Extra assignment II

You are now working for a company called **Penguin** and your job is to create a new application for their website **www.penguin.com**. When you start working on the project you realize that the **Array.prototype** does not provide you with all the functionality you need. Therefore you want to take things in to your own hands and extend the **Array.prototype** to fit to your needs.

Assignment description

Extend the **Array.prototype** with the following functionality:

- (**10%**) Create an extension method called **removeAllDuplicates()** which removes all duplicates within an array

- (**10%**) Create an extension method called **insertAt(element, index)** which should insert the element at a specific index

- (**10%**) Create an extension method called **tail(n)** which should return the **n** elements at the back of the array as an array

- (**10%**) Create an extension method called **head(n)** which should return the **n** elements at the front of the array as an array

- (**10%**) Create an extension method called **remove(predicateFunction)** which takes in a function which should be used to determine what to remove, e.g. predicate function that filters out all even numbers

- (**10%**) Create an extension method called **difference(array)** which takes in an array and returns the difference of the array it is being executed on and the one provided, as an array (*possibly an empty array*)

- (**10%**) Create an extension method called **intersection(array)** which takes in an array and returns the intersection of the array it is being executed on and the one provided, as an array (*possibly an empty array*)

- (**10%**) Create an extension method called **zip(firstArray, secondArray, ..., nArray)** which takes any number of arrays and returns a group of elements, meaning that every element in the first index of each array should be grouped together in a new array and every element in the second index of each array should be grouped together and etc...

- (**10%**) Create an extension method called **multiply()** which works on the array it is executed on. All elements in the array must be a number otherwise throw an exception. Return the multiple of the array as a single number

- (**10%**) Create an extension method called **average()** which works on the array it is executed on. All elements in the array must be a number otherwise throw an exception. Return the average of the array as a single number

Submission

Submit a single .js file containing your **Array.prototype** extension methods.

Resources

You may not use any additional libraries to implement this solution.