Training Day19 report

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:

```
let fruits=["apple", 123, 4.5, -9.2, true, "9876539579"]
console.log("Orignal list :", fruits);
console.log("Length of list:" ,fruits.length);
```

Output:

PS C:\Users\dell\Documents\Javascript.js> node "c:\Users\dell\Documents\Javascript.js\tempCodeRunnerFile.js"

Orignal list : ['apple', 123, 4.5, -9.2, true, '9876539579']

Length of list: 6

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**:

```
let fruits=["apple", 123, 4.5, -9.2, true, "9876539579"]
console.log("Orignal list :", fruits);
console.log("Length of list:" ,fruits.length);
console.log(fruits[0]);
```

Output:

PS C:\Users\dell\Documents\Javascript.js> node
"c:\Users\dell\Documents\Javascript.js\array.js"

Orignal list : ['apple', 123, 4.5, -9.2, true, '9876539579']

Length of list: 6

apple

Changing an Array Element

```javascript
let fruits=["apple", 123, 4.5, -9.2, true, "9876539579"]
console.log("Orignal list :", fruits);
console.log("Length of list:" ,fruits.length);
console.log(fruits[0]);
fruits[0]="Cherry";
console.log("Orignal list :", fruits);
```

Output:

PS C:\Users\dell\Documents\Javascript.js> node
"c:\Users\dell\Documents\Javascript.js\array.js"

Orignal list : ['apple', 123, 4.5, -9.2, true, '9876539579']

Length of list: 6

apple

Orignal list : ['Cherry', 123, 4.5, -9.2, true, '9876539579']

Converting an Array to a String

The JavaScript method toString() converts an array to a string of (comma separated) array values.

```javascript
let fruits=["apple", 123, 4.5, -9.2, true, "9876539579"]
console.log("Orignal list :", fruits);
console.log("Length of list:" ,fruits.length);
console.log(fruits[0]);
fruits[0]="Cherry";
console.log("Orignal list :", fruits);
```

```
console.log("String:", fruits.toString());
```

Output:

PS C:\Users\dell\Documents\Javascript.js> node
"c:\Users\dell\Documents\Javascript.js\array.js"

Orignal list : ['apple', 123, 4.5, -9.2, true, '9876539579']

Length of list: 6

apple

Orignal list : ['Cherry', 123, 4.5, -9.2, true, '9876539579']

String: Cherry,123,4.5,-9.2,true,9876539579

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:

```javascript
let fruits=["apple", 123, 4.5, -9.2, true, "9876539579"]
console.log("Orignal list :", fruits);
console.log("Length of list:" ,fruits.length);
console.log(fruits[0]);
console.log(fruits[fruits.length-1]);
fruits[0]="Cherry";
console.log("Orignal list :", fruits);
console.log("String:", fruits.toString());
console.log("After pop :", fruits.pop());
console.log("Orignal list :", fruits);
console.log("Push the element:", fruits.push("orange"));
console.log("Orignal list :", fruits);
console.log("String:", fruits.toString());
console.log("String:", fruits.join("/"));
let trees=[",NEEM","MANGOTREE", "COCOCUTTREE","OAKTREE"]
console.log("COMBINE :", fruits + trees);
console.log("Orignal list :", [fruits + trees]);
console.log("Orignal list :", [fruits]+[trees]);
```

Output:

PS C:\Users\dell\Documents\Javascript.js> node
"c:\Users\dell\Documents\Javascript.js\array.js"
Orignal list : ['apple', 123, 4.5, -9.2, true, '9876539579']
Length of list: 6
apple
9876539579
Orignal list : ['Cherry', 123, 4.5, -9.2, true, '9876539579']
String: Cherry,123,4.5,-9.2,true,9876539579
After pop : 9876539579
Orignal list : ['Cherry', 123, 4.5, -9.2, true]
Push the element: 6
Orignal list : ['Cherry', 123, 4.5, -9.2, true, 'orange']
String: Cherry,123,4.5,-9.2,true,orange
String: Cherry/123/4.5/-9.2/true/orange
COMBINE : Cherry,123,4.5,-
9.2,true,orange,NEEM,MANGOTREE,COCOCUTTREE,OAKTREE
Orignal list : [
  'Cherry,123,4.5,-
9.2,true,orange,NEEM,MANGOTREE,COCOCUTTREE,OAKTREE'
]

Orignal list : Cherry,123,4.5,-9.2,true,orange,NEEM,MANGOTREE,COCOCUTTREE,OAKTREE