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SUBTRACT

Language: Default ▼

Time Limit: 1000MS   **Memory Limit:** 10000K
Total Submissions: 1796   **Accepted:** 797   **Special Judge**

Description

We are given a sequence of N positive integers a = [a1, a2, ..., aN] on which we can perform contraction operations.
One contraction operation consists of replacing adjacent elements ai and ai+1 by their difference $a_i - a_{i+1}$. For a sequence of N integers, we can perform exactly N-1 different contraction operations, each of which results in a new (N-1) element sequence.

Precisely, let con(a,i) denote the (N-1) element sequence obtained from [a1, a2, ..., aN] by replacing the elements ai and a_{i+1} by a single integer $a_i - a_{i+1}$:

con(a,i) = [a1, ..., ai-1, ai-a_{i+1}, a_{i+2}, ..., aN]
Applying N-1 contractions to any given sequence of N integers obviously yields a single integer.
For example, applying contractions 2, 3, 2 and 1 in that order to the sequence [12,10,4,3,5] yields 4, since :

$con([12, 10, 4, 3, 5], 2) = [12, 6, 3, 5]$

$con([12, 6, 3, 5]\quad, 3) = [12, 6, -2]$

$con([12, 6, -2]\quad, 2) = [12, 8]$

$con([12, 8]\quad\quad, 1) = [4]$

Given a sequence a1, a2, ..., aN and a target number T, the problem is to find a sequence of N-1 contractions that applied to the original sequence yields T.

Input

The first line of the input contains two integers separated by blank character : the integer N, $1 <= N <= 100$, the number of integers in the original sequence, and the target integer T, $-10000 <= T <= 10000$.
The following N lines contain the starting sequence : for each i, $1 <= i <= N$, the $(i+1)^{st}$ line of the input file contains integer ai, $1 <= ai <= 100$.

Output

Output should contain N-1 lines, describing a sequence of contractions that transforms the original sequence into a single element sequence containing only number T. The ith line of the output file should contain a single integer denoting the ith contraction to be applied.
You can assume that at least one such sequence of contractions will exist for a given input.

Sample Input

```
5 4
12
10
4
3
5
```

Sample Output

```
2
3
2
1
```

Source

CEOI 1998

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