

LOGGING

There is a row of precious timber forests of n trees numbered from 1 to n and each tree has a monetary value of k . Phuc wants to cut some trees to get the **maximum** values and with the following conditions:

- Always cut at least two consecutive trees. It means that if you cut a tree, at least one of the next or the previous trees must be cut.
- There are some trees of the rare species with the value $k < 0$, if the tree is cut down, he will be fined an amount of money that is equal to the absolute value of that tree.

Input

The first line contains a single integer n ($1 \leq n \leq 10^5$)

The next line contains n integers k_i ($1 \leq i \leq n$, $|k_i| \leq 10^9$) -value of each tree.

Output

Print the maximum value he can get.

Sample

Input	Output
9 3 1 3 -8 3 -2 2 -1 3	12