Problem J. Strange Sum

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	512 megabytes

Given a sequence $a_1, a_2, \ldots, a_n$.

You are going to select zero or more elements of a so that: if you select a_i, then in any interval of length i (formally, in $a[j, j+i-1]$ for any $1 \le j \le n-i+1$) you can select at most 2 elements.

Calculate the maximal sum of the elements you select.

Input

The first line contains an integer n ($2 \le n \le 10^5$).

The second line contains n integers $a_1, a_2, \ldots, a_n$ ($-10^9 \le a_i \le 10^9$).

Output

Output a single integer denoting the answer.

Examples

standard input	standard output
4 1 4 3 2	7
3 -10 -10 -10	0