Mock CCO '18 Contest 4 Problem 1 - Mining for Minerals

The Zerg army is working on mining more minerals. They have found a mineral patch of length L. They have a single drone who will mine the minerals.

This drone needs to divide this mineral patch into sections of length L_1 through L_N. The drone can cut a mineral patch of length x into two mineral patches, one with length y and the other with length $x - y$. It will take the drone x seconds to perform one such cut. It is guaranteed that $\sum_{i=1}^{N} L_i = L$. The patches are unordered.

What is the minimum amount of time it will take this single drone to divide the mineral patch into the desired sections?

Constraints

$1 \leq N \leq 20 \cdot 10^3$

$1 \leq L_i \leq 50 \cdot 10^3$

Input Specification

The first line will contain a single integer N.

Each of the next N lines will contain a single integer, L_i.

Output Specification

Output the number of seconds it will take for the drone to divide the mineral patch accordingly.

Sample Input

```
3
8
5
8
```

Sample Output

```
34
```