



JS

SCSA JavaScript Courses

1)SPREAD OPERATORS

2)ARRAY METHODS

3) STRING METHODS

Sr.No	Method & Description
1	<u>concat()</u> Returns a new array comprised of this array joined with other array(s) and/or value(s)
2	<u>every()</u> Returns true if every element in this array satisfies the provided testing function.
3	<u>filter()</u> Creates a new array with all of the elements of this array for which the provided filtering function returns true.
4	<u>forEach()</u> Calls a function for each element in the array.
5	<u>indexOf()</u> Returns the first (least) index of an element within the array equal to the specified value, or -1 if none is found.
6	<u>join()</u> Joins all elements of an array into a string.
7	<u>lastIndexOf()</u> Returns the last (greatest) index of an element within the array equal to the specified value, or -1 if none is found.
8	<u>map()</u> Creates a new array with the results of calling a provided function on every element in this array.
9	<u>pop()</u> Removes the last element from an array and returns that element.
10	<u>push()</u> Adds one or more elements to the end of an array and returns the new length of the array.
11	<u>reduce()</u> Applies a function simultaneously against two values of the array (from left-to-right) as to reduce it to a single value.
12	<u>reduceRight()</u> Applies a function simultaneously against two values of the array (from right-to-left) as to reduce it to a single value.
13	<u>reverse()</u> Reverses the order of the elements of an array -- the first becomes the last, and the last becomes the first.
14	<u>shift()</u> Removes the first element from an array and returns that element slice.
15	<u>slice()</u> Extracts a section of an array and returns a new array.
16	<u>some()</u> Returns true if at least one element in this array satisfies the provided testing function.
17	toSource() Represents the source code of an object.
18	<u>sort()</u> Sorts the elements of an array.
19	<u>splice()</u> Adds and/or removes elements from an array.
20	<u>toString()</u> Returns a string representing the array and its elements.
21	<u>unshift()</u> Adds one or more elements to the front of an array and returns the new length of the array.

Some Methods

```
180 // array concat
181
182 const arr=[1,5,6];
183 const arrnew=new Array('first', 'Second');
184 var result=arr.concat(arrnew);
185 console.log(result);
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

[Running] node "e:\javascript lessons\4 lesson\lesson4.js"
[1, 5, 6, 'first', 'Second']

```
187 // array filter
188 const arr=[1, 15, 23, 5,6];
189 const result=arr.filter((element)=> element>10);
190 console.log(result)
191
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

[Running] node "e:\javascript lessons\4 lesson\lesson4.js"
[15, 23]

```
193 // array Foreach
194 const arr=[1, 15, 23, 5,6];
195 arr.forEach(element => {
196   console.log(element)
197 });
198 console.log('reverse array')
199 arr.reverse();
200 arr.forEach(element =>{
201   console.log(element)
202 })
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

[Running] node "e:\javascript lessons\4 lesson\lesson4.js"
1
15
23
5
6
reverse array
6
5
23
15
1

join() method joins all the elements of an array into a string.

```
var arr = new Array("First","Second","Third");  
var str = arr.join();console.log("str : " + str );  
var str = arr.join(", ");  
console.log("str : " + str );  
  
var str = arr.join(" + ");  
console.log("str : " + str );
```

Output

```
str : First,Second,Third  
str : First, Second, Third  
str : First + Second + Third
```

push() method appends the given element(s) in the last of the array and returns the length of the new array.

```
var numbers = new Array(1, 4, 9);  
var length = numbers.push(10);  
console.log("new numbers is : " + numbers );  
length = numbers.push(20);  
console.log("new numbers is : " + numbers );
```

Output

```
new numbers is : 1,4,9,10  
new numbers is : 1,4,9,10,20
```

reduce() method applies a function simultaneously against two values of the array (from left-to-right) as to reduce it to a single value.

```
var total = [0, 1, 2, 3].reduce(function(a, b){ return a + b; });  
console.log("total is : " + total );
```

Output

```
total is : 6
```

sort() method sorts the elements of an array.

```
var arr = new Array("orange", "mango", "banana", "sugar");  
var sorted = arr.sort();  
console.log("Returned string is : " + sorted );
```

Output

```
Returned string is : banana,mango,orange,sugar
```

ForEach()

```
let array2=[200, -150, -5];
array2.forEach(function(items){
    if(items>0){
        console.log(`${items}`)
    }
    else{
        console.log(`${Math.abs(items)}`)
    }
})
```

The [arr.forEach](#) method allows to run a function for every element of the array.

```
arr.forEach(function(item, index, array) { //
... do something with item });
```

Exersice 1

გვაქვს მასივი : [10, 20, 5, 6, 15];

დაწერეთ ფუნქცია რომელიც იპოვს მასივის ელემენტებს რომელიც მეტია 10-ზე

String Methods

Sr.No	Method & Description
1	charAt() Returns the character at the specified index.
2	charCodeAt() Returns a number indicating the Unicode value of the character at the given index.
3	concat() Combines the text of two strings and returns a new string.
4	indexOf() Returns the index within the calling String object of the first occurrence of the specified value, or -1 if not found.
5	lastIndexOf() Returns the index within the calling String object of the last occurrence of the specified value, or -1 if not found.
6	localeCompare() Returns a number indicating whether a reference string comes before or after or is the same as the given string in a sorted order.
7	match() Used to match a regular expression against a string.
8	replace() Used to find a match between a regular expression and a string, and to replace the matched substring with a new substring.
9	search() Executes the search for a match between a regular expression and a specified string.
10	slice() Extracts a section of a string and returns a new string.
11	split() Splits a String object into an array of strings by separating the string into substrings.
12	substr() Returns the characters in a string beginning at the specified location through the specified number of characters.
13	substring() Returns the characters in a string between two indexes into the string.
14	toLocaleLowerCase() The characters within a string are converted to lower case while respecting the current locale.
15	toLocaleUpperCase() The characters within a string are converted to uppercase while respecting the current locale.
16	toLowerCase() Returns the calling string value converted to lowercase.
17	toString() Returns a string representing the specified object.
18	toUpperCase() Returns the calling string value converted to uppercase.
19	valueOf() Returns the primitive value of the specified object.

String Methods

```
220 const str="I live in Georgia";
221 console.log(str.length); // 17
222 console.log(str.indexOf('l')) // 2
223 console.log(str.slice(4)) // ve in Georgia
224 console.log(str.split(' ')) // [ 'I', 'live', 'in', 'Georgia' ]
225 console.log(str.toUpperCase(' ')) // I LIVE IN GEORGIA
226 console.log(str.toLowerCase(' ')) // i live in georgia
227 console.log(str.replace('i', 'I')) // I lIve in Georgia
228 console.log(str.replace(/i/g, 'I')) // I lIve In GeorgIa
229
```

String Methods

```
230 const str2="i am going in Georgia";
231 var result=str2.repeat(2);
232 console.log(result)
233 |
```

Repeat()

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
[Running] node "e:\javascript lessons\4 lesson\lesson4.js"
i am going in Georgiai am going in Georgia
```

```
239 var str1 = new String( "This is string one" );
240 var str2 = new String( "This is string two" );
241 var str3 = str1.concat( str2 );
242 console.log("str1 + str2 : "+str3)
243
```

Concat()

This method adds two or more strings and returns a new single string.

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
[Running] node "e:\javascript lessons\4 lesson\lesson4.js"
str1 + str2 : This is string oneThis is string two
```

Exercise 2

გვაქვს წინადადება. Hello I am Developer;

დაწერეთ ფუნქცია რომელიც აქცევს წინადადებას მასივად იმ ადგილას სადაც არის ჰარი;

დაწერეთ ფუნქცია რომელიც გაამეორებს წინადადებას 5-ჯერ

Spread Operators

Spread syntax (...) allows an iterable such as an array expression or string to be expanded in places where zero or more arguments (for function calls) or elements (for array literals) are expected, or an object expression to be expanded in places where zero or more key-value pairs (for object literals) are expected.

```
const arr=[1,5, 20];  
const newarr=[6,7, arr[0], arr[1], arr[2]];  
console.log(newarr);
```

```
const arr=[1,5, 20];  
const newarr=[6,7, arr];  
console.log(newarr)
```

```
[ 6, 7, [ 1, 5, 20 ] ]
```

```
const arr=[1,5, 20];  
const newarr=[6,7, ...arr];  
console.log(newarr)
```

```
[ 6, 7, 1, 5, 20 ]
```

HomeWork

1) გვაქვს მასივი[5, 10, 13, 60];

დაწერეთ JavaScript ბრძანება, რომელიც მოახდენს მასივის გადაქცევას სტრინგად. და ამ ტრინგის დაბეჭდვას პირიქით

- Output: 60!13!10!5

2) გვაქვს მასივი[1, 15, 23, 5,6];

დაწერეთ JavaScript ბრძანება, რომელიც იპოვის მასივში არსებული ელემენტებს, რომელიც მეტია 10-ზე. და გადაიტანს სხვა მასივში. ამ მასივიდან კი იპოვის ელემენტების ჯამს.

3) გვაქვს ორი მასივი:

- Let East: ['Tbilisi', 'Gori', 'Rustavi'];

- Let West: ['Tskhaltubo', 'Kutaisi', 'Zugdidi'];

1) წაშალე ბოლო ელემენტი აღმოსავლეთის მასივში;

2) იპოვეთ რომელ ადგილას დგას დასავლეთ მასივში ზუგდიდი;

3) შექმენით ახალი მასივი სახელად Cities. რომელიც გააერთიენებს 2 მასივს;

4) ამ ახალ მასივს გაუკეთებს reverse-ს;

5) დააღაგებს ზრდადობით Cities მასივს;

6) გადააქცევს ბოლო მასივს String-ად. და გამოყოფს მას სიმბოლო ','

7) ამ სტრინგიდან იპოვის სიტყვა Zugdid-ს და შეცვლის მას სიტყვა 'Foti'-ით;

8) შეცვლილი სიტყვასთან ერთად მოახდენს String-ის მასივად დაბრუნებას.