**5 kyu**

**The maximum sum value of ranges -- Challenge version**

15292% of 2675 of81[myjinxin2015](https://www.codewars.com/users/myjinxin2015)

JavaScript

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When no more interesting kata can be resolved, I just choose to create the new kata, to solve their own, to enjoy the process --myjinxin2015 said

**Description:**

Given an array arr that contains some integers(positive, negative or 0), and a range list such as [[start1,end1],[start2,end2],...], start and end are the index of arr and start always less than end. Your task is to calculate the sum value of each range (start index and end index are both inclusive), and return the maximum sum value.

For example:

Given arr = [1,-2,3,4,-5,-4,3,2,1],

range = [[1,3],[0,4],[6,8]]

should return 6

calculation process:

range[1,3] = arr[1]+arr[2]+arr[3] = 5

range[0,4] = arr[0]+arr[1]+arr[2]+arr[3]+arr[4] = 1

range[6,8] = arr[6]+arr[7]+arr[8] = 6

So the maximum sum value is 6

**Note:**

* arr always has at least 5 elements;
* range always has at least 1 elements;
* All inputs are valid;
* This is a challenge version, Please optimize your algorithm to avoid time out ;-)
* If you feel difficult, please [try the simple version](https://www.codewars.com/kata/the-maximum-sum-value-of-ranges-simple-version/).

**About testcases**

* Basic test: 3 testcases
* Random test1: 100 testcases
  + each arr : 5-100 elements
  + each range : 1-6 elements
* Random test2: 100 testcases
  + each arr : 100000 elements
  + each range : 10000 elements

**Some Examples**

maxSum([1,-2,3,4,-5,-4,3,2,1],[[1,3],[0,4],[6,8]]) === 6

maxSum([1,-2,3,4,-5,-4,3,2,1],[[1,3]]) === 5

maxSum([1,-2,3,4,-5,-4,3,2,1],[[1,4],[2,5]]) === 0

<https://www.codewars.com/kata/the-maximum-sum-value-of-ranges-challenge-version/javascript>

<script>

Array.matrix = **function**(numrows, numcols, initial) {

**var** arr = [];

**for** (**var** i = 0; i < numrows; ++i) {

**var** columns = [];

**for** (**var** j = 0; j < numcols; ++j) {

            columns[j] = initial;

        }

        arr[i] = columns;

    }

**return** arr;

}

**function** maxSum(arr,rangos){

*//coding and coding..*

**var** sumas = {};

**var** i =0;

**var** sum = 0;

**for** ( i = 0; i < arr.length; i++)

            {

                sum += arr[i];

                sumas[i] = sum;

            }

**var** max\_sum = Number.MIN\_SAFE\_INTEGER;

**for** ( i = 0; i < rangos.length; i++)

            {

**if** (rangos[i][0] - 1 >= 0){

                    max\_sum = Math.max(max\_sum, sumas[rangos[i][1]] - sumas[rangos[i][0] - 1]);

                }

**else**{

                    max\_sum = Math.max(max\_sum, sumas[rangos[i][1]] );

                }

            }

**return** max\_sum;

}

document.write(maxSum([1,-2,3,4,-5,-4,3,2,1],[[1,4],[2,5]]));

</script>