

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.