Equal Subset Products P87148_en

You are given n different fractions a_1/b_1, ..., a_n/b_n, with $1 \leq a_i, b_i \leq n$. Find two subsets $I, J \subseteq \{1, \ldots, n\}$, distinct and with no common elements, such that

$$\prod_{i \in I} \frac{a_i}{b_i} \;=\; \prod_{j \in J} \frac{a_j}{b_j}.$$

For instance, if the given fractions are 2/1, 5/3, 1/2, 1/4, 2/4 and 3/6, a possible solution is $3/6 \cdot 1/2 = 1/4$.

Input

Input consists of several cases, each with an n between 1 and 10^5, followed by the n fractions.

Output

For each case, if there is some solution, print any one in two lines, one for each side of the equality, with the number of terms followed by those terms in any order. Follow strictly the format of the sample output. If there is no solution, print just one line with the word `NO`.

Sample input 1

```
6 2/1 5/3 1/2 1/4 2/4 3/6
3 1/2 3/2 3/1
1 1/1
4 1/4 2/3 4/1 4/2
```

Sample output 1

```
2 1/2 2/1
0
1 3/2
2 3/1 1/2
1 1/1
0
0
2 4/1 1/4
```

Problem information

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