Graduation Party (confetti)

After graduation, Marco gave a party to celebrate in style the end of his studies! As in every respectable party, he brought a lot of confetti of different types for his guests.

Figure 1: Some confetti with different colors and flavors.

The party is now over and Marco realized that he still has plenty of leftover confetti! He has already eaten lots of them and does not want to exaggerate, thus he had come up with a nice idea. He wants to distribute confetti to his friends but being careful not to make anyone unhappy.

In fact, he has C_0 confetti of one type, C_1 confetti of another type and so on... for a total of N different types. Marco wants to invite some friends and **give the same quantity of confetti to all of them** and this must hold **for all the types of confetti**. He also does not want to keep any for himself: if there are four confetti of a given type, he can invite only one, two or four friends to make a fair division. Help him: how many friends can he invite?

☞ Among the attachments of this task you may find a template file `confetti.*` with a sample incomplete implementation.

Input

The first line contains the only integer N. The second line contains N integers C_i, indicating how many confetti of type i are left.

Output

You need to write a single line with space-separated integers: **all** possible number of friends Marco can invite (listed in increasing order).

Constraints

- $1 \leq N \leq 100$.
- $1 \leq C_i \leq 10^{18}$ for each $i = 0 \ldots N-1$.
- You must output *all* the possible number of friends that can be invited *in increasing order*.

Scoring

Your program will be tested against several test cases grouped in subtasks. In order to obtain the score of a subtask, your program needs to correctly solve all of its test cases.

– **Subtask 1** (0 points) Examples.

– **Subtask 2** (10 points) $N = 1$, $C_i \leq 10^6$ for each $i = 0 \ldots N-1$.

– **Subtask 3** (30 points) $C_i \leq 10^9$ for each $i = 0 \ldots N-1$.

– **Subtask 4** (40 points) The highest number of people that can be invited is guaranteed to be at most 10.

– **Subtask 5** (20 points) No additional limitations.

Examples

input	output
3 10 6 8	1 2
4 24 30 6 125	1

Explanation

In the **first sample case**, Marco can invite 1 friend (and give all confetti to her) or 2 friends (giving each five confetti of the first type, three of the second type and four of the last type). No other number works (for instance, with 3 friends Marco would not be able to fairly split the 10 confetti of the first type).

In the **second sample case**, the only feasible solution is to invite just one friend: every other number works for some types of confetti but not for others.