

JavaScript TIP Sheet

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JavaScript is a programming language.
JavaScript \neq Java

Variable Types

Variables: `var foo = 21;`
String: `var bar = "tip sheet";`
Boolean: `var flag = true or false;`
Array: `var arr = [1, 2, 3];`
Object: `var d = new Date();`

JavaScript is a weakly typed language.
`typeof()` can be used to check the current variable type.

Operators

Arithmetic

- Addition
 - `var foo = 4 + 3;`
- Subtraction
 - `var foo = 4 - 3;`
- Multiplication
 - `var foo = 4 * 3;`
- Division
 - `var foo = 4 / 3;`
- Remainder
 - `var foo = 4 % 3;`
- Increment/Decrement
 - `var foo = 4++;`
 - `var bar = 4--;`

Equality

- Assignment operator (`=`)
 - `var a = 2;` //assigns the value 2 to the variable a
- Comparison operator (`==`)
 - `3 == '3';` // true

Comparison

- Greater than/Lesser than

- >, <
- Greater than or equal to/Lesser than or equal to
 - >=, <=

Array Objects

- **length**: Number of elements in an array
- **concat**: Concatenates array, returns a new array
- **pop**: Suppress and returns the last element of an array
- **push**: Adds a new element to the end of an array and returns the length of new array
- **reverse**: Inverts the order of the elements in an array
- **sort**: Sorts array alphabetically

Conditional Execution & Looping

- `if(condition) CodeIfTrue;`
`else CodeIfFalse`
- ```
function forLoop(num) {
 var i;
 for (i=0; i < num; i++) {
 alert(num);
 }
}
```
- ```
function whileLoop(num) {
    while(num > 0) {
        alert(num);
        num--;
    }
}
```
- *break* causes an immediate termination of the loop
- Loop statements after *continue* are skipped and the next execution of the loop is performed

Objects

Objects `var obj = {};`

which can have

Properties `obj.isUpdated = false;`

Methods	<code>obj.updateNow(someData);</code>
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String Objects

- `length`: Returns the number of characters in a String object
- `charAt`: Returns the character in the String object at the specified position
- `indexOf`: Returns the position of the parameter in the String object
- `substring`: Returns the substring of the String object from the first parameter position to the second parameter
- `toLowerCase/toUpperCase`: Converts any uppercase letters to lowercase and vice versa

Math Objects

- `abs(n)`: Returns the absolute value of the number
- `ceil(n)`: Returns the smallest whole number $\geq n$
- `floor(n)`: Returns the largest whole number $\leq n$
- `max(n1,n2)`: Returns the bigger of the two numbers `n1` and `n2`
- `round(n)`: Returns `n` rounded down to the closest integer
- `Random`: Returns a random number between 0 and 1

Date Objects

- `toLocaleString`: A String of the Date information
- `getDate`: The day of the month
- `getMonth`: The month of the year (0 to 11)
- `getFullYear`: The year
- `getTime`: The number of milliseconds since 01-01-1970
- `getHours`: The number of the hour (0 to 23)
- `getMinutes`: The number of the minute (0 to 59)
- `getSeconds`: The number of the second (0 to 59)

JavaScript Event Handlers

<code>onload</code>	<code>onmousedown</code>
<code>onblur</code>	<code>onmousemove</code>
<code>onchange</code>	<code>onmouseout</code>
<code>onclick</code>	<code>onmouseover</code>
<code>ondblclick</code>	<code>onmouseup</code>

ondragdrop	onmove
onerror	onreset
onfocus	onresize
onkeydown	onselect
onkeypress	onsubmit
onkeyup	onunload

Example: JavaScript code	
Embedded JavaScript file	External JavaScript file (preferred method)
<pre> <html> <head> ... <script type="text/javascript"> doSomething(); </script> ... </head> <body> ... </body> </html> </pre>	<pre> <html> <head> ... <script type="text/javascript" src="stuff.js"></script> ... </head> <body> ... </body> </html> </pre>