

Max Array Sum ☆

Problem

Submissions

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Given an array of integers, find the subset of non-adjacent elements with the maximum sum. Calculate the sum of that subset.

For example, given an array **arr** = [-2, 1, 3, -4, 5] we have the following possible subsets:

Subset	Sum
[-2, 3, 5]	6
[-2, 3]	1
[-2, -4]	-6
[-2, 5]	3
[1, -4]	-3
[1, 5]	6
[3, 5]	8

Our maximum subset sum is **8**.

Function Description

Complete the **maxSubsetSum** function in the editor below. It should return an integer representing the maximum subset sum for the given array.

maxSubsetSum has the following parameter(s):

- arr: an array of integers

Input Format

The first line contains an integer, **n**.

The second line contains **n** space-separated integers **arr[i]**.

Constraints

- $1 \leq n \leq 10^5$
- $-10^4 \leq arr[i] \leq 10^4$

Output Format

Return the maximum sum described in the statement.

Sample Input 0

```
5
3 7 4 6 5
```

Sample Output 0

```
13
```

Explanation 0

Our possible subsets are [3, 4, 5], [3, 4], [3, 6], [3, 5], [7, 6], [7, 5] and [4, 5]. The largest subset sum is **13** from subset [7, 6]

Sample Input 1

```
5
2 1 5 8 4
```

Sample Output 1



11

Explanation 1

Our subsets are [2, 5, 4], [2, 5], [2, 8], [2, 4], [1, 8], [1, 4] and [5, 4]. The maximum subset sum is **11** from the first subset listed.

Sample Input 2

```
5
3 5 -7 8 10
```

Sample Output 2

15

Explanation 2

Our subsets are [3, -7, 10], [3, 8], [3, 10], [5, 8], [5, 10] and [-7, 10]. The maximum subset sum is **15** from the fifth subset listed.

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C++



```
6
7 // Complete the maxSubsetSum function below.
8 int maxSubsetSum(vector<int> arr) {
9     int incl = arr[0];
10    int excl = 0;
11    int excl_new;
12    int i,n;
13    n= arr.size();
14
15    for (i = 1; i < n; i++)
16    {
17        /* current max excluding i */
18        excl_new = (incl > excl)? incl: excl;
19
20        /* current max including i */
21        incl = excl + arr[i];
22        excl = excl_new;
23    }
24    /* return max of incl and excl */
25    return ((incl > excl)? incl : excl);
26 }
```

Line: 25 Col: 40

☒ Upload Code as File ☐ Test against custom input

Run Code

Submit Code

Congratulations!

You have passed the sample test cases. Click the submit button to run your code against all the test cases.

Sample Test case 0**Sample Test case 1****Sample Test case 2**

Input (stdin)

```
1 5
2 3 7 4 6 5
```

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Your Output (stdout)

1	13
---	----

Expected Output

1	13
---	----

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