

Array - Coding exercises

1. Exists a Number Higher?

Write a function that returns true if there exists at least one number that is larger than or equal to n.

Examples

```
existsHigher([5, 3, 15, 22, 4], 10) → true
```

```
existsHigher([1, 2, 3, 4, 5], 8) → false
```

```
existsHigher([4, 3, 3, 3, 2, 2, 2], 4) → true
```

```
existsHigher([], 5) → false
```

2. Difference of Max and Min Numbers in Array

Create a function that takes an array and returns the difference between the biggest and smallest numbers.

Examples

```
differenceMaxMin([10, 4, 1, 4, -10, -50, 32, 21]) → 82  
// Smallest number is -50, biggest is 32.
```

```
differenceMaxMin([44, 32, 86, 19]) → 67  
// Smallest number is 19, biggest is 86.
```

3. Is the Average of All Elements a Whole Number?

Create a function that takes an array as an argument and returns true or false depending on whether the average of all elements in the array is a whole number or not.

Examples

```
isAvgWhole([1, 3]) → true
```

```
isAvgWhole([1, 2, 3, 4]) → false
```

```
isAvgWhole([1, 5, 6]) → true
```

4. Capitalize the Names

Create a method that takes an array of names and returns an array where only the first letter of each name is capitalized.

Examples

```
capMe(["mavis", "senaida", "letty"]) → ["Mavis", "Senaida", "Letty"]
```

```
capMe(["samuel", "MABELLE", "letitia", "meridith"]) → ["Samuel", "Mabelle", "Letitia", "Meridith"]
```

5. Match the Last Item

Create a function that takes an array of items and checks if the last item matches the rest of the array concatenated together.

Examples

```
matchLastItem(["i", "love", "tesh", "ilovetesh"]) → true  
// The last item is the rest joined.
```

```
matchLastItem(["i", "am", "into", "her", "world", "iamintoherworld"]) → true  
// The last item is the rest joined.
```

```
matchLastItem(["1", "1", "1", "11"]) → false  
// The last item should be "111".
```

6. Special Arrays

An array is special if every even index contains an even number and every odd index contains an odd number. Create a function that returns true if an array is special, and false otherwise.

Examples

```
isSpecialArray([2, 7, 4, 9, 6, 1, 6, 3]) → true
// Even indices: [2, 4, 6, 6]; Odd indices: [7, 9, 1, 3]

isSpecialArray([2, 7, 9, 1, 6, 1, 6, 3]) → false
// Index 2 has an odd number 9.
```

7. Find the Smallest and Biggest Numbers

Create a function that takes an array of numbers and return both the minimum and maximum numbers, in that order.

Examples

```
minMax([1, 2, 3, 4, 5]) → [1, 5]

minMax([2334454, 5]) → [5, 2334454]

minMax([1]) → [1, 1]
```

8. Cumulative Array Sum

Create a method that takes an array of integers and returns an array where each integer is the sum of itself + all previous numbers in the array.

Examples

```
cumulativeSum([1, 2, 3]) → [1, 3, 6]

cumulativeSum([1, -2, 3]) → [1, -1, 2]
```

9. Secret Society

A group of friends have decided to start a secret society. The name will be the first letter of each of their names, sorted in alphabetical order.

Create a function that takes in an array of names and returns the name of the secret society.

Examples

```
societyName(["Adam", "Sarah", "Malcolm"]) → "AMS"
```

```
societyName(["Harry", "Newt", "Luna", "Cho"]) → "CHLN"
```