

WORKSHEET 9

HTML:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Simple Calculator</title>
    <link rel="stylesheet" href="style.css">
</head>
<body>
    <div class="calculator-wrapper">
        <h2>Calculator</h2>
        <div id="calculatorContainer"></div>
    </div>

    <script src="script.js"></script>
</body>
</html>
```

CSS:

```
/* Body and container setup */
body {
    display: flex;
    justify-content: center;
    align-items: center;
    height: 100vh;
    font-family: Arial, sans-serif;
    background-color: #f0f0f0;
    margin: 0;
}

.calculator-wrapper {
    display: flex;
    flex-direction: column; /* Stack heading and container vertically */
    align-items: center; /* Center everything horizontally */
}

.calculator-wrapper h2 {
    font-size: 30px;
    margin-bottom: 10px;
    text-align: center;
    font-weight: bold;
}
```

```
.calculator {
    display: flex;
    justify-content: center;
    align-items: center;
    font-size: 30px;
    margin-bottom: 10px;
    font-weight: bold;
}

#calculatorContainer {
    background-color: #fff;
    padding: 20px;
    border-radius: 10px;
    box-shadow: 0 5px 15px rgba(0,0,0,0.2);
    text-align: center;
}

/* Display */
#display {
    width: 260px;           /* Slightly wider for better alignment */
    height: 50px;
    margin-bottom: 15px;
    font-size: 24px;
    text-align: right;
    padding-right: 10px;
    border-radius: 5px;
    border: 1px solid #ccc;
    background-color: #eaeaea;
    pointer-events: none;   /* Prevent manual typing */
}

/* Buttons container grid */
.buttons-container {
    display: grid;
    grid-template-columns: repeat(5, 50px);
    gap: 10px;
    justify-content: center;
}

/* General button style */
button {
    width: 50px;
    height: 50px;
    font-size: 18px;
    cursor: pointer;
    border-radius: 5px;
    border: 1px solid #ccc;
```

```

        transition: all 0.2s;
    }

/* Number buttons (0-9) */
button:nth-child(n+1):nth-child(-n+10),
button:nth-child(n+11):nth-child(-n+15),
button:nth-child(n+16):nth-child(-n+20) {
    background-color: #9191f0;
    color: #fff;
}

/* Operator buttons (+, -, *, /, =) */
button:nth-child(4),
button:nth-child(9),
button:nth-child(14),
button:nth-child(18) {
    background-color: #ffb74d;
    color: #fff;
}

/* Special buttons (C, log10, ^, .) */
button:nth-child(5),
button:nth-child(10),
button:nth-child(15),
button:nth-child(19) {
    background-color: #4db6ac;
    color: #fff;
}

/* Hover effect for all buttons */
button:hover {
    opacity: 0.85;
    transform: scale(1.05);
}

```

JS:

```

// 1. Get container
const container = document.getElementById("calculatorContainer");

// 2. Create display
const display = document.createElement("input");
display.setAttribute("type", "text");
display.setAttribute("id", "display");
display.setAttribute("readonly", true);
container.appendChild(display);

```

```
// 3. Button layout (rows)
const buttonValues = [
  ['7', '8', '9', '/', 'log10'],
  ['4', '5', '6', '*', '^'],
  ['1', '2', '3', '-', 'C'],
  ['0', '.', '=', '+', '']
];

// 4. Buttons container
const buttonsContainer = document.createElement("div");
buttonsContainer.classList.add("buttons-container");
container.appendChild(buttonsContainer);

// 5. Create buttons dynamically
buttonValues.flat().forEach(val => {
  if(val === '') return; // skip empty spaces
  const btn = document.createElement("button");
  btn.textContent = val;
  buttonsContainer.appendChild(btn);

  // Event handling
  btn.addEventListener("click", () => {
    if(val === "C") {
      display.value = "";
    } else if(val === "=") {
      try {
        let expr = display.value.replace(/log10/g, "Math.log10");
        display.value = eval(expr);
      } catch {
        display.value = "Error";
      }
    } else if(val === "^") {
      display.value += "**"; // JS power operator
    } else {
      display.value += val;
    }
  });
});
```

O/P:

