ISR

Time Limit: 1 Second
Memory Limit: 256 MB

LetianPie is tired of eating McDonald's and Burger King everday, so he decided to go to Illinois Street Residence Hall (ISR) Dining Center for dinner today. Today, ISR provides n different kinds of food, with i-th kind of food served on the i-th table, and all tables are arranged in a line. Each person can choose to get in line at i-th table, and leave the line at j-th table ($i \leq j$), grabbing all kinds of food between i-th table and j-th table (inclusive). Each person can only get in line once.

Before deciding what kinds of food to eat tonight, LetianPie first assigns each kind of food an integer value denoting how much he likes this kind of food. Specifically, the i-th kind of food is assigned with value a_i ($-10^5 \leq a_i \leq 10^5$), where a positive value indicates that LetianPie likes this kind of food, and vice versa. The happiness LetianPie gains from the dinner is the sum of values assigned to the foods he picks. Now LetianPie is wondering the maximum happiness he can gain from the dinner if he chooses the starting and ending tables optimally. Since he is too hungry to think about it, he asks you to help him out.

Input

The first line contains a single integer n ($1 \leq n \leq 10^5$) - the number of foods provided by ISR.

The second line contains n integer $a_1, \ldots, a_n$ ($-10^5 \leq a_i \leq 10^5$) - how much LetianPie likes each kind of food.

Output

Output a single integer denoting the maximum happiness LetianPie can gain from the dinner.

Sample Inputs

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5
3 -2 -1 4 0
```

Sample Outputs

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4
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