Game Of Rotation

Русский \| □□

Mark is an undergraduate student and he is interested in rotation. A conveyor belt competition is going on in the town which Mark wants to win. In the competition, there's A conveyor belt which can be represented as a strip of *1xN* blocks. Each block has a number written on it. The belt keeps rotating in such a way that after each rotation, each block is shifted to left of it and the first block goes to last position.

There is a switch near the conveyer belt which can stop the belt. Each participant would be given a single chance to stop the belt and his *PMEAN* would be calculated.

PMEAN is calculated using the sequence which is there on the belt when it stops. The participant having highest *PMEAN* is the winner. There can be multiple winners.

Mark wants to be among the winners. What *PMEAN* he should try to get which guarantees him to be the winner.

$$PMEAN = \sum_{i=1}^{n} i \times a[i]$$

where a represents the configuration of conveyor belt when it is stopped. Indexing starts from 1.

Input Format
First line contains *N* denoting the number of elements on the belt.
Second line contains *N* space separated integers.

Output Format
Output the required *PMEAN*

Constraints
$1 \leq N \leq 10^6$
$-10^9 \leq$ each number $\leq 10^9$
For any rotation, *PMEAN* will always lie within the range of 64-bit signed integer.

Sample Input

```
3
20 30 10
```

Sample Output

```
140
```

Explanation

Number on top can be written in these manners.
Initial numbers on belt, 20 30 10 *PMEAN* = 1x20 + 2x30 + 3x10 = 110
After first rotation, 30 10 20 *PMEAN* = 1x30 + 2x10 + 3x20 = 110
After second rotation, 10 20 30 *PMEAN* = 1x10 + 2x20 + 3x30 = 140
So maximum possible value will be 140.