Ex. No. 5	**JAVASCRIPT – DOM ELEMENTS AND EVENTS**
Date of Exercise	30/1/2022

Aim

To create a webpage that demonstrates dynamic actions for user interactions using javaScript object model events.

Description

Document object Model:

Represents the HTML document that is displayed * Has various properties which to objects that allows to and access modification of document content. It is called Dom

Finding HTML elements:

By ld: document.getElementById("<id>");

By Tag Name: document.getElementsByTagName("<tagname>);

By class Name: document.getElementsbyclassName("<class_name>");

By css selectors: document.querySelectorall("<selector>");

Javascripts interaction with HTML is handled through many events some of them were as follows:

- occus when the user (s) browser manipulate it.
- onload : triggered while document loads
- onclick: triggers on a mouse click Triggers when an element changes.
- onkeyup: Triggers when a key is released
- onkey down: Triggers when a key is pressed.
- onsubmit: Triggers when a form is submitted
- onmouseover: Triggers when a mouse pointer over it.
- onmousedown. Triggers when a mouse button is pressed.

Program

```
1.
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
```

```html
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Simple Calculator</title>
    <link rel="stylesheet" href="simple_calculator.css">
    <script>
        function operations(operator) {
            var operand1 = document.getElementById("num1").value
            var operand2 = document.getElementById("num2").value
            var results = eval(parseInt(operand1) + operator +
parseInt(operand2))
            document.getElementById("results_div").innerHTML = "Results: " +
results
        }
        function reset() {
            document.getElementById("results_div").innerHTML = "Results: "
        }
    </script>
</head>
<body>
    <div id="content">
        <h1>Basic Calculator</h1>
        <input type="text" id="num1" name="number1" placeholder="Number1 Eg.
1015">
        <input type="text" id="num2" name="number2" placeholder="Number2 Eg.
1016"><br>
        <button onclick="operations('+')">Add</button>
        <button onclick="operations('-')">Subtract</button>
        <button onclick="operations('*')">Multiply</button>
        <button onclick="operations('/')">Divide</button><br>
        <div id="results_div">Results: </div>
        <button onclick="reset()" id="clear_btn">Clear</button>
    </div>
</body>
</html>

body {
    background-color: grey;
}
#content {
    display: inline-block;
    background-color: lightskyblue;
    padding: 1%;
    width: 40%;
    height: 40%;
    margin-top: 12%;
    margin-bottom: 12%;
    margin-left: 29%;
    margin-right: 29%;
}
h1 {
    text-align: center;
    font-family: Arial, Helvetica, sans-serif;
}
```
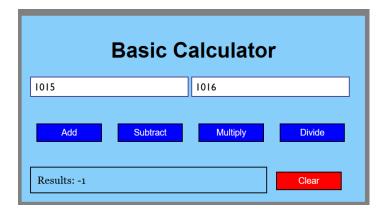
```css
input {
    padding: 1%;
    font-size: medium;
    font-family: 'Gill Sans', 'Gill Sans MT', 'Trebuchet MS', sans-serif;
    width: 46%;
    border: 2px solid darkslateblue;
}
button {
    width: 20%;
    color: white;
    background-color: blue;
    padding: 1%;
    margin: 2%;
    margin-top: 8%;
    margin-bottom: 1%;
}
#results_div {
    display: inline-block;
    width: 68%;
    border: 2px solid black;
    padding: 2%;
    font-size: medium;
    font-family: Georgia, Times, 'Times New Roman', serif;
}
#clear_btn {
    background-color: red;
}
```

2.
```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>BMI Calculator</title>
    <link rel="stylesheet" href="bmi_calculator.css">
    <script>
        function calculator() {
            var w = parseInt(document.getElementById("weight").value)
            var h = parseInt(document.getElementById("height").value)
            var bmi = (w / ((h / 100) * (h / 100)))
            var BMI = bmi.toFixed(1)
            document.getElementById("res").innerHTML = BMI
            if (BMI < 18.0) {
                document.getElementById("results_div").innerHTML = "Underweight
BMI"
            } else if (BMI > 18.0 && BMI < 25) {
                document.getElementById("results_div").innerHTML = "Normal BMI"
            } else if (BMI > 25 && BMI < 30.0) {
                document.getElementById("results_div").innerHTML = "Overweight
BMI"
```

```
                    } else if (BMI > 30.0) {
                        document.getElementById("results_div").innerHTML = "Obese BMI"
                    }
                }
            }
        </script>
    </head>
    <body>
        <div id="outer">
            <div id="header">
                <span>Body Mass Index (BMI)</span> <br> A measure of body fat in
adults
            </div>
            <div>
                <div id="inputs">
                    <label for="weight">Weight (in kg)</label><br>
                    <input type="text" name="weigh" id="weight"
onkeyup="calculator()">
                    <br>
                    <label for="height">Height (in cm)</label><br>
                    <input type="text" name="heigh" id="height"
onkeyup="calculator()">
                </div>
                <div id="results">
                    <p id="res">0.0</p>
                    <div id="results_div">Your BMI Displays here</div>
                </div>
            </div>
        </div>
    </body>
</html>

#outer {
    border: 2px solid black;
    display: inline-block;
    width: 32%;
    height: 40%;
}
#header {
    padding: 1%;
    background-color: lightgreen;
}
#header span {
    font-weight: bold;
}
#inputs {
    display: inline-block;
    padding: 1%;
}
input {
    margin: 2%;
    padding: 2%;
    text-align: center;
```
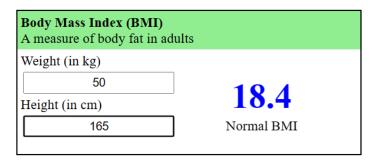
```
}#results p {
    font-size: 40px;
    text-align: center;
    font-weight: bolder;
    color: blue;
    margin-top: 1%;
    margin-bottom: 1%;
}
#results_div {
    text-align: center;
}
```

Output

1.

2.

Result

The webpage that demonstrates dynamic actions for user interactions using javaScript object models events has been executed successfully and the desired output is displayed on the screen.