

05. JS Arrays

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- length
- toString(), join();
- pop(), push();
- shift(), unshift();
- concat();
- forEach() vs. map();
- filter();

Arrays | length

```
let fruits = ["Apple", "Banana"];  
let numbers = [11, 3.33, -65];  
let mix = [1, "Apple", 22, "Banana"];  
  
// Banana  
console.log(fruits[1]);  
// 3  
console.log(numbers.length);  
// Apple  
console.log(mix[mix.length-3]);
```

Arrays | toString(), join()

- `toString()` – method returns a string representing the specified array and its elements.
- `join()` – method creates and returns a new string by concatenating all of the elements in an array, separated by commas or a specified separator string.

Arrays | toString(), join()

```
let fruits = ["Apple", "Banana", "Pear"];

// "Apple,Banana,Pear"
console.log(fruits.toString());

// "Apple *** Banana *** Pear"
console.log(fruits.join(" *** "));
```

Arrays | pop(), push()

- `pop()` – method removes the **last** element from an array and returns that element. This method changes the length of the array.
- `push()` – method adds one or more elements to the end of an array and returns the new length of the array.

Arrays | pop(), push()

```
let fruits = ["Apple", "Banana", "Pear"];

// "Pear"
console.log(fruits.pop());
// "Apple,Banana"
console.log(fruits.toString());
// 3
console.log(fruits.push("Ananas"));
// "Apple,Banana,Ananas"
console.log(fruits.toString());
```

Arrays | `shift()`, `unshift()`

- `shift()` – method removes the first element from an array and returns that removed element. This method changes the length of the array.
- `unshift()` – method adds one or more elements to the beginning of an array and returns the new length of the array.

Arrays | shift(), unshift()

```
let num = [1, 2, 3];  
// 1  
console.log(num.shift());  
// [2, 3]  
console.log(num);  
// 4  
console.log(num.unshift(22, 33));  
// [22, 33, 2, 3]  
console.log(num);
```

Arrays | concat()

- `concat()` – method is used to merge two or more arrays. This method does not change the existing arrays, but instead returns a new array.

Arrays | concat()

```
let num1 = [1, 2, 3], num2 = [4, 5, 6],  
num3 = [7, 8, 9];
```

```
let nums = num1.concat(num2, num3);
```

```
// [1, 2, 3, 4, 5, 6, 7, 8, 9]
```

```
console.log(nums);
```

Arrays | forEach()

- `forEach()` – method **executes** a provided function once for each array element.
- Callback:
 - `currentValue` (optional)
 - `index` (optional)
 - `array` (optional)

Arrays | forEach()

```
let fruits = ["Apple", "Banana", "Pear"];
fruits.forEach(function(item){
    console.log(item);
});

let fruits = ["Apple", "Banana", "Pear"];
fruits.forEach(function(item, index){
    console.log(`${index} - ${item}`);
});

let fruits = ["Apple", "Banana", "Pear"];
fruits.forEach(function(item, index, array){
    console.log(array);
    console.log(`${index} - ${item}`);
});
```

Arrays | map()

- `map()` – method **creates** a new array with the results of calling a provided function on every element in the calling array.
- Callback:
 - `currentValue`
 - `index` (optional)
 - `array` (optional)

Arrays | map()

```
let numbers = [1, 2, 3];

let newNumArr = numbers.map(function(item){
    return item * 2;
});

let newNumArr2 = numbers.map(item => item * 2);
```

Arrays | filter()

- `filter()` – method creates a new array with all elements that pass the test implemented by the provided function.
- Callback:
 - element
 - index (optional)
 - array (optional)

Arrays | filter()

```
let words = ['spray', 'limit', 'elite', 'exuberant',  
             'destruction', 'present'];  
  
const result = words.filter(function(word){  
    return word.length > 6;  
})  
  
const result2 = words.filter(word => word.length > 6);
```

Praktika (1) Generatorius

- JS dokumente aprašyti trys masyvai:
 - Kas (veikėjas: mama, teta, šuo, ...);
 - Veiksmas (suvalgė, išmetė, paslėpė, ...);
 - Ką (namų darbus, projektinį darbą, referatą, ...)



Praktika (2) E-Bankas

- HTML dokumente, pateikti įvedimo lauką, pasirenkamąjį sąrašą (Papildyti, Pasiimti) ir mygtuką.
- Įrašų istorija: raudona – išimta, žalia – papildyta.
- Įrašų filtras (pagal sumą)
- Įrašų rūšiavimas (pagal sumą)

E-Bankas

Veiksmas: Papildyti ▼

Sąskaitoje yra: 300 Eur.

Atlikti veiksmą

E-Bankas

Veiksmas: Papildyti ▼

Sąskaitoje yra: 313 Eur.

Atlikti veiksmą