Problem J. Jafar Dar Bishe

Jafar is in a hurry to sell every single mango of his mango farm because of some family issues. He have put us in charge of selling the fruits. Each mango is given a specific price depending on its size and quality, but unfortunately, some of the mangoes are rotten so much, that we'd better get rid of them by assigning them a negative price, convincing the customers to have the mangoes in exchange for money. We are going to inject a chemical liquid that improves the size of each injected mango in a way that we will be able to sell them for twice the price. Also if we do this for the rotten mangoes, we have to double the negative price. We are able to inject each mango only once, and there's no limit to the number of mangoes to be injected. Given the price of the mangoes, what is the maximum profit we can gain?

Input

The first line consist of one integer n, the number of mangos.

$$1 \leq n \leq 10^6$$

The second line contains n integers p_i — The price of the ith mango

$$0 \leq p_i \leq 10^9$$

Output

In the only line of output print the maximum possible profit.

test	answer
4 1 5 -2 3	16