Tinder Adventures

ZPRAC-16-17-Lab6

[40 points]

Bhuvesh and Rohan are very impressed with your work so far. They go back to check on Shivam. They find out that Shivam, still single, has scraped Tinder data and downloaded information about all the girls on tinder in Kanpur. He has also given every profile an Integer rating (-ve or +ve or 0).

You have the array of all the ratings which is a circular array of size n. Shivam can only ask only a subarray of this circular array for dates. Given the circular subarray of ratings, help Shivam in finding out the subarray with the maximum sum of ratings among all subarrays of length at least 1. You just need to find the sum of ratings in that subarray.

Input:
The first line contains a number n
The second line contains n integers which are profile ratings and the n ratings form a circular array

Output:
A single integer n, denoting the sum of the maximum sum subarray of the circular rating array.

Example:
4
3 -2 4 1

Output:
8

Explanation:
Since it's a circular array, after 4 and 1, 3 is the next element in the array. The subarray formed by 4 1 3 gives the maximum sum 8.

Constraints:
$1 \leq n \leq 10000$
$-1000 \leq rating \leq 1000$