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| PICTLOGO | **SCTR’s PUNE INSTITUTE OF COMPUTER TECHNOLOGY, PUNE - 411043** |
| **DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING** |

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| **Lab Practice -2 [404184C] : ELECTIVE-III(C) - JavaScript** | | | | | | | |
| **ACADEMIC YEAR: 2024-25** | | | | | | | |
| **CLASS** | **: BE** | **DIV** | **: 7** | **Batch** | **: R-7** | **DATE** | **:** |
| **Roll No** | **42315** | **ABC ID** | **: 187-311-403-781** | | | **SEMESTER** | **: I** |

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| **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: Tanmay Deo</h2>

      <h3>Roll Number: 42315</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

A screenshot of a computer

Description automatically generated

A screenshot of a phone

Description automatically generated

1. Replacing characters of String

A screenshot of a phone

Description automatically generated

1. Checking if String is palindrome

A screenshot of a computer screen

Description automatically generated

A screenshot of a computer

Description automatically generated

1. Replacing the Substring in the String

A screenshot of a computer

Description automatically generated

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| --- | --- | --- |
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| Date: |  | Course Teacher Sign |