K. The Special Race

Time Limit: 3 seconds

Problem description

Alice is participating in a special racing event. She has the option to choose a route consisting of multiple segments. The chosen route can have a starting point and an ending point at any location. Each segment has a different level of difficulty, and if the racers pass through them, they receive different reward points, assumed to be integers ranging from -1000 to 1000. Help Alice select a route where the total rewards for the segments are maximized. It is known that the number of segments provided by the race organizers is a number $n \leq 10^5$.

Input

- The first line contains an integer n ($n <= 10^5$) - the number of segments in the race.
- The second line contains n integers $a_1, a_2, ..., a_n$ ($-1000 <= a_i <= 1000$) - the reward points that racers receive when passing through each segment among the n segments of the race.

Output

The first line prints the total rewards of the route you choose for Alice. If the input data makes it impossible to choose any path, return NULL.

Example 1

Input	Output
7 -2 1 -3 4 -1 2 1	6

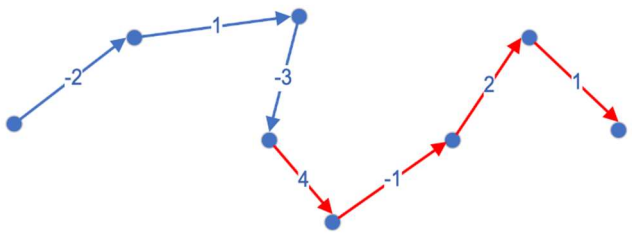

Figure 1. The segments and their corresponding reward values in the race.

The path that Alice needs to choose is the red-marked path in Figure 1, with reward values of: 4, -1, 2, 1 respectively.

Example 2

Input	Output

1 -10	-10

Alice has only one single path to choose from.

Example 3

Input	Output
-3	NULL