

### 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, onbeforeload,
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 Terrier ";
```

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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