# Problem C. Pizza Party

| | |
|---|---|
| Input file: | `standard input` |
| Output file: | `standard output` |
| Time limit: | 1 second |
| Memory limit: | 256 megabytes |

A group of $N$ friends are going to a restaurant for some pizza. After looking at the menu, the $i^{\text{th}}$ person in the group decides to buy a pizza with price $C_i$.

When the group of friends arrive at the till to order the pizzas, the cashier informs the group that there is 2-for-1 special running with a special rule. The rule says that for every pizza paid for, the group gets a cheaper (or equal in value) pizza for free.

The friend group was unprepared for the special. They have asked you to figure out what is the best way to use the 2-for-1 special to pay the least amount possible for their pizzas.

## Input

The first line of input contains a single even integer $N$ ($1 \leq N \leq 2 \cdot 10^5$) — the size of the group.

The second line of input contains $N$ integers $C_1, C_2, \ldots, C_N$ ($1 \leq C_i \leq 10^9$) — the prices of the pizzas.

## Output

Your program must output a single integer — the least amount of money needed to buy all the pizzas.

The final answer may be too large to store in a 32-bit integer. You may need to use a 64-bit integer as described below.

**Delphi/Pascal:** Use **Int64** instead of **Integer**.

**Java:** Use **long** instead of **int**.

**C/C++:** Use **long long** instead of **int**.

**Python:** You don't have to worry. Normal integers will work.

## Scoring

In all subtasks it is guaranteed that $N$ is an even integer.

**Subtask 1:** (0 points) Examples.

**Subtask 2:** (10 points) $N = 2$.

**Subtask 3:** (40 points) $C_1 \leq C_2 \leq \ldots \leq C_N$.

**Subtask 4:** (40 points) $N \leq 2000$.

**Subtask 5:** (10 points) No further constraints.

## Examples

| standard input | standard output |
|---|---|
| 6<br>169 145 150 101 129 160 | 448 |
| 4<br>50 50 100 100 | 150 |

## Note

### Explanation of examples

**Example 1:** It can be shown that the best way to use the special is to pay for the pizzas with prices $129 + 150 + 169 = 448$, with the other pizzas being free.

**Example 2:** It can be shown that the best way to use the special is to pay for the pizzas with prices $50 + 100 = 150$, with the other pizzas being free.