# Arrays

-> Arrays -> An arrays is a special variable, which can hold more than one value.

" arrays are basically collections of some items, you can write many names of the fruits in a single array!" ['Apple', 'Banana', 'Orange']

- Create an array -> There are three ways to create new array
  first using -> Array literal notation
  Second using -> Array(). Constructor
  finally using -> string.Prototype.Split() to build the array from a string.

(a) Array created using array literal notation.

```
Const fruits = ['Apple', 'Banana'];
Console.log (fruits.length);
                //2
```

(b) Array created using the array() Constructer.

```
const fruits2 = new array ('Apple', 'Banana');
Console.log (fruits2.length);
                //2
```

(C) Array Created using string.Prototype.Split().

```
Const fruits3 = 'Apple, Banana'.Split(',');
Console.log (fruits3.length);
                //2
```

Scanned with CamScanner

- Create a String from an array -> The join() method to create a string from the fruits array.

```
Const fruits = ['Apple', 'Banana'];
Const fruitsString = fruits.join(',');
// "Apple, Banana"
```

- Access an array item by its index -> to access item in the fruits array by specifying the index number of their position in the array.

```
Const fruits = ['Apple', 'Banana'];

// The index of an array's first element is always 0. fruits[0]; // APPle

// The index of an array's second element is always 1. fruits[1]; // Banana

// The index of an array's last element is always one
// less than the length of the array.
fruits[fruits.length - 1]; // Banana

// Using a index number larger than the array's length
// returns 'undefined'.
fruits[99]; // undefined
```

- Find the index of an item in an array -> uses the indexof() method to find the position (index) of the string "Banana" in the fruits array.

```
Const fruits = ['Apple', 'Banana'];
Consale.log (fruits.indexof('Banana'));
// 1
```

- Check if an array contains a certain item -> Two ways to check if the fruits array contains "Banana" and "Cherry"

first method -> includes()
Secound method -> indexof()
method to test for an index value that's not -1

```
Const fruits = ['APPle', 'Banana'];
fruits.includes('Banana'); // true
fruits.includes('Cherry'); // false

// If indexof() doesn't return -1, the array contains the give item.
fruits.indexof('Banana') !== -1; // true
fruits.indexof('Cherry') !== -1; // false
```

Scanned with CamScanner

add

- Append an item to an array → use the Push() method to add a new string to the fruits array

```
Const fruit = ['Apple', 'Banana'];
Const newLength = fruits.Push('orange');
Console.log(fruits);
// ["Apple", "Banana", "orange"]
Console.log(newLength);
// 3
```

- Remove the last item from an array → use the Pop method to remove the last item from the fruits array.

```
Const fruit = ['Apple', 'Banana', 'orange'];
Const removedItem = fruits.Pop();
Console.log(fruits);
// ["Apple", "Banana"]

Console.log(removedItem);
// orange
```

- Remove multiple item from the end of an array:

use the splice() method to remove the last 3 items from the fruits array.

```
Const fruits = ['Apple', 'Banana', 'Strawberry',
                'Mango', 'cherry'];

Const start = -3;
Const removeditemos = fruits.splice(start);
Console.log(fruits);
// ["Apple", "Banana"]
Console.log(removeditems);
// ["strawberry", "Mango", "cherry"]
```

- Truncate an array down to just its first N items

uses the splice() method to truncate the fruites array down to just its first 2 items.

```
Const fruits = ['Apple', 'Banana', 'Strawberry',
                'Mango', 'cherry'];
Const start = 2;
Const removeditems = fruits.splice(start);
Console.log(fruits);
// ["Apple", "Banana"]
Console.log(removeditems);
// ["strawberry", "Mango", "cherry"]
```

- Remove the first item from an array → use the shift() method to remove the first item from the fruits array.

Scanned with CamScanner

```
Const fruits = ['Apple', 'Banana'];
Const removedItem = fruits.shift();
Console.log(fruits);
  // ["Banana"]
Console.log(removedItem);
  // Apple
```

shift() can only be used to remove the first item from an array.

- Remove multiple items from the beginning of an array -> uses the splice() method to remove the first 3 items from the fruits array.

```
Const fruits = ['Apple', 'Strawberry', 'Cherry', 'Banana', 'Mango'];

Const start = 0;
Const deleteCount = 3;
Const removedItems = fruits.splice(start, deleteCount);

Console.log(fruits);
  // ["Banana", "Mango"]

Console.log(removedItems);
  // ["Apple", "Strawberry", "Cherry"]
```

- Add a new first item to an array -> Uses the unshift() method to add, at index 0, a new item to the fruits array. (making it the new first in the array)

```
Const fruits = ['Banana', 'Mango'];
Const newLength = fruits.unshift('Strawberry');
Console.log(fruits);
  // ["Strawberry", "Banana", "Mango"]
Console.log(newLength);
  // 3
```

- Remove a single item by index -> uses the splice() method to remove the string "Banana" from the fruits array - by specifying the index position of "Banana".

```
Const fruits = ['Strawberry', 'Banana', 'Mango'];
Const start = fruits.indexOf('Banana');
Const deleteCount = 1;
Const removedItems = fruits.splice(start, deleteCount);

Console.log(fruits);
  // ["Strawberry", "Mango"]
Console.log(removedItems);
  // ["Banana"]
```

Scanned with CamScanner

Page

- Remove multiple items by index → use the splice() method to remove the strings "Banana" and "strawberry" from the fruits array.

```
Const fruits = ['Apple', 'Banana', 'strawberry', 'Mango'];
Const start = 1;
Const deleteCount = 2;
Const removedItems = fruits.splice(start, deleteCount);
Console.log (fruits);
  // ["Apple", "Mango"]
Console.log (removedItems);
// ["Banana", "strawberry"]
```

- Replace multiple items in an array → use the splice() method to replace the last 2 items in the fruits array with new items.

```
Const fruits = ['Apple', 'Banana', 'strawberry'];
Const start = -2;
Const deleteCount = 2;
Const removedItems = fruits.splice(start, deleteCount,
  'Mango', 'cherry');
Console.log (fruits);
  // ["Apple", "Mango", "cherry"]
Console.log (removedItems);
  // ["Banana", "strawberry"]
```

Date
Page

- Iterate over an array → uses a for...of loop to iterate over the fruits array, logging each item to the console.

```
Const fruits = ['Apple', 'Mango', 'cherry'];
for (Const fruit of fruits) {
  Console.log (fruit);
  }
    // Apple
    // Mango
    // cherry
```

- Call a function on each element in an array → uses the forEach() method to call a function on each element in the fruits array; the function causes each item to be logged to the console, along with the item's index number.

```
Const fruits = ['Apple', 'Mango', 'cherry'];
  fruits.forEach ((item, index, array) => {
    Console.log (item, index);

  });

  // Apple 0
  // Mango 1
  // cherry 2
```

Scanned with CamScanner

- Merge multiple arrays together → uses the concat() method to merge the fruits array with a more fruits array, to produce a new combined fruits array.

```
Const fruits = ['Apple', 'Banana', 'strawberry'];
Const more fruits = ['Mango', 'cherry'];
Const Combined fruits = fruits. Concat (more
    fruits);
Console. log Combined fruits);
// ["Apple", "Banana", "strawberry", "Mango", "cherry"]

// The 'fruits' array remains unchanged.
  Console. log (fruits);
// ["Apple", "Banana", "strawberry"]

// The 'more fruits' array also remains
    unchanged
Console. log (more fruits);

// ["Mango", "cherry"]
```

- Copy an array → Three ways to create a new array from the existing fruits array: first by using Spread syntax and using from() method., 3rd using the slice(): method.

```
Const fruits = ['strawberry', 'mango']
// Create a Copy using Spread Syntax.
Const fruitscopy = [... fruits];
// ["strawberry", "Mango"]

// Create a Copy using the from() method.
Const fruitscopy2 = Array. from (fruits);
// ["strawberry", "Mango"]

// Create a Copy using the slice() method
Const fruitscopy3 = fruits. slice();
// ["strawberry", "Mango"]
```

Scanned with CamScanner