Generous Iwang

Time Limit	1s
Memory Limit	16MB

Description

In this beautiful world, there are 2 men, one is named Tony, and the other one is named Iwang. Tony worked at GDP Labs Company in Jakarta. He has worked for N months, After Tony worked for such time, he got N salaries as he worked for N month, let A_i is the amount of salary after working in i^{th} month. After working, Tony felt tired and he want to play with his friend, Iwang. Tony then writes all the N numbers in a paper, then gives it to Iwang and the game starts with these operations:

1. Iwang get a group of numbers then he add the sum of all number in the group to his points. Then he gives this group to Tony.
2. Tony get a group of numbers. Whenever he receive a group, he does not like a group of numbers that contains only one number, therefore he will demolish it. But, he is okay if he get a group of number that contains more than one number. So he will divide this group into 2 groups (not necessarily the same size) and then he immediately gives this 2 groups to Iwang.
3. The game is finished when there is no group left to be sent.

Iwang wants to get as many points as possible as he is going to give this points to someone special, a.k.a you. Help Iwang to play this game!

Input Format

First line contains 1 number N denoting the number of months that Tony has worked at GDP Labs, then the next line contains N numbers, the amount of salary in each month.

Output Format

A number that is the answer to the problem.

Constraint

- $1 \leq N \leq 3 \times 10^5$
- $1 \leq A_i \leq 10^6$

Sample Input 1

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3
2 7 9
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Sample Output 1

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52
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Explanation

Initially, Iwang get a group [2, 7, 9]. He sum all of the member and the current point is $2 + 7 + 9 = 18$. Then he gives this group to Tony. Because of the group size is not 1, then Tony can divide this group into 2 groups, for example: [2] and [7, 9], then he gives 2 groups to Iwang.

Iwang get group [2] then the point is increased by 2, so the current point is $18 + 2 = 20$. Then Iwang send this group to Tony. Tony immediately demolish this group. Iwang get the other group [7,9] and then the current point become $20 + 7 + 9 = 36$. Then Iwang gives this group to Tony. Tony then divides this group into [7] and [9] then gives the 2 groups to Iwang.

Then Iwang add the point and the point become $36 + 7 + 9 = 52$. Then after sending the 2 groups, the groups will be demolished by Tony and the game is finished with the total point that can be achieved is 52.