

JAVASCRIPT BASICS

OBJECT
ARRAY

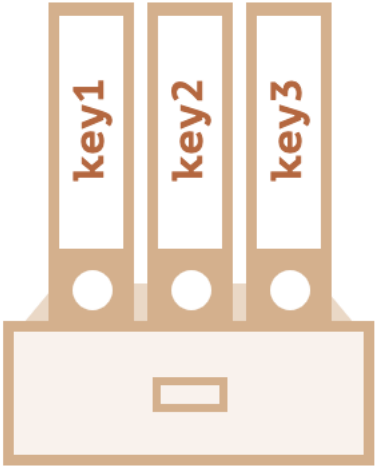


Objects

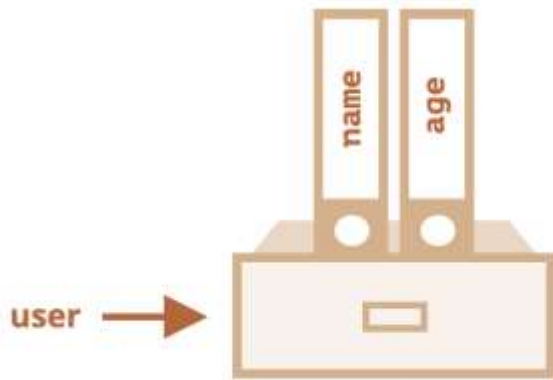
In JavaScript, an object is **an unordered collection of key-value pairs**.

Each key-value pair is called a property. The key of a property can be a string.

And the value of a property can be any value, e.g., a string, a number, an array, and even a function.



```
1 let user = new Object(); // "object constructor" syntax
2 let user = {}; // "object literal" syntax
```



```
1 let user = { // an object
2   name: "John", // by key "name" store value "John"
3   age: 30 // by key "age" store value 30
4 };
```

Accessing Object Properties

```
objectName.propertyName
```

```
"key" in object
```

or

```
objectName["propertyName"]
```

```
let user = { name: "John", age: 30 };  
  
alert( "age" in user ); // true, user.age exists  
alert( "blabla" in user ); // false, user.blabla doesn't exist
```

For In Loop

Syntax

The syntax for the for-in loop in JavaScript is:

```
for (variable in object) {  
    // statements  
}
```

```
1  let codes = {  
2    "+49": "Germany",  
3    "+41": "Switzerland",  
4    "+44": "Great Britain",  
5    // ..,  
6    "+1": "USA"  
7  };  
8  
9  for (let code in codes) {  
10    alert( +code ); // 49, 41, 44, 1  
11  }
```

Object Methods

[Object.entries\(\).](#)

[Object.freeze\(\).](#)

[Object.isFrozen\(\).](#)

[Object.values\(\).](#)

[Object.keys\(\).](#)

Arrays

```
let car1 = "Saab";  
let car2 = "Volvo";  
let car3 = "BMW";
```

```
const cars = ["Saab", "Volvo", "BMW"];
```

```
const cars = [];  
cars[0] = "Saab";  
cars[1] = "Volvo";  
cars[2] = "BMW";
```

```
const cars = new Array("Saab", "Volvo", "BMW");
```

```
cars[0] = "Opel";
```

Array Methods

<u>length</u>	Sets or returns the number of elements in an array
<u>push()</u>	Adds new elements to the end of an array, and returns the new length
<u>pop()</u>	Removes the last element of an array, and returns that element
<u>shift()</u>	Removes the first element of an array, and returns that element
<u>unshift()</u>	Adds new elements to the beginning of an array, and returns the new length
<u>concat()</u>	Joins arrays and returns an array with the joined arrays
<u>join()</u>	Joins all elements of an array into a string
<u>reverse()</u>	Reverses the order of the elements in an array
<u>includes()</u>	Check if an array contains the specified element

```
const array1 = ['a', 'b', 'c'];  
  
for (const element of array1) {  
  console.log(element);  
}
```

Tasks

1. Write the function isEmpty(obj) which returns true if the object has no properties, false otherwise.
 2. Write a JavaScript function to clone an array
 3. Write function which finds max value of array.
 4. Write function which receive an array and return 2 arrays 1 for odd 1 for even.
 5. Write a JavaScript program which return array of elements count.
 1. [[1, 2, 1, 24], [7, 11, 9], [7, 4]]
 2. [28, 27, 11]
 6. Write function which filter all persons which are admins.
 7. Write functions which calculates all salaries for admins.
 8. Write function which return salaries total for every currency.
- ```
{
 name: "John",
 isAdmin: true,
 salary: 180,
 currency: "USD"
}
```