

Problem D

Delivery Forces



Gry finally becomes the Executive Courier Officer in “Universe Express”. He has n subordinate couriers with some delivery strength f_i . The delivery strength of a team of three people is the median of their strength, i.e., the middle element after the sorting. Please help Gry to split the couriers into k teams of three people in order to maximize the total delivery strength of “Universe Express”. The total strength is the sum of the strength of these k teams.

Input

- One line containing the number of couriers in the company, n ($1 \leq n \leq 10^6$), where n is a multiple of 3.
- One line containing the strengths of the n couriers $f_1 \dots f_n$ ($1 \leq f \leq 10^6$).

Output

The sole line of the output should contain the maximal strength of “Universe Express”.

Sample Input 1

```
3
1 2 3
```

Sample Output 1

```
2
```

Sample Input 2

```
6
5 6 2 3 1 4
```

Sample Output 2

```
8
```

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