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

The map() method in Array creates a new array with the results of calling a provided function on every element in the calling array.

The syntax for the map() method is:

*array.map(callbackFn, thisArg)*

***array****:*

*The array to iterate over.*

***callbackFn:***

*The function to call on each element in the array.*

***thisArg:***

*An optional value to use as this when calling the callbackFn function.*

*The callbackFn function is called for each element in the array, and the results are placed in a new array. The callbackFn function receives three arguments:*

***current Value:*** *The current element being processed.*

***index:*** *The index of the current element.*

***array:*** *The array that the map() method was called on.*

*The callbackFn function can return any value, which will be placed in the new array at the corresponding index.*

*Here is an* ***example*** *of using the map() method to double the value of each element in an array:*

* *const numbers = [1, 2, 3, 4];*
* *const doubledNumbers = numbers.map(number => number \* 2);*

*console.log(doubledNumbers); // [2, 4, 6,*

**6. Find the details about following methods of Array:**

**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.*