

Competitive Programming SS24

Submit until end of contest

Problem: Dojo (3 second timelimit)

The coding dojo is the best way to train teams for the World Finals in Competitive Programming.

You are planning this year's coding dojo. Therefore, you have to prepare the partition into teams. Each team should contain exactly three people. From your extensive experience in competitive programming, you know that the strength of a team is best measured as the median of the strengths of the three people.



Your coding apprentices.
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In previous years, the organisers tried to balance the teams as much as possible. This year, you want to do it differently. You will maximize the sum of the team strengths. This has to be the best way, so that one of the teams wins the World Finals!

Given the strength of each student, find the maximum sum of team strengths.

Input

- One line with an integer n ($3 \leq n \leq 10^6$, n is a multiple of 3), the number of students.
- One line with n integers a_1, \dots, a_n ($1 \leq a_i \leq 10^6$ for each i), where a_i is the strength of the i th student.

Output

Output the maximum sum of team strengths.

Sample Input 1

```
3
1 2 3
```

Sample Output 1

```
2
```

Sample Input 2

Sample Output 2

6

5 6 2 3 1 4

8