Introduction to **JAVASCRIPT**

By

MSIT

Introduction to **JavaScript**

- **JavaScript** is the world's most popular programming language.
- JavaScript is the programming language of the **Web**.
- JavaScript is easy to learn.

First program

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

<h2>My First JavaScript</h2>

<button type="button"
onclick="document.getElementById('demo').innerHTML = Date()">
Click me to display Date and Time.</button>

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

</body>
</html>
```

My First JavaScript

Click me to display Date and Time.

Sun Apr 11 2021 21:12:01 GMT+0530 (India Standard Time)

What can JavaScript do?

JavaScript can change HTML content

JavaScript can change HTML attributes

JavaScript can change CSS style

JavaScript can hide HTML elements

JavaScript can show hidden HTML elements

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

<h2>What Can JavaScript Do?</h2>

<p id="demo">JavaScript can change HTML content.</p>

<button type="button" onclick='document.getElementById("demo").innerHTML = "Hello
JavaScript!"'>Click Me!</button>

</body>
</html>
```

What Can JavaScript Do?

Hello JavaScript!

Click Me!

JavaScript can change **HTML attribute** values.

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

<h2>What Can JavaScript Do?</h2>

<p>JavaScript can change HTML attribute values.</p>

<p>In this case JavaScript changes the value of the src (source) attribute of an image.</p>

<button onclick="document.getElementById('myImage').src='pic_bulbon.gif'">Turn on the light</button>

<img id="myImage" src="pic_bulboff.gif" style="width:100px">

<button onclick="document.getElementById('myImage').src='pic_bulboff.gif'">Turn off the light</button>

</body>
</html>
```

What Can JavaScript Do?

JavaScript can change HTML attribute values.

In this case JavaScript changes the value of the src (source) attribute of an image.

| Turn on the light | | Turn off the light |

We can add the action to HTML dealing with simple buttons

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

<h2>What Can JavaScript Do?</h2>

<p>JavaScript can change HTML attribute values.</p>

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<button onclick="document.getElementById('myImage').src='pic_bulboff.gif'">Turn off the light</button>

</body>
</html>
```
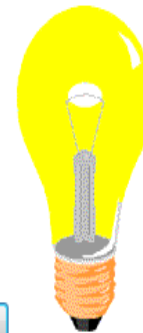
What Can JavaScript Do?

JavaScript can change HTML attribute values.

In this case JavaScript changes the value of the src (source) attribute of an image.

Turn on the light   Turn off the light

We can add the action to HTML dealing with simple buttons

```html
<!DOCTYPE html>
<html>
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<h2>What Can JavaScript Do?</h2>

<p>JavaScript can change HTML attribute values.</p>

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<button onclick="document.getElementById('myImage').src='pic_bulboff.gif'">Turn off the light</button>

</body>
</html>
```
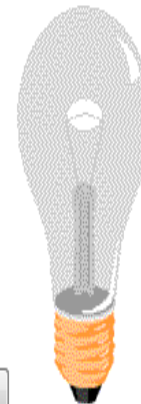
What Can JavaScript Do?

JavaScript can change HTML attribute values.

In this case JavaScript changes the value of the src (source) attribute of an image.

Turn on the light   Turn off the light

JavaScript can change the style of an HTML element.

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

<h2>What Can JavaScript Do?</h2>

<p id="demo">JavaScript can change the style of an HTML element.</p>

<button type="button"
onclick="document.getElementById('demo').style.fontSize='35px'">Click
Me!</button>

</body>
</html>
```

What Can JavaScript Do?

JavaScript can change the style of an HTML element.

Click Me!

JavaScript can change the style of an HTML element.

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

<h2>What Can JavaScript Do?</h2>

<p id="demo">JavaScript can change the style of an HTML element.</p>

<button type="button"
onclick="document.getElementById('demo').style.fontSize='35px'">Click
Me!</button>

</body>
</html>
```

What Can JavaScript Do?

JavaScript can change the style of an HTML element.

Click Me!

JavaScript can hide HTML elements.

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

<h2>What Can JavaScript Do?</h2>

<p id="demo">JavaScript can hide HTML elements.</p>

<button type="button"
onclick="document.getElementById('demo').style.display='none'">Click Me!</button>

</body>
</html>
```

What Can JavaScript Do?

JavaScript can hide HTML elements.

Click Me!

JavaScript can hide HTML elements.

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

<h2>What Can JavaScript Do?</h2>

<p id="demo">JavaScript can hide HTML elements.</p>

<button type="button"
onclick="document.getElementById('demo').style.display='none'">Click Me!</button>

</body>
</html>
```

What Can JavaScript Do?

Click Me!

JavaScript can show hidden HTML elements.

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

<h2>What Can JavaScript Do?</h2>

<p>JavaScript can show hidden HTML elements.</p>

<p id="demo" style="display:none">Hello JavaScript!</p>

<button type="button"
onclick="document.getElementById('demo').style.display='block'">Click
Me!</button>

</body>
</html>
```

What Can JavaScript Do?

JavaScript can show hidden HTML elements.

Click Me!

JavaScript can **show** hidden HTML elements.

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

<h2>What Can JavaScript Do?</h2>

<p>JavaScript can show hidden HTML elements.</p>

<p id="demo" style="display:none">Hello JavaScript!</p>

<button type="button"
onclick="document.getElementById('demo').style.display='block'">Click
Me!</button>

</body>
</html>
```

What Can JavaScript Do?

JavaScript can show hidden HTML elements.

Hello JavaScript!

Click Me!

Where to Insert JavaScript
JavaScript in Head

```
<!DOCTYPE html>
<html>
<head>
<script>
function myFunction() {
  document.getElementById("demo").innerHTML = "Paragraph changed.";
}
</script>
</head>
<body>

<h2>JavaScript in Head</h2>

<p id="demo">A Paragraph.</p>

<button type="button" onclick="myFunction()">Try it</button>

</body>
</html>
```

JavaScript in Head

A Paragraph.

Try it

Where to Insert JavaScript
JavaScript in Head

```
<!DOCTYPE html>
<html>
<head>
<script>
function myFunction() {
  document.getElementById("demo").innerHTML = "Paragraph changed.";
}
</script>
</head>
<body>

<h2>JavaScript in Head</h2>

<p id="demo">A Paragraph.</p>

<button type="button" onclick="myFunction()">Try it</button>

</body>
</html>
```

JavaScript in Head

Paragraph changed.

Try it

JavaScript in Body

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

<h2>JavaScript in Body</h2>

<p id="demo">A Paragraph.</p>

<button type="button" onclick="myFunction()">Try it</button>

<script>
function myFunction() {
  document.getElementById("demo").innerHTML = "Paragraph changed.";
}
</script>

</body>
</html>
```

JavaScript in Body

Paragraph changed.

Try it

My First Web Page
My First Paragraph.

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

<h2>JavaScript in Body</h2>

<p id="demo">A Paragraph.</p>

<button type="button" onclick="myFunction()">Try it</button>

<script>
function myFunction() {
  document.getElementById("demo").innerHTML = "Paragraph changed.";
}
</script>

</body>
</html>
```

JavaScript in Body

Paragraph changed.

Try it

External JavaScript

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

<h2>External JavaScript</h2>

<p id="demo">A Paragraph.</p>

<button type="button" onclick="myFunction()">Try it</button>

<p>(myFunction is stored in an external file called "myScript.js")</p>

<script src="myScript.js"></script>

</body>
</html>
```

External JavaScript

A Paragraph.

Try it

(myFunction is stored in an external file called "myScript.js")

External JavaScript
Paragraph changed.

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

<h2>External JavaScript</h2>

<p id="demo">A Paragraph.</p>

<button type="button" onclick="myFunction()">Try it</button>

<p>(myFunction is stored in an external file called "myScript.js")</p>

<script src="myScript.js"></script>

</body>
</html>
```

External JavaScript

Paragraph changed.

[Try it]
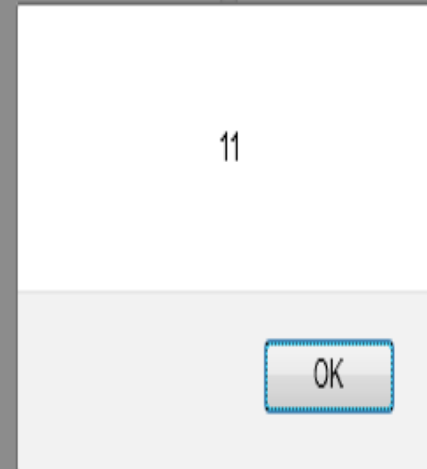
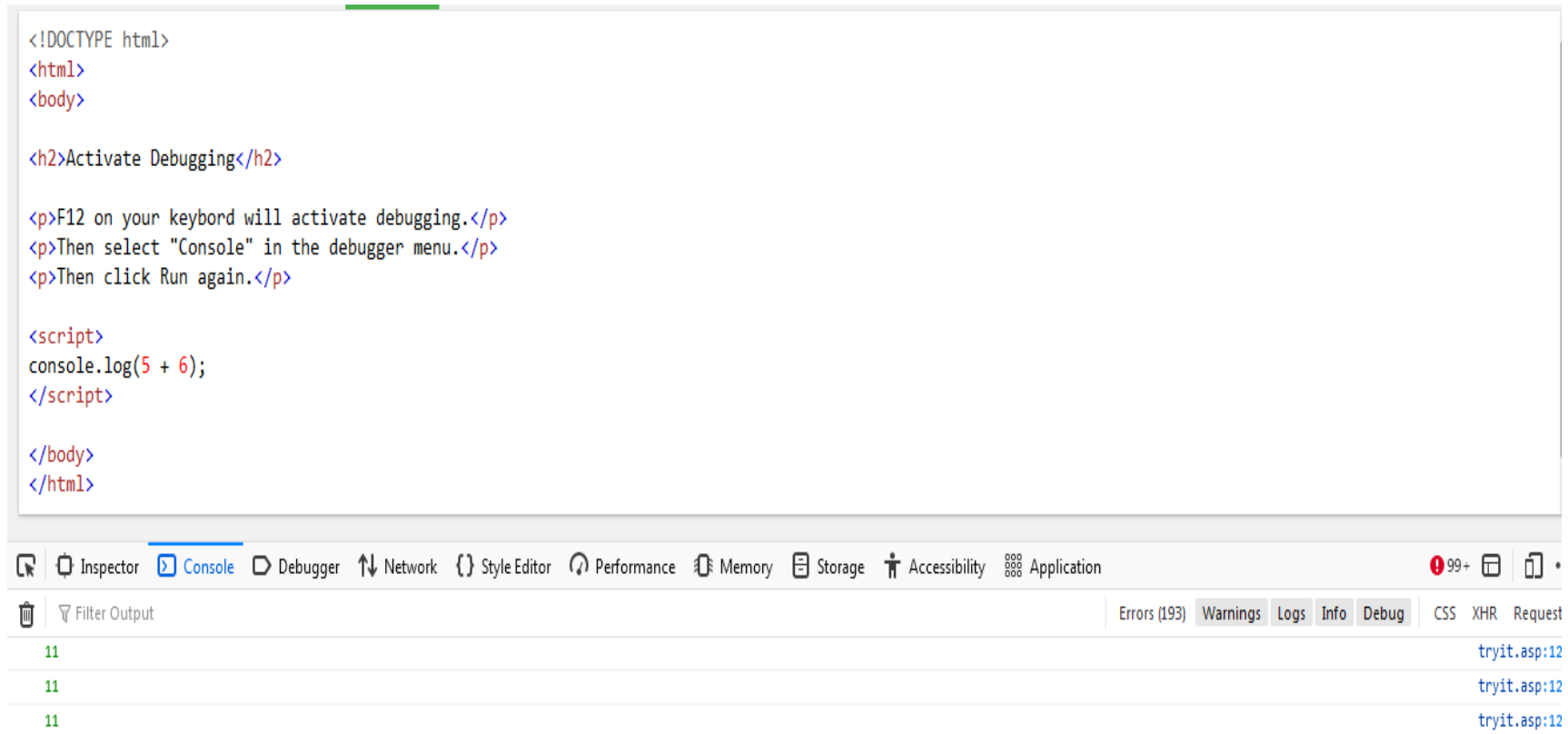(myFunction is stored in an external file called "myScript.js")

JavaScript Output-alert box

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

<h2>My First Web Page</h2>
<p>My first paragraph.</p>

<script>
window.alert(5 + 6);
</script>

</body>
</html>
```

Web Page

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OK

Then select "Console" in the debugger menu.

JavaScript Statements

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

<h2>JavaScript Statements</h2>

<p>A <b>JavaScript program</b> is a list of <b>statements</b> to be executed by a
computer.</p>

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

<script>
var x, y, z;  // Declare 3 variables
x = 5;    // Assign the value 5 to x
y = 6;    // Assign the value 6 to y
z = x + y;  // Assign the sum of x and y to z

document.getElementById("demo").innerHTML =
"The value of z is " + z + ".";
</script>

</body>
</html>
```

JavaScript Statements

A **JavaScript program** is a list of **statements** to be executed by a computer.

The value of z is 11.

JavaScript Numbers

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

<h2>JavaScript Numbers</h2>

<p>Number can be written with or without decimals.</p>

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

<script>
document.getElementById("demo").innerHTML = 10.50;
</script>

</body>
</html>
```

JavaScript Numbers

Number can be written with or without decimals.

10.5

JavaScript Strings

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

<h2>JavaScript Strings</h2>

<p>Strings can be written with double or single quotes.</p>

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

<script>
document.getElementById("demo").innerHTML = 'John Doe';
</script>

</body>
</html>
```

JavaScript Strings

Strings can be written with double or single quotes.

John Doe

JavaScript Operators

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

<h2>JavaScript Operators</h2>

<p>JavaScript uses arithmetic operators to compute values (just like
algebra).</p>

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

<script>
document.getElementById("demo").innerHTML = (5 + 6) * 10;
</script>

</body>
</html>
```

JavaScript Operators

JavaScript uses arithmetic operators to compute values (just like algebra).

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Assigning JavaScript Values

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

<h2>Assigning JavaScript Values</h2>

<p>In JavaScript the = operator is used to assign values to variables.</p>

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

<script>
var x, y;
x = 5;
y = 6;
document.getElementById("demo").innerHTML = x + y;
</script>

</body>
</html>
```

Assigning JavaScript Values

In JavaScript the = operator is used to assign values to variables.

11

JavaScript Expressions

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

<h2>JavaScript Expressions</h2>

<p>Expressions compute to values.</p>

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

<script>
document.getElementById("demo").innerHTML = 5 * 10;
</script>

</body>
</html>
```

JavaScript Expressions

Expressions compute to values.

50

JavaScript Expressions

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

<h2>JavaScript Expressions</h2>

<p>Expressions compute to values.</p>

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

<script>
document.getElementById("demo").innerHTML = "John" + " "  + "Doe";
</script>

</body>
</html>
```

JavaScript Expressions

Expressions compute to values.

John Doe

JavaScript Comments are NOT Executed

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

<h2>JavaScript Comments are NOT Executed</h2>

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

<script>
var x;
x = 5;
// x = 6; I will not be executed
document.getElementById("demo").innerHTML = x;
</script>

</body>
</html>
```

JavaScript Comments are NOT Executed

5

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

<p>Click the button to display the domain name of the server that loaded this
document.</p>

<button onclick="myFunction()">Try it</button>

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

<script>
function myFunction() {
  document.getElementById("demo").innerHTML = document.domain;
}
</script>

</body>
</html>
```

Click the button to display the domain name of the server that loaded this document.

Try it

www.w3schools.com

The End

Practice more examples