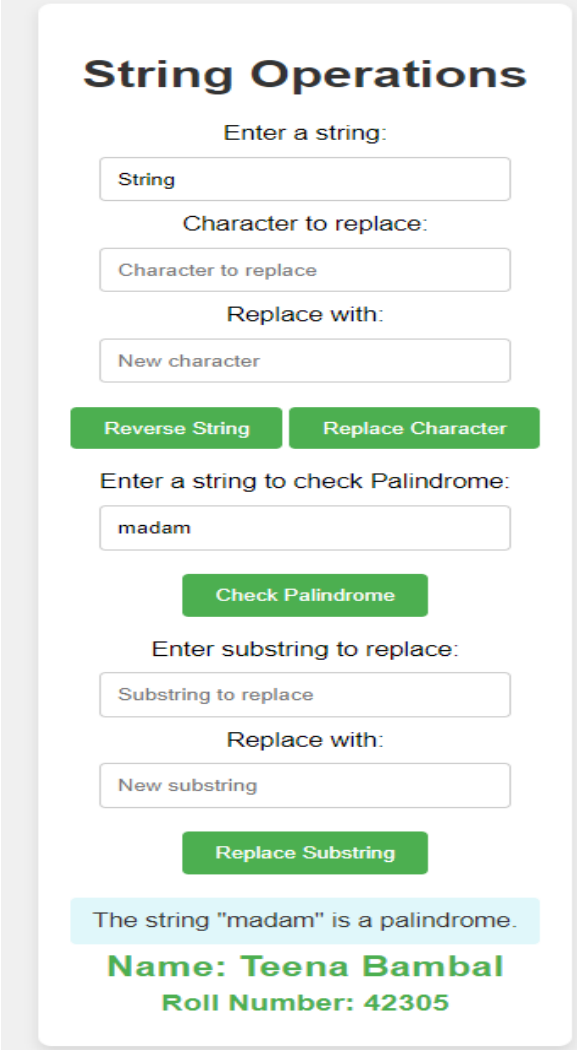
1. Reversing a String



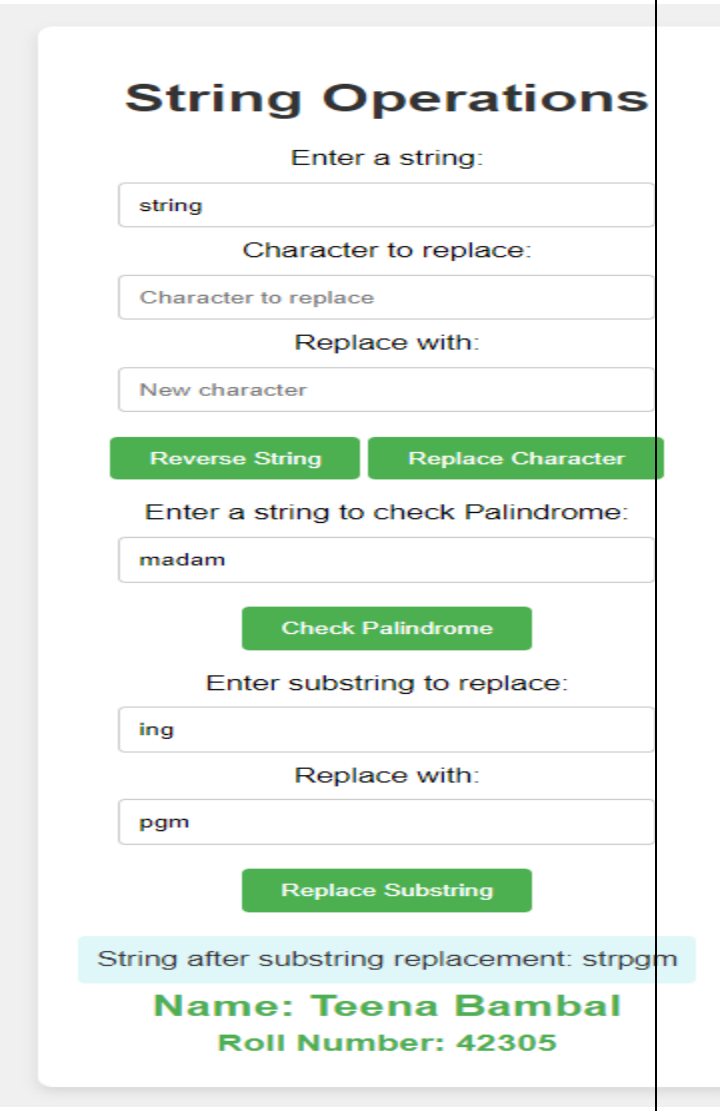
2. Replacing characters of String



3.Checking if String is palindrome



4.Replacing the Substring in the String



Date:

Course Teacher Sign