

## E. Bear and Bowling

time limit per test: 6 seconds  
 memory limit per test: 256 megabytes  
 input: standard input  
 output: standard output

Limak is an old brown bear. He often goes bowling with his friends. Today he feels really good and tries to beat his own record!

For rolling a ball one gets a score — an integer (maybe negative) number of points. Score for  $i$ -th roll is multiplied by  $i$  and scores are summed up. So, for  $k$  rolls with scores  $s_1, s_2, \dots, s_k$ , total score is  $\sum_{i=1}^k i \cdot s_i$ . Total score is 0 if there were no rolls.

Limak made  $n$  rolls and got score  $a_i$  for  $i$ -th of them. He wants to maximize his total score and he came up with an interesting idea. He will cancel some rolls, saying that something distracted him or there was a strong wind.

Limak is able to cancel any number of rolls, maybe even all or none of them. Total score is calculated as if there were only non-canceled rolls. Look at the sample tests for clarification. What maximum total score can Limak get?

### Input

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

The second line contains  $n$  space-separated integers  $a_1, a_2, \dots, a_n$  ( $|a_i| \leq 10^7$ ) - scores for Limak's rolls.

### Output

Print the maximum possible total score after choosing rolls to cancel.

### Examples

<b>input</b>	<a href="#">Copy</a>
5 -2 -8 0 5 -3	
<b>output</b>	<a href="#">Copy</a>
13	
<b>input</b>	<a href="#">Copy</a>
6 -10 20 -30 40 -50 60	
<b>output</b>	<a href="#">Copy</a>
400	

### Note

In first sample Limak should cancel rolls with scores - 8 and - 3. Then he is left with three rolls with scores - 2, 0, 5. Total score is  $1 \cdot (-2) + 2 \cdot 0 + 3 \cdot 5 = 13$ .

In second sample Limak should cancel roll with score - 50. Total score is  $1 \cdot (-10) + 2 \cdot 20 + 3 \cdot (-30) + 4 \cdot 40 + 5 \cdot 60 = 400$ .

**Codeforces Round #318**  
**[RussianCodeCup Thanks-Round]**  
**(Div. 1)**

**Finished**

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[data structures](#) [greedy](#) \*3200  
 No tag edit access

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