

### Numbers and Math

```
var pi = 3.141;
pi.toFixed(0) returns 3
pi.toFixed(2) returns 3.14 -
for working with money
pi.toPrecision(2) returns 3.1
pi.valueOf(); returns number
Number(true); converts to
number
Number(new Date()) number of
millis econds since 1970
parseInt("3 months") returns
the first number: 3
parseFloat("3.5 days");
returns 3.5
Number.MAX_VALUE largest
possible JS number
Number.MIN_VALUE smallest
possible JS number
Number.NEGATIVE_INFINITY
Infinity
Number.POSITIVE_INFINITY
Infinity
var pi = Math.PI; 3.1415 926 -
535 89793
Math.round(4.4) = 4 - rounded
Math.round(4.5) = 5
Math.pow(2,8) = 256 - 2 to
the power of 8
Math.sqrt(49) = 7 - square
root
Math.abs(-3.14) = 3.14 -
absolute, positive value
Math.ceil(3.14) = 4 - rounded
up
Math.floor(3.99) = 3 -
rounded down
Math.sin(0); = 0 - sine
Math.cos(Math.PI) OTHERS:
tan, atan, asin, acos,
Math.min(0, 3, -2, 2); = -2 -
the lowest value
Math.max(0, 3, -2, 2); = 3 -
the highest value
```

### Numbers and Math (cont)

```
Math.log(1); = 0 natural
logarithm
Math.exp(1); = 2.7182 pow (E,x)
Math.random() random number
between 0 and 1
Math.floor(Math.random() *
5) + 1; random integer, from 1
to 5
```

### Miscellaneous

Parsing / Serial izing JSON

```
obj = JSON.parse(str);
var myJSON = JSON.stringify(
obj);
decode URI. Result: "my page.a -
sp"
decodeURI(enc);
encode URI. Result: " my% pag e.a sp"
encodeURIComponent(uri);
Decode a URI component
decodeURIComponent(enc);
Encode a URI component
encodeURIComponent(uri);
Is variable a finite, legal
number
isFinite();
is variable an illegal number
isNaN();
Parses a string into a float /
integer
parseFloat();
parseInt();
TRY / CATCH / THROW
try {
    und efi ned Fun cti -
on();
}
```

### Miscellaneous (cont)

```
catch(err) {
    console.log(err.messag e);
}
throw "My error messag e";
STRICT MODE
"use strict ";
x = 1; // Throws an error
because variable is not defined
```

### Events

#### Mouse

onclick, oncontext menu,
ondblclick, onmousedown,
onmouseenter, onmouseleave,
onmousemove, onmouseover,
onmouseout, onmouseup

#### Keyboard

onkeydown, onkeypress, onkeyup

#### Frame

onabort, onbeforeunload,
onerror, onhashchange, onload,
onpageshow, onpagehide,
onresize, onscroll, onunload

#### Form

onblur, onchange, onfocus,
onfocusin, onfocusout, oninput,
oninvalid, onreset, onsearch,
onselect, onsubmit

#### Drag

ondrag, ondragend, ondragenter,
ondragleave, ondragover,
ondragstart, ondrop

#### Clipboard

oncopy, oncut, onpaste



### Events (cont)

#### Media

onabort, oncanplay, oncanplay -  
through, ondurationchange,  
onended, onerror, onload  
data, onloadmeta data, onload -  
start, onpause, onplay,  
onplaying, onprogress, onrate -  
change, onseeked, onseeking,  
onstalled, onsuspend, ontime -  
update, onvolumechange,  
onwaiting

#### Animation

animationend, animationite -  
ration, animationstart

#### Miscellaneous

transitionend, onmessage,  
onmousewheel, ononline,  
onoffline, onpopstate, onshow,  
onstorage, ontoggle, onwheel,  
ontouchcancel, ontouchend,  
ontouchmove, ontouchstart

### Arrays

```
var dogs = ["Bulldog", "Beagle",  
"Labrador"];
```

```
var dogs = new Array( " Bul -  
ldog", " Beagle ", " Labrad -  
or");
```

Access value at index, first  
item being [0]

```
alert( dog s[1]);
```

Change the first item

```
dogs[0] = "Bull Terier ";
```

Iterate through Array

```
for (var i = 0; i < dogs.l -  
ength; i++) {
```

```
    consol e.log( dog s[i]);
```

```
}
```

#### METHODS

### Arrays (cont)

convert to string: results " -  
Bulldog,Beagle, Labrador"  
**dogs.toString();**

join: " BulldogBeagle Labrad -  
or"

```
dogs.join ( " * ");
```

remove last element

```
dogs.pop();
```

add new element to the end

```
dogs.push ("Chihuahua");
```

the same as push

```
dogs[dogs.length] = " Chi -  
hihuahua ";
```

remove first element

```
dogs.shift();
```

add new element to the beginning

```
dogs.unshift ("Chihuahua");
```

change element to undefined (not  
recommended)

```
delete dogs[0];
```

add elements (where, how many to  
remove, element list)

```
dogs.splice(2, 0, " Pug ", " -  
Boxer");
```

join two arrays (dogs followed  
by cats and birds)

```
var animals = dogs.concat( -  
cats,birds);
```

elements from [1] to [4-1]

```
dogs.slice(1,4);
```

sort string alphabetically

```
dogs.sort();
```

sort string in descending order

```
dogs.reverse();
```

### Arrays (cont)

numeric sort

```
x.sort (function(a, b){return  
a - b});
```

numeric descending sort

```
x.sort (function(a, b){return  
b - a});
```

first item in sorted array is  
the lowest (or highest) value

```
highest = x[0];
```

random order sort

```
x.sort (function(a, b){return  
0.5 - Math.random()});
```

### Date & Time

```
var d = new Date();
```

```
= Fri Aug 03 2018 15:52:36 GMT-  
0300 (Uruguay Standard Time)
```

```
= 1533322356511 (milliseconds  
passed since 1970)
```

#### Number(d)

Date declaration

```
Date("2017-06-23");
```

(set to Jan 01)

```
Date("2017");
```

```
Date("2017-06-23 -
```

```
T12:00:00-09:45");
```

```
Date("June 23 2017");
```

```
Date("Jun 23 2017 07:45:00  
GMT+0100 (Tokyo Time)");
```

```
var d = new Date();
```

getting the weekday

```
a = d.getDay();
```

day as a number (1-31)



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### Date & Time (cont)

```
d.getDate();  
weekday as a number (0-6)  
d.getDay();  
four digit year (yyyy)  
d.getFullYear();  
hour (0-23)  
d.getHours();  
milliseconds (0-999)  
d.getMilliseconds();  
minutes (0-59)  
d.getMinutes();  
month (0-11)  
d.getMonth();  
seconds (0-59)  
d.getSeconds();  
milliseconds since 1970  
d.getTime();  
SET DATES  
adds a week to a date  
d.setDate(d.getDate() + 7);  
day as a number (1-31)  
d.setDate();  
year (optionally month and day)  
d.setFullYear();  
hour (0-23)  
d.setHours();  
milliseconds (0-999)  
d.setMilliseconds();
```

### Date & Time (cont)

```
minutes (0-59)  
d.setMinutes();  
month (0-11)  
d.setMonth();  
seconds (0-59)  
d.setSeconds();  
milliseconds since 1970  
d.setTime();
```

### Strings

```
var abc =  
"abcdefghijklmnopqrstuvwxy";  
\n new line  
var esc = 'I don't \n know';  
string length  
var len = abc.length;  
find substring, -1 if doesn't  
contain  
abc.indexOf("lmn");  
last occurrence  
abc.lastIndexOf("lmn");  
cuts out " def ", negative  
values count from behind  
abc.slice(3, 6);  
find and replace, takes regular  
expressions  
abc.replace(" abc ", "12 3");  
convert to upper case  
abc.toUpperCase();  
convert to lower case  
abc.toLowerCase();  
abc + " " + str2  
abc.concat(" ", str2);
```

### Strings (cont)

```
character at index: " c"  
abc.charAt(2);  
unsafe, abc[2] = " C" doesn't  
work  
abc[2];  
character code at index: " c" ->  
99  
abc.charCodeAt(2);  
splitting a string on commas  
gives an array  
abc.split(",");  
splitting on characters  
abc.split("");  
number to hex(16), octal (8) or  
binary (2)  
128.toString(16);
```



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