Hide comments



If - Else ₩

```
if ((age >= 14) && (age < 19)) {
                                         // logical condition
status = "Eligible.";
                                     // executed if condition is true
                                         // else block is optional
} else {
status = "Not eligible.";
                                     // executed if condition is false
Switch Statement
switch (new Date().getDay()) {
                                     // input is current day
                                 // if (day == 6)
case 6:
       text = "Saturday";
       break;
case 0:
                                 // \text{ if (day == 0)}
       text = "Sunday":
       break;
default:
                                 // else...
        text = "Whatever";
```

variables x

```
var a;
                                // variable
var b = "init";
                                // string
var c = "Hi" + " " + "Joe";
                                // = "Hi Joe"
var d = 1 + 2 + "3";
                                // = "33"
                                // array
var e = [2,3,5,8];
var f = false;
                                // boolean
var g = /()/;
                                // RegEx
var h = function(){};
                                // function object
                                // constant
const PI = 3.14;
var a = 1, b = 2, c = a + b;
                                // one line
let z = 'zzz';
                                // block scope local variable
Strict mode
```

Strict mode "use strict"; // Use strict mode to write secure code x = 1; // Throws an error because variable is not declared

Operators a = b + c - d; // addition, substraction a = b * (c / d); // multiplication, division x = 100 % 48; // modulo. 100 / 48 remainder = 4 a++; b--; // postfix increment and decrement

Bitwise operators AND 5 & 1 (0101 & 0001) 1 (1) OR 5 | 1 (0101 | 0001) 5 (101) 1 ~ 5 (~0101) NOT 10 (1010) 5 ^ 1 (0101 ^ 0001) XOR 5 << 1 (0101 << 1) << left shift 10 (1010) right shift 5 >> 1 (0101 >> 1) 2 (10) 5 >>> 1 (0101 >>> 1) 2 (10) >>> zero fill right shift

```
Arithmetic
a * (b + c)
                    // grouping
person.age
person[age]
                    // member
!(a == b)
                    // logical not
a != b
                    // not equal
                    // type (number, object, function...)
typeof a
                    // minary shifting
x << 2 x >> 3
                    // assignment
a == b
                    // equals
a != b
                    // unequal
a === b
                    // strict equal
a !== b
                    // strict unequal
a < b a > b
                    // less and greater than
a <= b a >= b
                    // less or equal, greater or eq
                    // a = a + b (works with - * %...)
a && b
                    // logical and
a || b
                    // logical or
```

Dates 31

```
Thu Jan 06 2022 07:29:32 GMT+0100 (heure normale d'Europe centrale)
var d = new Date();
1641450572294 miliseconds passed since 1970
Number(d)
```

Basics ➤

```
On page script
<script type="text/javascript"> ...
</script>
Include external JS file
<script src="filename.js"></script>
Delay - 1 second timeout
setTimeout(function () {
}, 1000);
Functions
function addNumbers(a, b) {
return a + b; ;
x = addNumbers(1, 2);
Edit DOM element
document.getElementById("elementID").innerHTML = "Hello World!";
Output
console.log(a);
                            // write to the browser console
                            // write to the HTML
document.write(a);
                            // output in an alert box
alert(a);
confirm("Really?");
                            // yes/no dialog, returns true/false depending
prompt("Your age?","0");
                           // input dialog. Second argument is the initia
Comments
/* Multi line
comment */
// One line
```

Data Types R

```
// number
var age = 18;
                                              // string
var name = "lane":
var name = {first:"Jane", last:"Doe"};
                                              // object
var truth = false;
var sheets = ["HTML","CSS","JS"];
                                              // boolean
                                              // array
var a; typeof a;
                                              // undefined
                                              // value null
var a = null;
Objects
var student = {
                                     // object name
firstName:"Jane",
                                // list of properties and values
lastName:"Doe",
age: 18,
height: 170,
fullName : function() {      // object function
    return this.firstName + " " + this.lastName;
};
student.age = 19;
                                // setting value
student[age]++;
name = student.fullName(); // call object function
```

Numbers and Math∑

```
var pi = 3.141;
pi.toFixed(0);
                        // returns 3
pi.toFixed(2);
                        // returns 3.14 - for working with money
                        // returns 3.1
pi.toPrecision(2)
pi.valueOf():
                        // returns number
Number(true);
                        // converts to number
                        // number of milliseconds since 1970
Number(new Date())
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;
                        // 3.141592653589793
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
                        // = 0 - sine
Math.sin(∅);
Math.cos(Math.PI);
                        // OTHERS: tan,atan,asin,acos,
Math.min(\theta, 3, -2, 2); //=-2 - the lowest value
```

```
Date("2017-06-23");
                                    // date declaration
Date("2017");
                                    // is set to Jan 01
Date("2017-06-23T12:00:00-09:45"); // date - time YYYY-MM-DDTHH:MM:SSZ
Date("June 23 2017");
                                    // long date format
Date("Jun 23 2017 07:45:00 GMT+0100 (Tokyo Time)"); // time zone
var d = new Date();
                    // getting the weekday
a = d.getDay();
getDate();
                    // day as a number (1-31)
getDay();
                    // weekday as a number (0-6)
getFullYear();
                    // four digit year (yyyy)
getHours();
                    // hour (0-23)
getMilliseconds();
                    // milliseconds (0-999)
getMinutes();
                    // minutes (0-59)
getMonth();
                    // month (0-11)
getSeconds();
                    // seconds (0-59)
                    // milliseconds since 1970
getTime();
Setting part of a date
var d = new Date();
d.setDate(d.getDate() + 7); // adds a week to a date
                    // day as a number (1-31)
setDate();
setFullYear();
                    // year (optionally month and day)
                    // hour (0-23)
setHours();
setMilliseconds(); // milliseconds (0-999)
setMinutes();
                    // minutes (0-59)
setMonth();
                    // month (0-11)
setSeconds():
                    // seconds (0-59)
setTime();
                    // milliseconds since 1970)
  Errors ∧
                                // block of code to try
```

```
undefinedFunction():
catch(err) {
                                // block to handle errors
console.log(err.message);
throw "My error message";
                             // throw a text
Input validation
var x = document.getElementById("mynum").value; // get input value
try {
if(x == "") throw "empty";
                                            // error cases
if(isNaN(x)) throw "not a number";
x = Number(x);
if(x > 10) throw "too high";
                                                 // if there's an error
catch(err) {
document.write("Input is " + err);
                                            // output error
console.error(err);
                                             // write the error in console
finally {
document.write("</br />Done");
                                            // executed regardless of the
}
Error name values
```

Useful Links ₽

RangeError

TypeError URIError

ReferenceError SyntaxError

```
Can Luse?
JS cleaner
                    Obfuscator
  Node.js
                   jQuery
                                   RegEx tester
```

A number is "out of range"

A syntax error has occurred

A type error has occurred

An illegal reference has occurred

An encodeURI() error has occurred

```
Math.max(0, 3, -2, 2); // = 3 - the highest value
                          // = 0 natural logarithm
Math.log(1);
                          // = 2.7182pow(E,x)
Math.exp(1);
Math.random();
                          // random number between 0 and 1
Math.floor(Math.random() * 5) + 1; // random integer, from 1 to 5
Constants like Math.Pl:
E, PI, SQRT2, SQRT1_2, LN2, LN10, LOG2E, Log10E
  Arrays ≡
var dogs = ["Bulldog", "Beagle", "Labrador"];
var dogs = new Array("Bulldog", "Beagle", "Labrador"); // declaration
                               // access value at index, first item being [0]
```

```
dogs[0] = "Bull Terier";
                            // change the first item
for (var i = 0; i < dogs.length; i++) {</pre>
                                              // parsing with array.length
console.log(dogs[i]);
Methods
dogs.toString();
                                           // convert to string: results "Bul
dogs.join(" * ");
                                           // join: "Bulldog * Beagle * Labra
                                           // remove last element
dogs.pop();
dogs.push("Chihuahua");
                                           // add new element to the end
dogs[dogs.length] = "Chihuahua";
                                          // the same as push
dogs.shift();
                                           // remove first element
dogs.unshift("Chihuahua");
                                           // add new element to the beginning
delete dogs[0];
                                           // change element to undefined (nc
dogs.splice(2, 0, "Pug", "Boxer");
var animals = dogs.concat(cats,birds);
                                           // add elements (where, how many t
                                          // join two arrays (dogs followed
                                           // elements from [1] to [4-1]
dogs.slice(1,4);
                                           // sort string alphabetically
dogs.sort();
                                           // sort string in descending order
dogs.reverse();
x.sort(function(a, b){return a - b});
                                          // numeric sort
x.sort(function(a, b){return b - a});
                                          // numeric descending sort
highest = x[\theta];
                                           // first item in sorted array is t
x.sort(function(a, b){return 0.5 - Math.random()});
                                                           // random order sc
concat, copyWithin, every, fill, filter, find, findIndex, forEach, indexOf, isArray, join,
```

lastIndexOf, map, pop, push, reduce, reduceRight, reverse, shift, slice, some, sort, splice, toString, unshift, valueOf

JSON i

```
var str = '{"names":[' +
                                                    // crate JSON object
var scr = { '\ ("memes .'\ ("first":"Hakuna","lastN":"Matata" },' +
'{"first":"Jane","lastN":"Doe" },' +
'{"first":"Air","last":"Jordan" }]}';
obj = JSON.parse(str);
                                                    // parse
document.write(obj.names[1].first);
                                                    // access
var myObj = { "name":"Jane", "age":18, "city":"Chicago" }; // create obj\epsilon
var myJSON = JSON.stringify(myObj);
                                                                       // stringify
window.location = "demo.php?x=" + myJSON;
                                                                       // send to phr
Storing and retrieving
myObj = { "name":"Jane", "age":18, "city":"Chicago" };
myJSON = JSON.stringify(myObj);
                                                         // storing data
localStorage.setItem("testJSON", myJSON);
text = localStorage.getItem("testJSON");
                                                         // retrieving data
obi = JSON.parse(text):
document.write(obj.name);
```

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