

Problem G. Maximum Subarray Sum

Time limit 1000 ms

Mem limit 524288 kB

Given an array of n integers, your task is to find the maximum sum of values in a contiguous, nonempty subarray.

Input

The first input line has an integer n : the size of the array.

The second line has n integers x_1, x_2, \dots, x_n : the array values.

Output

Print one integer: the maximum subarray sum.

Constraints

- $1 \leq n \leq 2 \cdot 10^5$
- $-10^9 \leq x_i \leq 10^9$

Example

Input	Output
8 -1 3 -2 5 3 -5 2 2	9