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Assignment 3:

Question:

Write a JavaScript code to take inputs from user and display that inputs in following pattern
"Hello ……… Welcome To World of JavaScript".
Write a JavaScript code to perform arithmetic operation by taking values from users (Add,Sub, Mul,Div)(1. 4 Button, 2.Dropdown)

Theory:

To create a JavaScript program that takes inputs from the user and displays them in the specified pattern, you'll need the following elements:

1. HTML Structure:
    - Input fields: You'll need input fields (text or textarea) where users can enter the required information.
    - Buttons: You'll need a button to trigger the action of displaying the input in the pattern.
    - A container or an element where the result can be displayed.

2. JavaScript:
    - Event Listeners: You'll need to attach event listeners to the button(s) to capture the click event and trigger the function to display the input.
    - Input Retrieval: You'll need to retrieve the values entered by the user from the input fields.
    - String Manipulation: You'll need to manipulate the strings to form the desired pattern.
    - Display Result: You'll need to update the HTML content of the container to display the pattern.

Here's a high-level overview of the steps you would take:

1. Create an HTML structure with input fields, buttons, and a container for displaying the result.
2. Add event listeners to the button(s) to trigger a JavaScript function.
3. In the JavaScript function:
    - Retrieve the values entered by the user from the input fields.
    - Use string concatenation or template literals to form the desired pattern.
    - Update the content of the container with the generated pattern.

For performing arithmetic operations with user input, you'll need:

1. HTML Structure:
    - Input fields for entering numerical values.
    - Buttons or a dropdown menu to select the arithmetic operation (Add, Subtract, Multiply, Divide).
    - A container for displaying the result.

2. JavaScript:
    - Event Listeners: Attach event listeners to the buttons or dropdown to capture user input.
    - Input Retrieval: Retrieve the numerical values entered by the user and the selected operation.
    - Arithmetic Operations: Write functions to perform the desired arithmetic operation based on the user's selection.
    - Display Result: Update the content of the container with the calculated result.

Remember to validate user input, handle edge cases (e.g., division by zero), and provide meaningful error messages when necessary. Additionally, ensure that your code is well-structured and follows best practices for readability and maintainability.
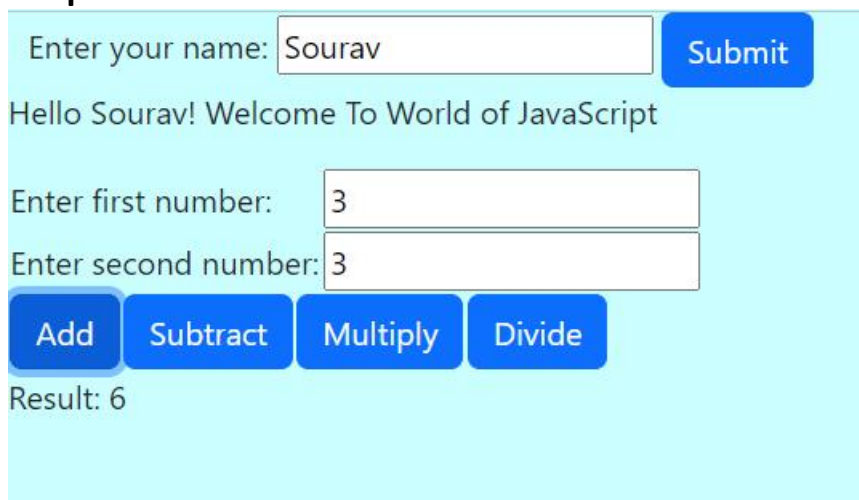
Code:

```html
<!DOCTYPE html>
<html>
<head>
  <title>Assignment 3</title>
  <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.1/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-
```

```
4bw+/aepP/YC94hEpVNVgiZdgIC5+VKNBQNGCHeKRQN+PtmoHDEXuppvnDJzQIu9"
crossorigin="anonymous">
  <link rel="stylesheet" href="style.css">
</head>
<body style="background-color: rgb(203, 255, 255);">
  <label for="name" style="padding-left: 10px;">Enter your name: </label>
  <input type="text" id="name" />
  <button class="btn btn-primary" onclick="displayWelcomeMessage()">Submit</button>
  <p id="output"></p>

  <table cellspacing="10">
    <tbody>
      <tr>
        <td>
          <label for="num1">Enter first number: </label>
        </td>
        <td>
          <input type="number" id="num1" />
        </td>
      </tr>
      <tr>
        <td>
          <label for="num2">Enter second number: </label>
        </td>
        <td>
          <input type="number" id="num2" />
        </td>
      </tr>
    </tbody>
  </table>
  <table style="padding-left: 20px;" cellspacing="10">
    <tbody>
      <tr>
        <td>
          <button class="btn btn-primary"
onclick="performOperation('add')">Add</button>
        </td>
        <td>
          <button class="btn btn-primary"
onclick="performOperation('subtract')">Subtract</button>
        </td>
        <td>
          <button class="btn btn-primary"
onclick="performOperation('multiply')">Multiply</button>
        </td>
        <td>
          <button class="btn btn-primary"
onclick="performOperation('divide')">Divide</button>
        </td>
      </tr>
    </tbody>
  </table>
  <p id="result"></p>
  <script>
    function displayWelcomeMessage() {
      const name = document.getElementById("name").value;
      const welcomeMessage = `Hello ${name}! Welcome To World of JavaScript`;
      document.getElementById("output").innerText = welcomeMessage;
    }
    function performOperation(operation) {
```

```
      const num1 = Number(document.getElementById("num1").value);
      const num2 = Number(document.getElementById("num2").value);
      let result;
      switch (operation) {
        case "add":
          result = num1 + num2;
          break;
        case "subtract":
          result = num1 - num2;
          break;
        case "multiply":
          result = num1 * num2;
          break;
        case "divide":
          result = num1 / num2;
          break;
        default:
          result = "Invalid operation";
          break;
      }
      document.getElementById("result").innerText = `Result: ${result}`;
    }
  </script>
  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.1/dist/js/bootstrap.bundle.min.js"
integrity="sha384-HwwvtgBNo3bZJJLYd8oVXjrBZt8cqVSpeBNS5n7C8IVInixGAoxmnlMuBnhbgrkm"
crossorigin="anonymous"></script>
</body>
</html>
```

Output:

Enter your name: Sourav   Submit

Hello Sourav! Welcome To World of JavaScript

Enter first number: 3

Enter second number: 3

Add   Subtract   Multiply   Divide

Result: 6

Conclusion:

In this assignment, we explored two fundamental aspects of JavaScript development:

1. Displaying User Input: We discussed the steps involved in creating a program that takes user input and displays it in a specific pattern.

2. Performing Arithmetic Operations: We outlined the requirements for building a program that enables users to perform basic arithmetic operations with input values.