

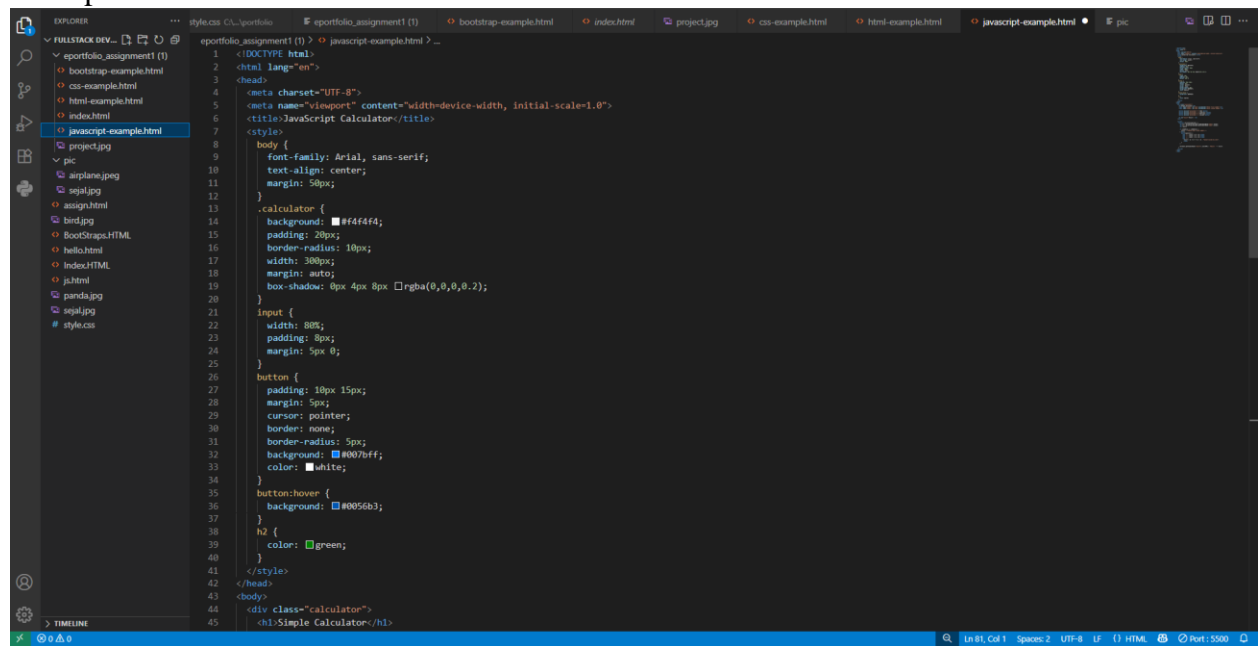
Java-script

JavaScript is a lightweight, event-based & high-level object-orientated programming language that is mostly applied to make web pages lively & dynamic.

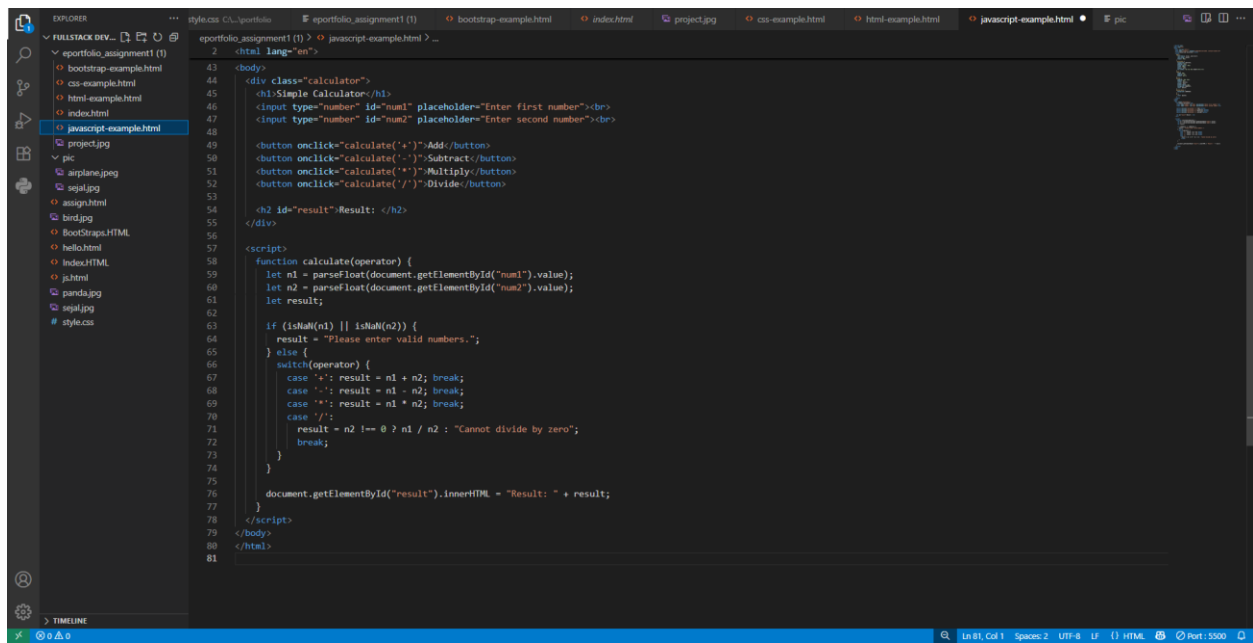
- ✚ Client-side Language: It runs client-side, which gives programmers options of using it to build responsive & interfaces.
- ✚ Flexible: Can be used to validate forms, provide animations, event handle (e.g., hit & drag an object), & update the content without reloading the page.
- ✚ Interpreted Language: Compilation is not needed; browsers interpret & perform it.
- ✚ Object Orientated & Event-Driven: Objects, functions & events are supported, which gives it an expansive nature in relation to programming approaches.
- ✚ Cross-Platform: Browser independent & compatible on all platforms.
- ✚ Added Functionality: JavaScript also works with back-end development, databases, APIs & even desktop/mobile applications with environments such as Node.js.

JavaScript is the language that powers interactivity & logic on the web, making static HTML & CSS pages dynamic.

Example:

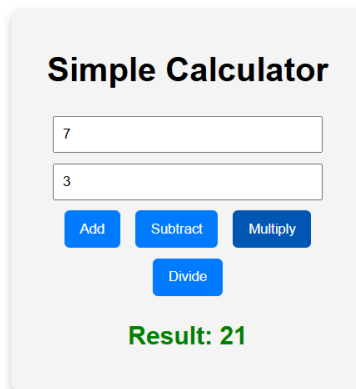


```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4 <meta charset="UTF-8">
5 <meta name="viewport" content="width=device-width, initial-scale=1.0">
6 <title>JavaScript Calculator</title>
7 <style>
8
9   body {
10     font-family: Arial, sans-serif;
11     text-align: center;
12     margin: 50px;
13
14     .calculator {
15       background: #f4f4f4;
16       padding: 20px;
17       border-radius: 10px;
18       width: 300px;
19       margin: auto;
20       box-shadow: 0px 4px 8px #000000;
21     }
22
23     input {
24       width: 80%;
25       padding: 8px;
26       margin: 5px 0;
27     }
28
29     button {
30       padding: 10px 15px;
31       margin: 5px;
32       cursor: pointer;
33       border: none;
34       border-radius: 5px;
35       background: #007bff;
36       color: white;
37
38       button:hover {
39         background: #0056b3;
40       }
41     }
42
43     h2 {
44       color: green;
45     }
46   }
47 </style>
48 </head>
49 <body>
50 <div class="calculator">
51 <h1>Simple Calculator</h1>
```



```
2 <html lang="en">
43 <body>
44 <div class="calculator">
45 <h1>Simple Calculator</h1>
46 <input type="number" id="num1" placeholder="Enter first number"><br>
47 <input type="number" id="num2" placeholder="Enter second number"><br>
48
49 <button onclick="calculate('+')">Add</button>
50 <button onclick="calculate('-')">Subtract</button>
51 <button onclick="calculate('*')">Multiply</button>
52 <button onclick="calculate('/')">Divide</button>
53
54 <h2 id="result">Result: </h2>
55 </div>
56
57 <script>
58 function calculate(operator) {
59   let n1 = parseFloat(document.getElementById("num1").value);
60   let n2 = parseFloat(document.getElementById("num2").value);
61   let result;
62
63   if (isNaN(n1) || isNaN(n2)) {
64     result = "Please enter valid numbers.";
65   } else {
66     switch(operator) {
67       case '+': result = n1 + n2; break;
68       case '-': result = n1 - n2; break;
69       case '*': result = n1 * n2; break;
70       case '/':
71         result = n2 !== 0 ? n1 / n2 : "Cannot divide by zero";
72         break;
73     }
74   }
75
76   document.getElementById("result").innerHTML = "Result: " + result;
77 }
78 </script>
79 </body>
80 </html>
81
```

Output:



This example shows how the use of the java scripting language can be used to put interactivity in a web page. Here the result is dynamic. It changes immediately when you click any button based on the numbers you entered.

Citation:

MDN web Docs (n.d.) JavaScript Guide. Mozilla. Available at:
<https://developer.mozilla.org/en-US/docs/Web/JavaScript/Guide>