**7 kyu**

**Array Leaders (Array Series #3)**

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C++

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**Introduction and Warm-up (Highly recommended)**

[**Playing With Lists/Arrays Series**](https://www.codewars.com/collections/playing-with-lists-slash-arrays)

**Definition**

An ***element is leader*** *if it is greater than The Sum all the elements to its right side*.

**Task**

***Given*** an *array/list [] of integers* , ***Find*** *all the****LEADERS****in the array*.

**Notes**

* ***Array/list*** size is *at least 3* .
* ***Array/list's numbers*** Will be ***mixture of positives , negatives and zeros***
* ***Repeatition*** of numbers in *the array/list could occur*.
* ***Returned Array/list*** *should store the leading numbers****in the same order****in the original array/list* .

**Input >> Output Examples**

1 - arrayLeaders ({1, 2, 3, 4, 0}) ==> return {4}

***Explanation***:

* 4 *is greater than the sum all the elements to its right side*
* ***Note*** : ***The last element*** 0 *is equal to right sum of its elements (abstract zero)*.

2- arrayLeaders ({16, 17, 4, 3, 5, 2}) ==> return {17, 5, 2}

***Explanation***:

* 17 *is greater than the sum all the elements to its right side*
* 5 *is greater than the sum all the elements to its right side*
* ***Note*** : ***The last element*** 2 *is greater than the sum of its right elements (abstract zero)*.

3- arrayLeaders ({5, 2, -1}) ==> return {5, 2}

***Explanation***:

* 5 *is greater than the sum all the elements to its right side*
* 2 *is greater than the sum all the elements to its right side*
* ***Note*** : ***The last element*** -1 *is less than the sum of its right elements (abstract zero)*.

4- arrayLeaders ({0, -1, -29, 3, 2}) ==> return {0, -1, 3, 2}

***Explanation***:

* 0 *is greater than the sum all the elements to its right side*
* -1 *is greater than the sum all the elements to its right side*
* 3 *is greater than the sum all the elements to its right side*
* ***Note*** : ***The last element*** 2 *is greater than the sum of its right elements (abstract zero)*.

<https://www.codewars.com/kata/array-leaders-array-series-number-3/cpp>

#include <vector>

#include <iostream>

#include <stdio.h>

using namespace std;

vector<int> arrayLeaders(const vector<int>& numbers)

{

// Your Code is Here .... Enjoy !!!

//return vector<int> {};

int diccio[numbers.size()];

int sum = 0;

for (int i = numbers.size() - 1; i >= 0; i--)

{

sum += numbers[i];

diccio[i] = sum;

}

vector<int> lideres;

for (int i = 0; i + 1 < numbers.size(); i++) if(numbers[i] > diccio[i+1]) lideres.push\_back(numbers[i]);

lideres.push\_back(numbers[numbers.size()-1]);

return lideres;

}

int main() {

int arr[] = {16,17,4,3,5,2};

int n = sizeof(arr)/sizeof(int);

vector<int> input;

for(int i =0; i<n; i++) {

input.push\_back(arr[i]);

}

vector<int> lideres = arrayLeaders(input);

for(int i =0; i<lideres.size(); i++) {

cout << lideres [i] << " ";

}

return 0;

}