Experiment No: 11

Develop simple calculator for addition, subtraction, multiplication and division operation using java script.

Date:

Competency and Practical Skills:

Relevant CO: 2

Objectives:

1. To understand the use of mathematical operators in javascript.
2. To understand the use of document object model.
3. To understand javascript event handling.
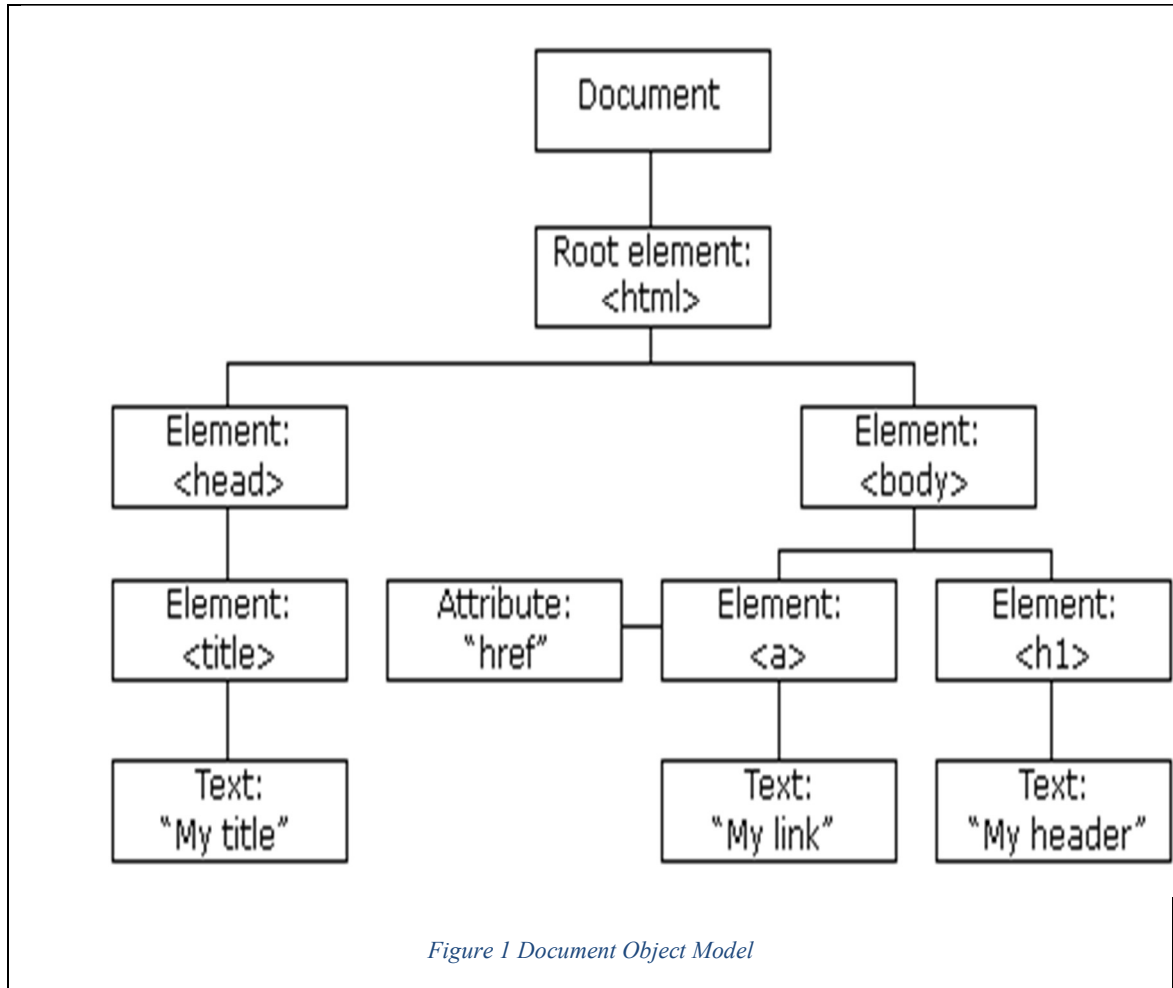
Theory:

Javascript Syntax

How to create and use variables?

---

var x,y,z;

x=5;

y=5

z=x+y;

document.write("total is : "+z)

The HTML DOM (Document Object Model)

- When a web page is loaded, the browser creates a Document Object Model of the page.
- The HTML DOM model is constructed as a tree of Objects:
- Using DOM Javascript can
    - o change all the HTML elements in the page
    - o change all the HTML attributes in the page
    - o change all the CSS styles in the page
    - o remove existing HTML elements and attributes
    - o add new HTML elements and attributes
    - o react to all existing HTML events in the page
    - o create new HTML events in the page

Figure 1 Document Object Model

DOM Examples

Example 1: following example changes the content of <p> element

```
<html>
<body>

<p id="demo"></p>

<script>
document.getElementById("demo").innerHTML = "Hello World!";
</script>

</body>
</html>
```

Here getElementById is a method, while innerHTML is a property.

Example 2: Validate Numeric Input

```html
<!DOCTYPE html>
<html>
<body>

<h2>Number Validation</h2>

<p>Enter a number between 1 and 10:</p>

<input id="numb">

<button type="button" onclick="myFunction()">Submit</button>

<p id="demo"></p>

<script>
function myFunction() {
  // Get the value of the input field with id="numb"
  let x = document.getElementById("numb").value;
  // If x is Not a Number or less than one or greater than 10
  let text;
  if (isNaN(x) || x < 1 || x > 10) {
    text = "Input not valid";
  } else {
    text = "Input OK";
  }
  document.getElementById("demo").innerHTML = text;
}
</script>

</body>
</html>
```

Implementation:

Develop simple calculator for addition, subtraction, multiplication and division operation using java script.

Output:

Conclusion:

Quiz:

1. Explain Document Object Model.

Suggested Reference:

- https://www.w3schools.com/js/js_htmldom.asp
- https://www.w3schools.com/js/js_validation.asp

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				