Partitions   P70756_en

Write a program that, given n different words $s_1, \ldots, s_n$ and a number p, prints all the ways to share the words between p subsets.

Input

Input consists of a natural number $n > 0$, followed by $s_1, \ldots, s_n$, followed by a natural number $p > 0$.

Output

Print all the ways to share the words between p subsets. The elements of each set must appear in the same order than in the input. Print an empty line after each partition.

Observation

Strictly speaking, a partition cannot have empty subsets, but we forget about that restriction in this exercise.

Information about the checker

You can print the solutions to this exercise in any order.

Sample input 1

```
2
hello bye
2
```

Sample output 1

```
subset 1: {hello,bye}
subset 2: {}

subset 1: {hello}
subset 2: {bye}

subset 1: {bye}
subset 2: {hello}

subset 1: {}
subset 2: {hello,bye}
```

Problem information

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