JavaScript  
Лекция 6  
Разработка веб-сайтов  
JavaScript  
JavaScript был изобретен Бренданом Айхом в 1995 году и стал стандартом ECMA в 1997 году.  
ECMAScript - это официальное название языка.  
С 2015 года ECMAScript назван по году (ECMAScript 2015).  
ECMAScript 3 полностью поддерживается во всех браузерах.  
ECMAScript 5 полностью поддерживается во всех **современных** браузерах.  
  
Standard ECMA-262  
ECMAScript® 2018 Language Specification  
9th edition (June 2018)  
http://www.ecma-international.org/publications/standards/Ecma-262.htm  
  
Подключение  
<script> and </script>  
<script src="myScript.js"></script>  
  
JavaScript Statements

|  |  |
| --- | --- |
| var a, b, c;  a = 5;  b = 6;  c = a + b; | // Declare 3 variables // Assign the value 5 to a // Assign the value 6 to b // Assign the sum of a and b to c |

JavaScript Syntax  
"Строка"  
'Строка'  
var x;  
x = 6;  
var x = 5; // I will be executed  
// var x = 6; I will NOT be executed  
/\*  
comments\*/  
var lastname, lastName;  
lastName = "Doe";  
lastname = "Peterson";  
  
JavaScript Data Types  
var pi = 3.14;  
var person = "John Doe";  
var answer = 'Yes I am!';  
  
Value = undefined  
var name; // undefined  
  
JavaScript Operators  
+ Сложение  
- Вычитание  
\* Умножение  
\*\* Экспонирование (ES2016)  
/ Деление  
% Модуль (остаток деления)  
++ Increment  
-- декремент  
  
JavaScript Assignment Operators  
  
JavaScript Operator Precedence Values  
  
JavaScript Data Types

|  |  |
| --- | --- |
| var length = 16;  var lastName = "Johnson";  var x = {firstName:"John", lastName:"Doe"}; | // Number // String // Object |

|  |  |
| --- | --- |
| var x1 = 34.00;  var x2 = 34; | // Written with decimals // Written without decimals |

var cars = ["Saab", "Volvo", "BMW"];

|  |  |
| --- | --- |
| typeof ""  typeof 0  car = undefined;  typeof true | // Returns "string" // Returns "number" // Value is undefined, type is undefined // Returns "boolean" |

typeof {name:'John', age:34} // Returns "object"  
  
JavaScript Functions  
function name(parameter1, parameter2, parameter3) {  
// code to be executed  
}  
var x = myFunction(4, 3); // Function is called, return value will end up in x  
function myFunction(a, b) {  
return a \* b; // Function returns the product of a and b  
}  
  
JavaScript Objects  
Real Life Objects, Properties, and Methods  
var person = {  
firstName: "John",  
lastName: "Doe",  
age: 50,  
eyeColor: "blue"  
};  
objectName.propertyName  
objectName["propertyName"]  
  
Object Methods  
var person = {  
firstName: "John",  
lastName : "Doe",  
id : 5566,  
fullName : function() {  
return this.firstName + " " + this.lastName;  
}  
};  
  
JavaScript Strings  
var x = "John";  
var y = new String("John");  
// (x == y) is true because x and y have equal values  
\b Backspace  
\f Form Feed  
\n New Line  
\r Carriage Return  
\t Horizontal Tabulator  
\v Vertical Tabulator  
  
JavaScript and Camel Case  
**Underscore:**first\_name, last\_name, master\_card, inter\_city.  
**Upper Camel Case (Pascal Case):**FirstName, LastName, MasterCard, InterCity.  
**Lower Camel Case:**firstName, lastName, masterCard, interCity.  
  
JavaScript Arrays  
var cars = ["Saab", "Volvo", "BMW"];  
cars[0] = "Opel";  
myArray[0] = Date.now;  
myArray[1] = myFunction;  
myArray[2] = myCars;  
var fruits = ["Banana", "Orange", "Apple", "Mango"];  
var x = fruits.push("Kiwi"); // the value of x is 5  
var fruits = ["Banana", "Orange", "Apple", "Mango"];  
delete fruits[0];  
  
JavaScript Arrays  
var fruits = ["Banana", "Orange", "Apple", "Mango"];

|  |  |
| --- | --- |
| fruits.sort();  fruits.reverse(); | // First sort the elements of fruits // Then reverse the order of the elements |

var numbers1 = [45, 4, 9, 16, 25];  
var numbers2 = numbers1.map(myFunction);  
function myFunction(value, index, array) {  
return value \* 2;  
}  
  
JavaScript Date Objects  
var d = new Date();  
var d = new Date(); //Wed Apr 17 2019 13:21:49 GMT+0300 (Москва, стандартное время)  
d.toDateString(); // "Wed Apr 17 2019"  
  
JavaScript Math Object  
Math.round(4.7); // returns 5  
Math.round(4.4); // returns 4  
Math.sqrt(64); // returns 8  
Math.random(); // returns a random number  
https://www.w3schools.com/js/js\_math.asp  
  
JavaScript if else and else if  
if (hour < 18) {  
greeting = "Good day";  
} else {  
greeting = "Good evening";  
}  
  
The JavaScript Switch Statement  
switch(expression) {  
case x:  
// code block  
break;  
case y:  
// code block  
break;  
default:  
// code block  
}  
  
JavaScript For Loop  
var person = {fname:"John", lname:"Doe", age:25};  
var text = "";  
var x;  
for (x in person) {  
text += person[x];  
}  
  
Try to Catch  
try {  
Block of code to try  
}  
catch(err) {  
Block of code to handle errors  
}  
finally {  
Block of code to be executed regardless of the try / catch result  
}  
  
JavaScript Use Strict  
"use strict";  
x = 3.14; // This will cause an error because x is not declared  
  
this  
var person = {  
firstName: "John",  
lastName : "Doe",  
id : 5566,  
fullName : function() {  
return this.firstName + " " + this.lastName;  
}  
};  
  
var let const  
var x = 10;  
// Here x is 10  
{  
let x = 2;  
// Here x is 2  
}  
// Here x is 10  
var i = 5;  
for (var i = 0; i < 10; i++) {  
// some statements  
}  
// Here i is 10  
  
JavaScript Debugging  
var x = 15 \* 5;  
debugger;  
a = 5;  
b = 6;  
c = a + b;  
console.log(c);  
  
JavaScript JSON  
JSON stands for JavaScript Object Notation  
"employees":[  
{"firstName":"John", "lastName":"Doe"},  
{"firstName":"Anna", "lastName":"Smith"},  
{"firstName":"Peter", "lastName":"Jones"}  
]  
  
JavaScript Best Practices  
https://www.w3schools.com/js/js\_best\_practices.asp  
  
Самостоятельное обучение  
Руководство - JavaScript | MDN  
https://developer.mozilla.org/ru/docs/Web/JavaScript/Guide  
JavaScript Tutorial  
https://www.w3schools.com/js/default.asp