Jack has been abducted by a man in black suit to Mathemagicland. Fortunately, he met a friend Donald Duck. Donald Duck will help him escape only if he first finds all n-tuple solutions:

$$\{x_1, x_2, \ldots, x_n\}$$

and extract the rational numbers in order of magnitude from the n-tuple above, given that:

$$\{\sigma_1, \sigma_2, \ldots, \sigma_n\}$$

where

$$\sigma_k = \sum_{1 \le a_1 < a_2 < \ldots < a_{1-1} < a_1 \le n} \prod_{j=1}^{k} x_{a_j}$$

are called the elementary symmetric polynomials.

For example: if $n = 1$, then

$$\sigma_1 = \sum_{1 \le a_1 \le n} \prod_{j=1}^{k} x_{a_j} = \sum_{1 \le a_1 \le 1} \prod_{j=1}^{1} x_{a_j} = x_1$$

If $n = 2$, then

$$\begin{aligned}
\sigma_1 &= \sum_{1 \le a_1 \le n} \prod_{j=1}^{k} x_{a_j} = \sum_{1 \le a_1 \le 2} \prod_{j=1}^{1} x_{a_j} = \sum_{1 \le a_1 \le 2} x_{a_1} = x_1 + x_2 \\
\sigma_2 &= \sum_{1 \le a_1 \le n} \prod_{j=1}^{k} x_{a_j} = \sum_{1 \le a_1 < a_2 \le 2} \prod_{j=1}^{2} x_{a_j} = \sum_{1 \le a_1 < a_2 \le 2} x_{a_1} x_{a_2} = x_1 x_2
\end{aligned}$$

If $n = 3$, then

$$\begin{aligned}
\sigma_1 &= \sum_{1 \le a_1 \le 3} x_{a_1} = x_1 + x_2 + x_3 \\
\sigma_2 &= \sum_{1 \le a_1 < a_2 \le 3} \prod_{j=1}^{2} x_{a_j} = \sum_{1 \le a_1 < a_2 \le 3} x_{a_1} x_{a_2} = x_1 x_2 + x_1 x_3 + x_2 x_3 \\
\sigma_3 &= \sum_{1 \le a_1 < a_2 < a_3 \le 3} \prod_{j=1}^{3} x_{a_j} = \sum_{1 \le a_1 < a_2 < a_3 \le 3} x_{a_1} x_{a_2} x_{a_3} = x_1 x_2 x_3
\end{aligned}$$

If $n = 4$, then

$$\begin{aligned}
\sigma_1 &= x_1 + x_2 + x_3 + x_4 \\
\sigma_2 &= x_1 x_2 + x_1 x_3 + x_1 x_4 + x_2 x_3 + x_2 x_4 + x_3 x_4 \\
\sigma_3 &= x_1 x_2 x_3 + x_1 x_2 x_4 + x_1 x_3 x_4 + x_2 x_3 x_4 \\
\sigma_4 &= x_1 x_2 x_3 x_4
\end{aligned}$$

However, since most irrational numbers are impossible to represent exactly using a computer, you are only required to output the rational components of in numerical order.

Input

There are less than 1001 test cases. For each test case, the first line contains two integers n and k, $n > 0$, $|k| > 0$, $n < 101$,$|k| < 1001$.

The second line contains n integers separated by a single space,

$$k\sigma_1 \; k\sigma_2 \; \ldots \; k\sigma_n$$

After the last test case, a single integer of '`0`' is given.

Output

Each n-tuple solution should be outputted in exactly one line and in the form of:

$$kx_{a_1} \; kx_{a_2} \; \ldots \; kx_{a_m}$$

Such that

$$\{a_m\} \subseteq \{1, 2, 3, \ldots, n\} \text{ such that } x_{a_1} \in \boldsymbol{Q}, \qquad kx_{a_1} \le kx_{a_2} \le \ldots \le kx_{a_n}$$

Two n-tuple solutions are said to be the same if they have the same output. Two solutions are said to be distinct if they are not the same. Output all distinct solutions in lexicographical order, one in each line. If there is no solution, output '`No solution.`' without quotes. Print a blank line between each test case.

Note: All inputs/outputs will fit into a standard 32-bit signed integer.

Sample Input

```
2 1
2 1
0
```

Sample Output

```
1 1
```