

TRAINING REPORT (TR-102)

DAY: -19 (3 JULY 2024)

Introduction about JavaScript Array: -

An array can hold many values under a single name, and you can access the values by referring to an index number.

An array is a special variable, which can hold more than one value.

EXAMPLE: -

```
1 let NAME=["GURSHARAN KAUR",20,20000, '7723837266']
2 console.log("Original list :", NAME);
3 console.log("Length of list:" ,NAME.length);
4
```

OUTPUT: -

```
node /tmp/3yLUM3p0a7.js
Original list : [ 'GURSHARAN KAUR', 20, 20000, '7723837266' ]
Length of list: 4
```

Creating an Array: - Using an array literal is the easiest way to create a JavaScript Array.

Syntax: - const array_name = [item1, item2, ...];

Accessing Array Elements: - You access an array element by referring to the **index** number:

EXAMPLE: -

```
1 let NAME=["GURSHARAN KAUR",20,20000, '7723837266']
2 console.log("Original list :", NAME);
3 console.log("Length of list:" ,NAME.length);
4 console.log(NAME[0]);
```

OUTPUT: -

```
node /tmp/ejjAXfjVYt.js
Original list : [ 'GURSHARAN KAUR', 20, 20000, '7723837266' ]
Length of list: 4
GURSHARAN KAUR
```


Changing an Array Element: -

EXAMPLE: -

```
1 let NAME=["GURSHARAN KAUR",20,20000, '7723837266']
2 console.log("Orignal list :", NAME);
3 console.log("Length of list:" ,NAME.length);
4 console.log(NAME[0]);
5 NAME [1]=21;
6 console.log("Orignal list :", NAME);
```

OUTPUT: -

```
node /tmp/YnRpppR0fK.js
Orignal list : [ 'GURSHARAN KAUR', 20, 20000, '7723837266' ]
Length of list: 4
GURSHARAN KAUR
Orignal list : [ 'GURSHARAN KAUR', 21, 20000, '7723837266' ]
```

Converting an Array to a String: - The JavaScript method `toString()` converts an array to a string of (comma separated) array values.

EXAMPLE: -

```
1 let NAME=["GURSHARAN KAUR",20,20000, '7723837266']
2 console.log("Orignal list :", NAME);
3 console.log("Length of list:" ,NAME.length);
4 console.log(NAME[0]);
5 NAME [1]=21;
6 console.log("Orignal list :", NAME);
7 console.log("String:", NAME.toString());
```

OUTPUT: -

```
node /tmp/B3b6rZW8vA.js
Orignal list : [ 'GURSHARAN KAUR', 20, 20000, '7723837266' ]
Length of list: 4
GURSHARAN KAUR
Orignal list : [ 'GURSHARAN KAUR', 21, 20000, '7723837266' ]
String: GURSHARAN KAUR,21,20000,7723837266
```

Arrays are Objects: - Arrays are a special type of objects. The typeof operator in JavaScript returns "object" for arrays.

But, JavaScript arrays are best described as arrays.

Arrays use **numbers** to access its "elements".

Objects use names to access its "members".

Array Properties and Methods: - The real strength of JavaScript arrays are the built-in array properties and methods:

- The length Property: The length property of an array returns the length of an array (the number of array elements).
- Accessing the First Array Element
- Accessing the Last Array Element
- Adding Array Elements: The easiest way to add a new element to an array is using the push () method. New element can also be added to an array using the length property.

EXAMPLE: -

```
1 let NAME=["GURSHARAN KAUR",20,20000, '7723837266']
2 console.log("Original list :", NAME);
3 console.log("Length of list:" ,NAME.length);
4 console.log(NAME[0]);
5 NAME [1]=21;
6 console.log("Original list :", NAME);
7 console.log("String:", NAME.toString());
8 console.log("After pop :", NAME.pop());
9 console.log("Original list :", NAME);
10 console.log("Push the element:", NAME.push("Btech,"));
11 console.log("Original list :", NAME);
12 console.log("String:", NAME.toString());
13 console.log("String:", NAME.join("/"));
14 let branchesinbtech=["CSE","CIVIL","IT","MECHANICAL","ELECTRICAL",
    ,"ELECTRONICS"]
15 console.log("COMBINE :",NAME+branchesinbtech );
16 console.log("Original list :", [NAME + branchesinbtech]);
17 console.log("Original list :", [NAME]+[branchesinbtech]);
```

OUTPUT: -

```
node /tmp/IYpw2EmIQn.js
Original list : [ 'GURSHARAN KAUR', 20, 20000, '7723837266' ]
Length of list: 4
GURSHARAN KAUR
Original list : [ 'GURSHARAN KAUR', 21, 20000, '7723837266' ]
String: GURSHARAN KAUR,21,20000,7723837266
After pop : 7723837266
Original list : [ 'GURSHARAN KAUR', 21, 20000 ]
Push the element: 4
Original list : [ 'GURSHARAN KAUR', 21, 20000, 'Btech,' ]
String: GURSHARAN KAUR,21,20000,Btech,
String: GURSHARAN KAUR/21/20000/Btech,
COMBINE : GURSHARAN KAUR,21,20000,Btech,CSE,CIVIL,IT,MECHANICAL,ELECTRICAL
,ELECTRONICS
Original list : [
  'GURSHARAN KAUR,21,20000,Btech,CSE,CIVIL,IT,MECHANICAL,ELECTRICAL
  ,ELECTRONICS'
]
Original list : GURSHARAN KAUR,21,20000,Btech,CSE,CIVIL,IT,MECHANICAL
,ELECTRICAL,ELECTRONICS
```