Losar Offer

There is a losar offer on iPhones. **“Take 3 iPhones, pay for the 2 more expensive ones”**. So, each customer who picks 3 iPhones gets the cheapest one for free. Of course, the customer can take even more iPhones and, depending on the way the iPhones are arranged into groups of three, get the cheapest one in each group for free.

For example, let the prices of the iPhone taken by the customer be: 2,3,4,4,6,9,10. If he arranges them into groups (10,3,2), (4,6,4), and (9), he will get the iPhone priced 2 from the first group for free and the iPhone priced 4 from the second group. We can see that he will not get anything for free from the third group because it contains only one iphone.

The lady working in the iPhones store is well-intentioned and she always wants to lower the price for each customer as much as possible. For the given iPhone prices, help the lady arrange the iPhone into groups in the best way possible so that the total price the customer has to pay is minimal.

Please note: The lady doesn’t have to arrange the iPhones into groups so that each group contains exactly 3 iPhones, but the number of iPhones in a group needs to be between 1 and 3, inclusively.

Input

The first line of input contains the integer N ($1 \le N \le 100\,000$), the number of iPhones the customer bought. Each of the following N lines contains a single integer P ($1 \le P \le 100\,000$), the price of each iPhone.

Output

The first and only line of output must contain the required minimum price.

Sample Input	Sample Output
4 3 2 3 2	8
6 6 4 5 5 5 5	21