

Web Design & Development (JavaScript-1)

Class-14 (25/1/21)

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JavaScript

- It is the programming language of the web
- It is the most popular programming language of the web
- It programs the behavior of the web pages
- It can change the HTML content
- It can change HTML attribute values
- It can even change the style of the HTML element

JavaScript function

- o It starts with <script> and ends with /<script>
- o A <noscript> tag in HTML speaks about text in case a browser doesn't support javascript
- o It has functions that consists of a block of javascript codes that can be executed when called for
- o A function can be called when an event occurs
- o Functions can be places in <head> or <body> or both

External file

- o JavaScript can be written in an external file with a .js extension
- o It can be declared in a <script> with a src attribute like <script src="myScript.js"></script>
- o It can be used as an external file when the same code is used in different web pages
- o External script reference can be put in <head> or <body> as one likes

JavaScript display

- o Javascript can be displayed using the following:
 - o Document.write()
 - o innerHTML
 - o Window.alert() for alert boxes
 - o Console.log() into a browser console

example

```
<!DOCTYPE html>
<html>
<body>
<h2>My First Web Page</h2>
<p>My first paragraph.</p>
<p>Never call document.write after the document has finished
loading.
It will overwrite the whole document.</p>
<script>
document.write(5 + 6);
</script>
</body>
</html>
```

output

My First Web Page

My first paragraph.

Never call document.write after the document has finished loading. It will overwrite the whole document.

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Other example

```
<!DOCTYPE html>
<html>
<body>
<h2>My First Web Page</h2>
<p>My first paragraph.</p>
<button type="button" onclick="document.write(5
+ 6)">Try it</button>
</body>
</html>
```

output

My First Web Page

My first paragraph.

[Try it](#)

On clicking the button

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Using innerHTML

```
<!DOCTYPE html>
<html>
<body>
<h2>My First Web Page</h2>
<p>My First Paragraph.</p>
<p id="demo"></p>
<script>
document.getElementById("demo").innerHTML = 5 + 6;
</script>
</body>
</html>
```

output

My First Web Page

My First Paragraph.

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Display usage

- o Document.write() is used for testing purpose
- o Console.log() is used for debugging purpose
- o Window.alert() is an alert box to display data
 - o As window object is a global keyword in javascript, it may be ignored. Only alert() function will display data
- o innerHTML is the best property to display content of an HTML document by changing it. It is done by using an id.

Print in javascript

- o javaScript doesn't have any print object or print methods
- o Only exception is that one can call window.print() method from browser to print the content of the browser window

program

```
<!DOCTYPE html>
<html>
<body>
<h2>The window.print() Method</h2>
<p>Click the button to print the current page.</p>
<button onclick="window.print()">Print this page</button>
</body>
</html>
```

output

The `window.print()` Method

Click the button to print the current page.

[Print this page](#)

onclicking

The screenshot shows a web browser window with a print dialog open. The left side of the screen displays a page titled "The window.print() Method" from TryIt Editor v3.6. The page content includes a timestamp (12/4/2021), a "Print this page" button, and a "Save as PDF" button. The right side of the screen shows the "Print" dialog with the following settings:

- Destination:** Save as PDF
- Pages:** All
- Layout:** Portrait

At the bottom of the print dialog, there are "Cancel" and "Save" buttons. The URL at the bottom of the browser window is https://www.w3schools.com/tryit.asp?filename=tryjs_output_print.

JavaScript statements

- o JavaScript program is a list of programming statements
- o The statements consists of
 - o Expressions
 - o Operators
 - o Values
 - o Keywords
 - o comments

example

```
<!DOCTYPE html>
<html>
<body>
<h2>JavaScript Statements</h2>
<p>In HTML, JavaScript statements are executed by the
browser.</p>
<p id="demo"></p>
<script>
document.getElementById("demo").innerHTML = "Hello Jay.";
</script>
</body>
</html>
```

output

JavaScript Statements

In HTML, JavaScript statements are executed by the browser.

Hello Jay.

JavaScript statements

- o Semicolons separates javascript statements
- o Add a semicolon at the end of each executable statements
- o

An example

```
<!DOCTYPE html>
<html>
<body>
<h2>JavaScript Statements</h2>
<p>Multiple statements on one line is allowed.</p>
<p id="demo1"></p>
<script>
var a, b, c;
a = 5; b = 6; c = a + b;
document.getElementById("demo1").innerHTML = c;
</script>
</body>
</html>
```

output

JavaScript Statements

Multiple statements on one line is allowed.

JavaScript keyword

o JavaScript often starts with a keyword:

- o Break
- o Continue
- o Debugger
- o Do..while
- o For
- o Function
- o If...else

Cont..

- oReturn
- oSwitch
- oTry..catch
- ovar

JavaScript variable

- o The javaScript values give two different types of values:
 - o Fixed values – literals or Constants
 - o Variable values – variables
 - o Var key word is used to declare variables
 - o Variables can start from a letter or underscore _ or dollar \$
 - o Subsequent charaters can be letter, digit, underscore _ or dollar \$
 - o Variables or identifiers are case sensitive

JavaScript operators

- o Arithmetic operators such as +, -, *, /, **, %
- o Assignment operator such as =, +=, -=, *=, /=, **=, %=
- o x += y is same as x=x+y
- o Comparison operators such as ==, !=, >, <, >=, <=, === (equal value and equal type), !== (not equal value or equal type), ? (ternary operator)
- o Logical operators such as &&, ||, !

Cont..

- o **typeof** operator – returns the type of operator
- o **instanceof** operator – returns true if an object is an instance of an object type
- o **Bitwise** operator – operate on 32bit number such as &, |, ~ (not), ^ (xor), <<, >>, >>>

JavaScript comments

- o JavaScript comments starts with //
- o Single line comments can be written using this
 - o It can also be written within /* and */
 - o Multiline comments can be written using this
 - o Comments are ignored by JavaScript

javaScript data types

- o String data types are written within single quotes or double quotes
- o Numeric data types are just numbers
- o javaScript types are dynamic
- o Same variable can be used to hold different data types