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Difficulty Level: Medium (https://practice.geeksforgeeks.org/Medium/0/0/)

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Largest Sum Subarray of Size at least K

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Given an array and a number k, find the largest sum of the subarray containing at least k numbers. It may be assumed that the size of array is at-least k.

Input:
The first line of input contains an integer T denoting the number of test cases. Then T test cases follow. Each test case contains an integer n denoting the size of the array. Then the following line contains n space separated integers. The last line of the input contains the number k.

Output:
Print the value of the largest sum of the subarray containing at least k numbers.

Constraints:
1<=T<=10^5
1<=n<=10^5
1<=a[i]<=10^5
1<=k<=n

Example:
Input:
2
4
-4 -2 1 -3
2
6
1 1 1 1 1 1
2

Output:
-1
6

** For More Input/Output Examples Use 'Expected Output' option **

Contributor: Ayush Govil
Author: Ayush Govil 1 (https://auth.geeksforgeeks.org/user/Ayush Govil 1/practice/)

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```
for _ in range(int(input())):
    n=int(input())
    l=list(map(int,input().split()))
    k=int(input())
    maxsum=[l[0]]
    currsum=l[0]
    for i in range(1,n):
        currsum=max(currsum+l[i],l[i])
        maxsum.append(currsum)
    Sum=sum(l[:k])
    result=Sum
    for i in range(k,n):
        Sum=Sum+l[i]-l[i-k]
        result=max(result,Sum)
        result=max(result,Sum+maxsum[i-k])
    print(result)

```

It is recommended to 'Compile & Test' your code before clicking 'Submit'!

Compile & Test | Submit | Expected Output

Compilation/Execution Result:

Correct Answer. ✔
Execution Time:0.02

Next Suggested Problem: Print leaf nodes from preorder traversal of BST (/problems/print-leaf-nodes-fro

Need help with your code? Please use ide.geeksforgeeks.org (https://ide.geeksforgeeks.org)**, generate link and share the link here.**

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Mike R • 7 months ago

10
5 7 -9 3 -4 2 1 -8 9 10
5

Why is the expected output 26? It seems like it should be 16

2 • Reply • Share ›

rishabh sethia ➚ Mike R • 7 months ago

@Mike R ,
The output expected is 26 as 2 1 -8 9 10 5 7 . depicts the cyclic testcase, so it must also be considered!

1 • Reply • Share ›

Nikhil Cheke ➚ rishabh sethia • 6 months ago

please help..

for following case
4
-1 2 -3 4
3

I am getting answer 5 (4 -1 2)..
but at the time of submission it is showing correct ans is 3 ..
how ??

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Jasmeet Chhabra ➚ Nikhil Cheke • 6 months ago

correct answer should be 5

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Jasmeet Chhabra ➚ Nikhil Cheke • 6 months ago

same problem

Reply • Share ›

Yash Garg ➚ Mike R • 7 months ago

Yes, I have the same error

1 Reply • Share ›

sandy ➚ Yash Garg • 7 months ago

same error

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Vidit Kumar ➚ Mike R • 2 months ago

My code got accepted without considering cyclic case. The output to the above input is 16 according to them.

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Deepak Gupta • 2 months ago

Soln
http://hackerranksolutionc....

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Ashish Katiyar • 5 months ago

Constraints:
1<=T<=10^5
1<=n<=10^5
1<=a[i]<=10^5
1<=k<=n

Constraint for a[i] are wrong for sure, please update it.

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Vivek Mathur • 6 months ago

Please write correct constraints problem setters :/

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deepanshu maheshwari ➚ Vivek Mathur • 5 months ago

yes, the constraints are sense less

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Rahul Singh • 6 months ago

http://ide.geeksforgeeks.or...

simple solution using DP;

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Rahul Singh • 6 months ago
Guys Now NO more Cyclic test cases
Reply • Share ›

Nikhil Cheke • 6 months ago
please help..
if im considering cyclic case then it is showing wrong answer for non-cyclic case(not considering cycle) and vice versa..
please help..
Reply • Share ›

Ayush Govil Mod • 6 months ago
@Mike R:disqus @Yash Garg:disqus **@jish @Aryaman Gupta**

Thanks for responding the bug!!
It is corrected now.
Feel free to comment for any query.

Happy Coding!!
Reply • Share ›

Jasmeet Chhabra ➚ Ayush Govil • 6 months ago
@Ayush Govil
perfectly working code
ur test case is hopefully wrong (-1 2 -3 4) k= 3; gives output 3 but should be 5 cyclic case (4 -1 2)
http://ide.geeksforgeeks.or...
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Jasmeet Chhabra ➚ Ayush Govil • 6 months ago
please consider this case

Input:

4

-1 2 -3 4

3

Its Correct output is:

3

And Your Output is:

5
it should be 5 only. consider cyclic case (4,-1,2)
Reply • Share ›

Neha Waghmare ➚ Jasmeet Chhabra • 5 months ago
same problem
Reply • Share ›

Atulit Kumar • 7 months ago
please update the problem statement regarding the number of test cases
Reply • Share ›

Sameer Nayyar • 7 months ago
what should be the ans in case of
4
4 -2 1 5
2
its giving 10 but i m not getting how ?
Reply • Share ›

Debarka Mukhopadhyay ➚ Sameer Nayyar • 7 months ago
add all the +ve numbers
• Reply • Share ›

jish • 7 months ago
Expected output seems to be wrong for the below case:
10
5 7 -9 3 -4 2 1 -8 9 10
5
Expected:26. Correct: 16
Consider the below case:
8
1 1 1 -1 1 1 1 1
4
Expected: 7. Correct : 6

Seems like the code for computing maximum sum till(including) i th element is not enforcing the inclusion of the element at index i.
• Reply • Share ›

Aryaman Gupta ➚ jish • 7 months ago
Same problem I am getting.
• Reply • Share ›

Sameer Nayyar ➚ jish • 7 months ago
how correct is 6
• Reply • Share ›

jish ➚ Sameer Nayyar • 7 months ago
6 is the largest sum which can be formed from any number(>=k) of contiguous elements in the array (which includes the whole array in this case).
• Reply • Share ›

Debarka Mukhopadhyay ➚ jish • 7 months ago
doesn't have to be contiguous. see expected output for
1
5
4 1 -27 1 4
2

output: 10

if we had to take contiguous values it would have been 5
• Reply • Share ›

Abhishek Kushwah ➚ Debarka Mukhopadhyay • 7 months ago
how can be expected output is possible for test case ?
input:
1
8
-521 421 -843 450 -798 321 -120 53
5

expected output:-94
but according to me largest sum of contiguous subarray is -10
• Reply • Share ›

Abhishek Kushwah ➚ Abhishek Kushwah • 7 months ago
okay its correct answer is -94
• Reply • Share ›

rishabh sethia ➚ Debarka Mukhopadhyay • 7 months ago