Maximum Contiguous Sum of Subsequence

Time limit: 1 sec

Given a sequence $A = a_1, a_2, a_3, \ldots, a_n$, a subsequence of **A** is a non-empty set of consecutive members of **A**. A subsequence can be defined by two indices of **A** that mark the beginning and ending members of the subsequence. For example, $\langle a_3, a_4, a_5 \rangle$ is a subsequence of **A** defined by indices 3 and 5 while $\langle a_1, a_4, a_5 \rangle$ is not a subsequence.

We would like to find a subsequence of **A** such that the summation of the elements of that subsequence is maximal.

Input

- The first line of input contains one integers **N** $(1 \leq N \leq 10^5)$ indicating the size of the sequence.
- The second line contains **N** integer a[i] $(-1 \times 10^3 \leq a[i] \leq 10^3)$ that indicates the elements of the sequence.

Output

The only line of the output must contain the summation of the maximal contiguous subsequence.

Example

Input	Output
15 1 2 -1 5 3 -8 -2 4 3 -4 -5 7 -1 -2 4	10
8 -1 -2 -2 -2 -2 -2 -2 -1	-1