

Ques4. What is map() method in Array? How to use map() method?

Ans: map() creates a new array from calling a function for every array element.

map() does not execute the function for empty elements.

map() does not change the original array.

Syntax: `array.map(function(currentValue, index, arr), thisValue)`

Example: `const numbers = [65, 44, 12, 4];
const newArr = numbers.map(myFunction)`

```
function myFunction(num) {  
  return num * 10;  
}
```

Ques5. Find the details about following methods of Array:

`find()`, `findIndex()`, `filter()`

Ans: **`find()`**, **`findIndex()`**, **`filter()`**

- **`find()` Method:**

- **Purpose:** The `find()` method is used to find the first element in an array that satisfies a provided testing function.
- **Syntax:** `array.find(callback(element[, index[, array]]), thisArg)`

Parameters:

- **callback:** A function that defines the test condition. It is invoked with three arguments: element (the current array element), index (the current index), and array (the array on which `find()` was called).
- **thisArg (optional):** An object to which the `this` value within the callback is set.
- **Return Value:** The `find()` method returns the first element in the array that satisfies the provided testing function. If no element is found, it returns `undefined`.

- **`findIndex()` Method:**

- **Purpose:** The `findIndex()` method is used to find the index of the first element in an array that satisfies a provided testing function.
- **Syntax:** `array.findIndex(callback(element[, index[, array]]), thisArg)`

Parameters:

- **callback:** A function that defines the test condition. It is invoked with three arguments: element (the current array element), index (the current index), and array (the array on which `findIndex()` was called).
- **thisArg (optional):** An object to which the `this` value within the callback is set.
- **Return Value:** The `findIndex()` method returns the index of the first element in the array that satisfies the provided testing function. If no element is found, it returns `-1`.

- **`filter()` Method:**

- Purpose: The filter() method is used to create a new array with all elements that satisfy a provided testing function.
- Syntax: array.filter(callback(element[, index[, array]]), thisArg)
- Parameters:
- callback: A function that defines the test condition. It is invoked with three arguments: element (the current array element), index (the current index), and array (the array on which filter() was called).
- thisArg (optional): An object to which this value within the callback is set.
- Return Value: The filter() method returns a new array containing all elements that satisfy the provided testing function. If no elements match the condition, it returns an empty array.