

## 1.What is map() method in Array? How to use map() method?

The JavaScript array map() method calls the specified function for every array element and returns the new array. This method doesn't change the original array.

The map() method is an iterative method. It calls a provided callbackFn function once for each element in an array and constructs a new array from the results. The map() method is a copying method.

EX: <script>

```
var arr= [2.1,3.5,4.7];  
var result=arr.map(Math.round);  
document.writeln(result);  
</script>
```

OUTPUT: 2,4,5

## 2.Find the details about following methods of Array: find(), findIndex(), filter()

In JavaScript, you can use the `find()` method on arrays to locate the first element in the array that satisfies a specified condition. Here's how you can use it:

EX:

```
const numbers = [1, 2, 3, 4, 5];
```

```
const evenNumber = numbers.find(element => element % 2 === 0);
```

```
console.log(evenNumber); // This will output 2, which is the first even number in the array.
```

In this example, the `find()` method is applied to the `numbers` array, and it uses an arrow function to check if an element is even. It returns the first element that

meets the condition. If none of the elements satisfy the condition, it returns `undefined`.

The `filter()` method is used in JavaScript to create a new array containing all elements that pass a specific condition. Here's how it works:

EX:

```
const numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];
```

```
const evenNumbers = numbers.filter(number => number % 2 === 0);
```

```
console.log(evenNumbers); // This will output [2, 4, 6, 8, 10], which are the even numbers in the original array.
```

In this example, the `filter()` method is applied to the `numbers` array. It takes a **callback function as an argument**, which is used to define the condition for filtering. In this case, it filters out all even numbers and creates a new array called `evenNumbers` containing those elements.

The `filter()` method does not modify the original array; it returns a new array with the filtered elements, leaving the original array unchanged.

The `findIndex()` method in JavaScript is used to find the index of the first element in an array that satisfies a specified condition. Here's how it works:

EX:

```
const numbers = [1, 3, 5, 7, 9, 2, 4, 6, 8, 10];
```

```
const firstEvenIndex = numbers.findIndex(number => number % 2 === 0);
```

```
console.log(firstEvenIndex); // This will output 5 because the first even number (2) is at index 5.
```

In this example, the `findIndex()` method is applied to the `numbers` array, and it takes a callback function that checks if an element is even. It returns the index of the first element that meets the condition. If no elements satisfy the condition, it returns -1.

`findIndex()` is particularly useful when you want to find the index of the first element in an array that matches a specific criterion.