Problem A. Monster

Time limit	2000 ms
Mem limit	262144 kB
OS	Windows

There are n monsters with $a_1, a_2, \ldots, a_n$ HP in game. Before the start of the game, Ginger can set the HP a_i of each monster to any non-negative integer less than or equal to a_i. When the game starts, Ginger can choose any position i $(1 \leq i \leq n)$, and then Ginger must kill the monsters in the order of $i, i-1, \cdots, 1$, and the HP of the attacked monsters must follow the order of non-strict decreasing, Ginger will get $\sum_{j=1}^{i} a_j$ money.

Find the maximum money.

Input

The first line contains a integer n $(1 \leq n \leq 2 \times 10^5)$ indicating the number of monsters HP.

The second line contains n integers $a_1, a_2, \ldots, a_n$ $(1 \leq a_i \leq 10^9)$ indicating the monsters HP.

Output

Print the maximum money.

Sample 1

Input	Output
5 8 5 4 7 2	19

Note

For test case:

Before the start of the game, the monster's HP is set to $[4, 4, 4, 7, 2]$.

When the game starts, Ginger chooses position $i = 4$, Ginger will get $7 + 4 + 4 + 4 = 19$ money.