

# 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  $1 \times N$  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

$1 \leq N \leq 10^6$

$-10^9 \leq \text{each number} \leq 10^9$

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* =  $1 \times 20 + 2 \times 30 + 3 \times 10 = 110$

After first rotation, 30 10 20 *PMEAN* =  $1 \times 30 + 2 \times 10 + 3 \times 20 = 110$

After second rotation, 10 20 30 *PMEAN* =  $1 \times 10 + 2 \times 20 + 3 \times 30 = 140$

So maximum possible value will be 140.