

Console

Print to console `console.log(...)`

Comments

One line `// single line comment`
Multi lines `/*
A multi line comment
*/`

Data Types

number 3, 3.1, -3.1, 3e5, 3e-5
string "abc", 'abc', "", "
boolean true, false
undefined No value
null Value of nothing
NaN Not a number

Numbers

`var x = 3.1415;` Declare a number
`x.toFixed(2)` To string, fixed decimals
`parseInt(" 2")` Convert a string to int
`parseFloat("1.23 ")` Convert a string to float

Strings

`var s = "Hello"` Declare and assign a string
`s.length` Length of string
`s.charAt(0)` Access a character at index
`s.indexOf("el ")` Index of a substring
`s.slice(2, 4)` Part of string (start, end)

Arithmetic Operators

`+, -, *, /` Add, subtract, multiply, divide
`%` Modulus (remainder)
`=` Assignment
`++, --` Increment, decrement
`+=, -=, *=, /=, %=` Operation and assignment
`?` `a = (x > y) ? b : c;`

Comparisons

`==, !=` Equal to, not equal
`===, !==` with type
`>, <, >=, <=` Greater/Less or equal
`&&, ||, !` And, Or, Not

Functions

Declare a function

```
function myFunc(p1, p2) {  
    statements;  
    return p1 + p2;  
}
```

Use a function `x = myFunc(1, 5);`

Function variable

```
var f = function(p1, p2) {  
    statements;  
    return p1 + p2;  
};
```

Use function variable `x = f(1, 5);`

Conditionals

if

```
if (x > y) {  
    statements;  
}
```


if..else

```
if (x > y) {  
    statements;  
} else {  
    statements;  
}
```

if..else if

```
if (x > y) {  
    statements;  
} else if (x > z) {  
    statements;  
} else {  
    statements;  
}
```

Conditionals (cont)

```
switch..case      switch (x) {
                    case 1:
                        statements;
                        break;
                    case 2:
                        statements;
                        break;
                    default:
                        statements;
                }
```

Loops

```
while      var x = 0;
           while (x < y) {
               statements;
               ++x;
           }

for        for (var x = 0; x < y; ++x) {
               statements;
           }

continue   Stop current iteration, continue with next one

break      Stop loop immediately

for/in     var x = [ " abc ", " efg ", " hij " ];
           for (i in x) {
               statements; // i = 0,1,2...
           }

for/of     var x = [ " abc ", " efg ", " hij " ];
           for (i of x) {
               statements; // i = "abc","efg",..
           }
```

Arrays

```
var a = [8, " hi", 6]  Declare and assign
                        ]

var a = []             Declare empty array

a[0]                   Extract the first element

a[0] = " xx"           Set the first element

a.length               Length of array

a.push(17)             Add element to array

a.pop()                Remove the last element

a.splice(
    s, r,
    e1, e2..)           From index s, remove r elements,
                        then add e1, e2...

a.forEach(f)           Run function f(e) for each element in
                        array
```

Objects

```
Literal object      var x = {
                    name: "cool",
                    size: 10,
                    sayHi: function() {
                        console.log(this.name);
                    }
                }

Constructor         function MyObj(nm) {
                    this.name = nm;
                    this.size = 10;
                    this.sayHi = function() {
                        console.log(this.name);
                    }
                }
```

```
Create new object    var x = new MyObj( " coo l");

Use object            console.log(x.size);
                    x.sayHi();
```