



INTERNATIONAL INSTITUTE OF
INFORMATION TECHNOLOGY

H Y D E R A B A D

JavaScript

Session 1

What is JavaScript

- JavaScript is used in millions of Web pages to improve the design, validate forms, detect browsers, create cookies, and much more.
- JavaScript is the most popular scripting language on the internet, and works in all major browsers, such as Internet Explorer, Mozilla, Firefox, Netscape, Opera.
- Today, JavaScript can execute not only in the browser, but also on the server, or actually on any device that has a special program called the JavaScript engine.

JavaScript In-detail

- JavaScript was designed to add interactivity to HTML pages
- JavaScript is a scripting language (a scripting language is a lightweight programming language)
- A JavaScript consists of lines of executable computer code
- A JavaScript is usually embedded directly into HTML pages
- JavaScript is an interpreted language (means that scripts execute without preliminary compilation)
- Everyone can use JavaScript without purchasing a license

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SIP Corner

>> Today's Theme : Multi Cap - Direct Funds

Motilal Oswal Multicap 35
Fund - Direct Plan (G)

START SIP

Today's value of ₹ 100 SIP started from

₹ 1,142.09

1 year back

Annual Return: -9.00%

₹ 4,090.56

3 year back

Annual Return: 8.54%

* Disclaimer: Returns as on January 10, 2018

Are Java and JavaScript the Same?

- NO!
- Java and JavaScript are two completely different languages in both concept and design!
- Java (developed by Sun Microsystems) is a powerful and much more complex programming language - in the same category as C and C++.

How to Put a JavaScript Into an HTML Page?

```
<html>
```

```
<body>
```

```
<script type="text/javascript">
```

```
document.write("Hello World!")
```

```
</script>
```

```
</body>
```

```
</html>
```

JavaScript Engine for Browsers

- The browser has an embedded engine sometimes called a “JavaScript virtual machine”.
- Different engines have different “codenames”. For example:
 - V8 – in Chrome and Opera.
 - Spider Monkey – in Firefox.
- There are other codenames like “Trident” and “Chakra” for different versions of IE, “ChakraCore” for Microsoft Edge, “Nitro” and “SquirrelFish” for Safari, etc.
- The terms above are good to remember because they are used in developer articles on the internet. We’ll use them too. For instance, if “a feature X is supported by V8”, then it probably works in Chrome and Opera.

Ending Statements With a Semicolon?

- With traditional programming languages, like C++ and Java, each code statement has to end with a semicolon (;).
- Many programmers continue this habit when writing JavaScript, but in general, semicolons are **optional**! However, semicolons are required if you want to put more than one statement on a single line.

JavaScript Variables

- Variables are used to store data.
- A variable is a "container" for information you want to store. A variable's value can change during the script. You can refer to a variable by name to see its value or to change its value.
- Rules for variable names:
 - Variable names are case sensitive
 - They must begin with a letter or the underscore character
 - `strname` – `STRNAME` (not same)

Arithmetic Operators

Operator	Description	Example	Result
+	Addition	x=2 y=2 x+y	4
-	Subtraction	x=5 y=2 x-y	3
*	Multiplication	x=5 y=4 x*y	20
/	Division	15/5 5/2	3 2,5
%	Modulus (division remainder)	5%2 10%8 10%2	1 2 0
++	Increment	x=5 x++	x=6
--	Decrement	x=5 x--	x=4

Assignment Operators

Operator	Example	Is The Same As
=	$x = y$	$x = y$
+=	$x += y$	$x = x + y$
-=	$x -= y$	$x = x - y$
*=	$x *= y$	$x = x * y$
/=	$x /= y$	$x = x / y$
%=	$x \% = y$	$x = x \% y$

Comparison Operators

Operator	Description	Example
==	is equal to	5==8 returns false
===	is equal to (checks for both value and type)	x=5 y="5" x==y returns true x===y returns false
!=	is not equal	5!=8 returns true
>	is greater than	5>8 returns false
<	is less than	5<8 returns true
>=	is greater than or equal to	5>=8 returns false
<=	is less than or equal to	5<=8 returns true

Logical Operators

Operator	Description	Example
&&	and	x=6 y=3 (x < 10 && y > 1) returns true
	or	x=6 y=3 (x==5 y==5) returns false
!	not	x=6 y=3 !(x==y) returns true

JavaScript Basic Examples

```
<script>
```

```
document.write("Hello World!")
```

```
</script> ⇒ format text with HTML code - heading
```

```
<script>
```

```
alert("Hello World!")
```

```
</script>
```

Example

```
<script>
```

```
x="Yes, I am In Class"
```

```
document.write(x)
```

```
</script>
```

```
<script>
```

```
y="Am I in Class? "
```

```
document.write("Seriously! " +y +" "+x)
```

```
</script> ⇒ use line break html code
```


JavaScript Popup Boxes

- Alert Box
 - An alert box is often used if you want to make sure information comes through to the user.
 - When an alert box pops up, the user will have to click "OK" to proceed.

```
<script>
```

```
alert("Hello World!")
```

```
</script>
```

JavaScript Popup Boxes - 2

- Confirm Box

- A confirm box is often used if you want the user to verify or accept something.
- When a confirm box pops up, the user will have to click either "OK" or "Cancel" to proceed.
- If the user clicks "OK", the box returns true. If the user clicks "Cancel", the box returns false.

```
<html>
<head> <title>JS Confirm Box</title></head>
<body>

<p>Click to display a confirm box.</p>

<button onclick="myFunction()">Click
Here</button>

<script>
function myFunction() {
    confirm("Press the button!");
}
</script>

</body>
</html>
```

JavaScript Popup Boxes - 3

- Prompt Box

- A prompt box is often used if you want the user to input a value before entering a page.
- When a prompt box pops up, the user will have to click either "OK" or "Cancel" to proceed after entering an input value.
- If the user clicks "OK", the box returns the input value. If the user clicks "Cancel", the box returns null.

Prompt Box Example

```
<script>  
x=prompt("Is this a Prompt Box :", " ")  
document.write("This is a Prompt Box :"+x)  
</script>
```

Conditional Statements

- Very often when you write code, you want to perform different actions for different decisions. You can use conditional statements in your code to do this.

In JavaScript we have the following conditional statements:

- **if statement** - use this statement if you want to execute some code only if a specified condition is true
- **if...else statement** - use this statement if you want to execute some code if the condition is true and another code if the condition is false
- **if...else if...else statement** - use this statement if you want to select one of many blocks of code to be executed
- **switch statement** - use this statement if you want to select one of many blocks of code to be executed

Conditional Statements - 2

```
if (condition)  
{  
  code to be executed if condition is true  
}
```

```
if (condition)  
{  
  code to be executed if condition is true  
}  
else  
{  
  code to be executed if condition is not true  
}
```

Conditional Statements Example

```
<script>  
x=3  
if(x<0)  
{  
  alert ("Negative")  
}  
else  
{  
  alert ("Positive")  
}  
</script>
```