

# Basic Array Functions

Let's learn some of the fundamental functions of the array data structure.

## WE'LL COVER THE FOLLOWING ^

- Array Length
- Accessing Elements
- Modifying Arrays
- Merging Arrays

## Array Length #

The length of an array can be calculated using the `Array.length()` utility.

```
let arr = Array.make(10, 0);  
Js.log(Array.length(arr));
```



## Accessing Elements #

An array element can be accessed using its index. This is also known as **indexing**. We simply have to enclose the index in `[]` brackets and append it to the array name:

```
arrayName[index]
```

Here's an example of indexing:

```
let arr: array(int) = [| 24, 60, 46, 17, 80|];  
Js.log(arr[2]); /* 2nd index => 3rd element => 46 */
```



```
let length = Array.length(arr);  
Js.log(arr[length - 1]); /* Last element => 80 */
```

```
Js.log(arr[arr.length - 1]); /* Last element => 80 */
```



An alternative to indexing is the `Array.get()` method. Below, we can find the template for `Array.get()`:

```
Array.get(arrayName, index)
```

Here's an example:

```
let arr: array(int) = [| 24, 60, 46, 17, 80|];  
let second = Array.get(arr, 1);  
Js.log(second); /* 60 */
```



## Modifying Arrays #

As we already know, an array is mutable. While the size of an array may remain fixed after its declaration, the contents can always be changed.

This makes it a perfect data structure if our data needs to be updated constantly.

To update a value, we'll use the `Array.set()` function, which follows this template:

```
Array.set(arrayName, index, value)
```

Here's an example:

```
let arr: array(int) = [| 24, 60, 46, 17, 80|];  
  
let second = Array.get(arr, 1);  
Js.log(second); /* 60 */  
  
Array.set(arr, 1, 50);  
let second = Array.get(arr, 1);  
Js.log(second); /* 50 */
```



## Merging Arrays #

Two arrays can be merged using the `Array.append()` function, which has the following template:

```
Array.append(array1, array2)
```

In the line above, `array2` will be appended at the end of `array1`.

Below, we can see the `append()` function in action:

```
let arr1 = [| 10, 20, 30, 40 |];  
let arr2 = Array.make(4, 90);  
  
let arr3 = Array.append(arr1, arr2);  
Js.log(arr3);
```



We are now familiar with some of the functionality that arrays can offer us. In the next lesson, we'll apply pattern matching to arrays.