

JavaScript

Arrays
Objects
Loops

PHP web development 2019/2020

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Arrays in JS

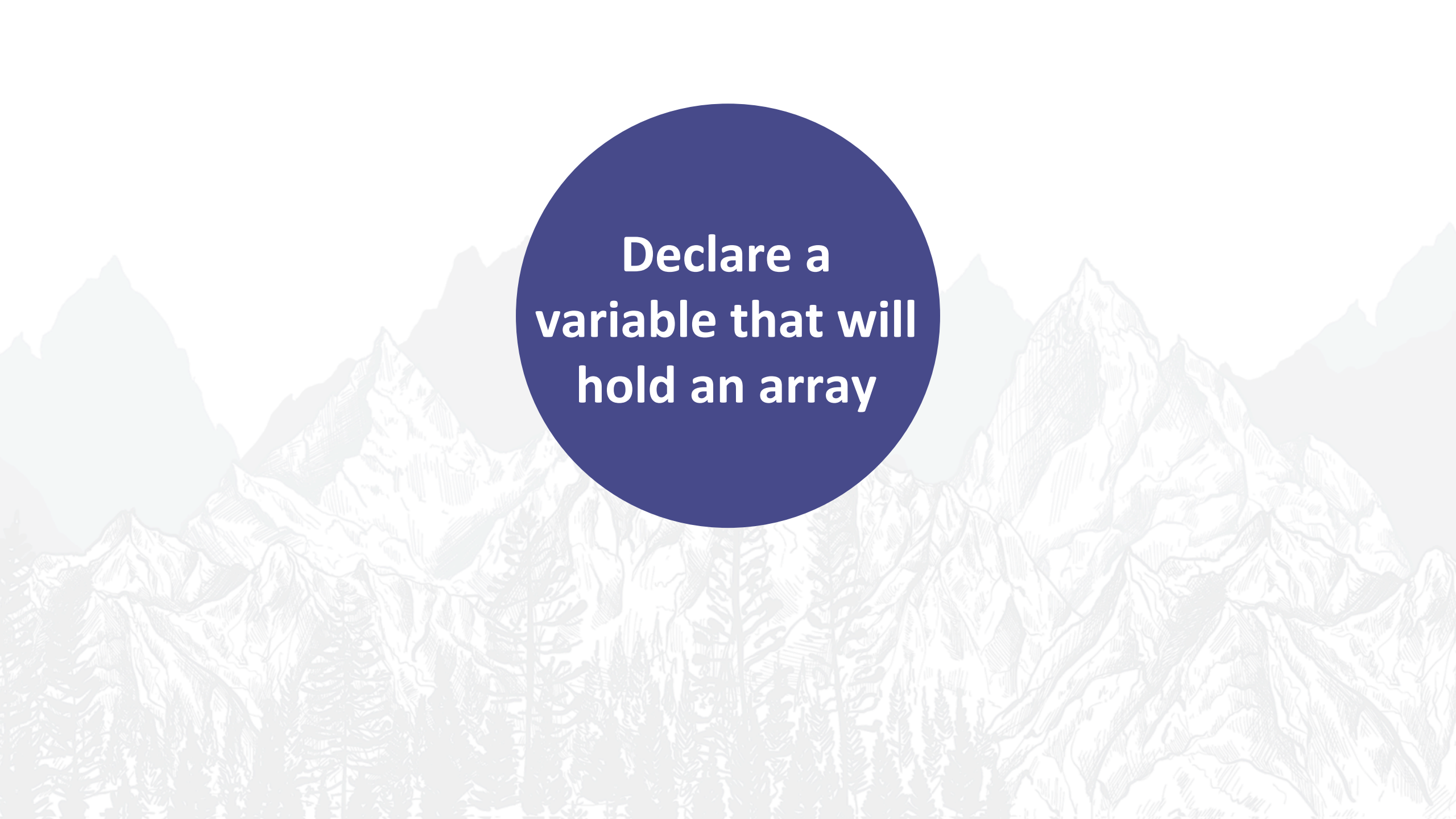
Arrays in JS

Arrays in JS are JS Array objects 😊

```
var numbers = [1, 2, 3, 4, 5];  
    //array with elements numbers  
var names = ['Pesho', 'Gosho', 'Ivan']  
    //array with elements strings  
var mixedArr = [1, new Date(), 'hello'];  
    //array with mixes types elements
```

Arrays in JS

```
var matrix = [ ['0,0', '0,1', '0,2'],  
               ['1,0', '1,1', '1,2'],  
               ['2,0', '2,1', '2,2']];  
//multidimensional array
```



**Declare a
variable that will
hold an array**

Declare an array

Recommended way

```
var arr = [1, 2, 3, 4, 5];  
var myArr = [];
```

Not Recommended way – create a new instance of JS Object Array

```
var arr = new Array(1, 2, 3, 4, 5);  
    //more than one numbers – the numbers are array elements  
var arr = new Array(10);  
    //one number – number of array elements with value - undefined
```



**Access the
array elements**

Access the array elements

```
var arr = [1, 2, 3, 4, 5], len = arr.length;  
console.log(arr[2])//3  
console.log(arr[len-1])//5
```

*JS Array Objects have **length** property – number of elements in array*

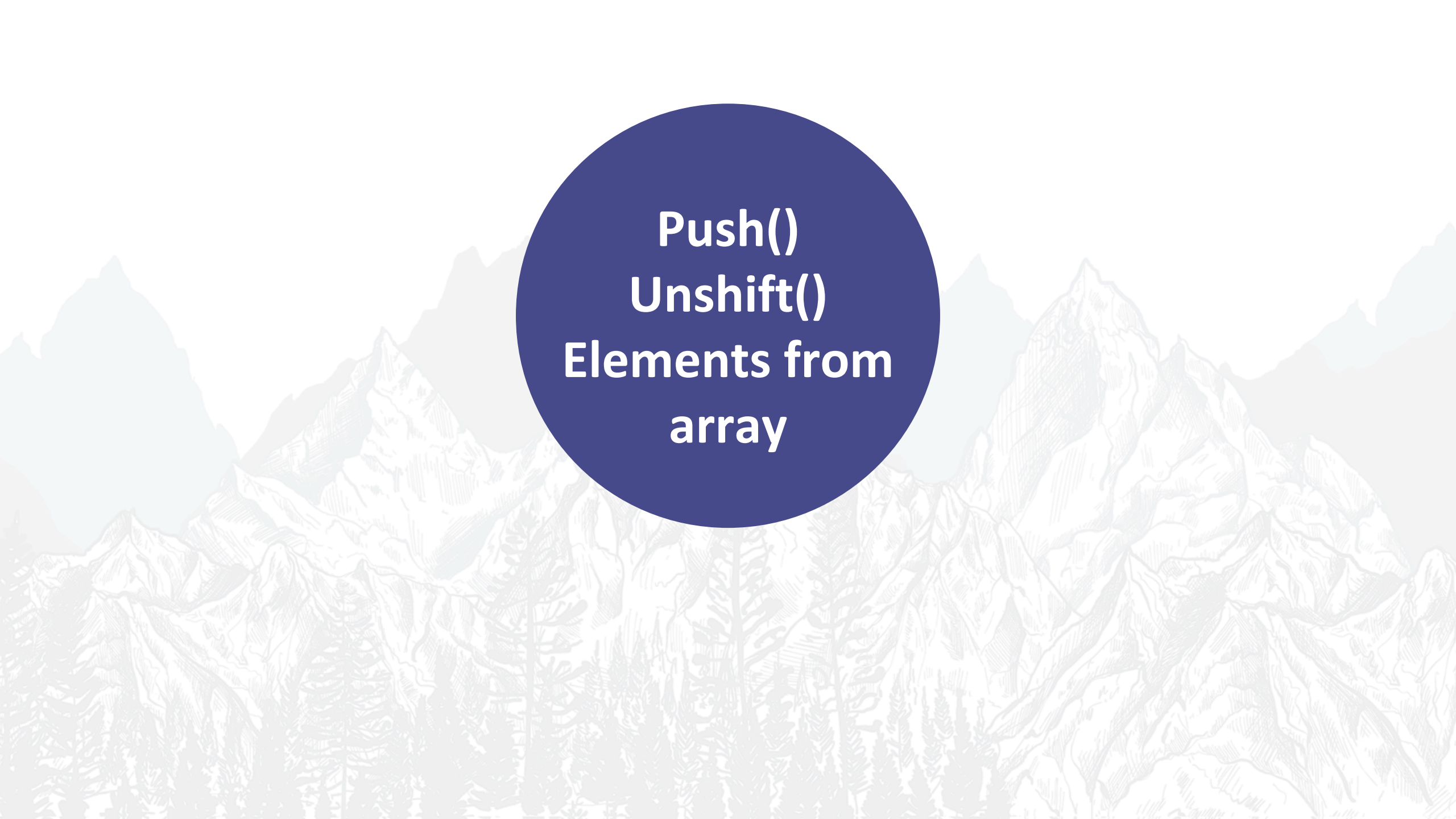


**Add/remove
elements from
array**

Add/remove elements from array

```
var arr = [1, 2, 3, 4, 5];  
arr.push('new element')  
console.log(arr) // [1, 2, 3, 4, 5, 'new element']
```

```
var arr = [1, 2, 3, 4, 5];  
arr.pop()  
console.log(arr) // [1, 2, 3, 4]
```


**Push()
Unshift()
Elements from
array**

Push() and unshift() elements from array

Task1: Reverse array elements using **push()** and **unshift()** array methods.

Input array – [1, 2, 3, 4, 5, 6]

Output array – [6, 5, 4, 3, 2, 1]



Declare a variable
that will hold an
object value

Declare a variable that holds an object value

Variant 1

```
var myObj ={};  
myObj.name = 'Pesho';  
myObj.age = 21;  
myObj.address = 'Vratsa';
```

Variant 2

```
var arr = {  
    name: "Pesho",  
    age: 21,  
    address: "Vratsa"  
}
```



**Loop through
array elements
for, for..in**

Loop through array elements – for, for ... in

Task2: Print each array element in the console

Input [1, 2, 3, 4, 5, 6],
[1, 'pesho', 'gosho', true]
[1, 2, 3, , 5, ,]
{name: 'Pesho', age: 28, address: 'Vratsa'}



Array methods

Array methods

arr.reverse() reverses the order of the elements in an array. **Note:** this method will change the original array.

arr.join(separator) method returns the array as a string. **Note:** this method will **not** change the original array.

arr1.concat(arr2) method is used to join two or more arrays. This method **does not change** the existing arrays, but returns a new array, containing the values of the joined arrays.

arr.slice(fromIndex, [toIndex]) returns the selected elements in an array, as a new array object. **Note:** this method will **not** change the original array.

arr.splice(index, count, elements)

adds/removes items to/from an array, and returns the removed item(s). **Note:** this method will change the original array.

arr.indexOf(element [, rightOf]) searches the array for the specified item, and returns its position.

The search will start at the specified position, or at the beginning if no start position is specified, and end the search at the end of the array.

Returns -1 if the item is not found.

If the item is present more than once, the `indexOf` method returns the position of the first occurrence.

arr.lastIndexOf(element [, rightOf]) If you want to search from end to start, works as `indexOf` method.

[more on array methods](#)

Questions?



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