

Translation Software

Description

Kyaru has downloaded a translation software.

The software works in a simple principle, it translates an English word simply by replacing it with its corresponding Japanese word. (assume there's only one corresponding Japanese word for one English word)

More specifically, the software will look into its internal memory first to see if there has already been its translated word stored. If so, the software will directly use it. Otherwise, the software will search the English word in an external dictionary, use the search result (assume that the dictionary contains everything), as well as store the translated word into internal memory for preparation of translating another same English word.

Suppose that there are m storage units in the internal memory and each of them can store a word and its corresponding Japanese word. For each new translated word to be stored, if there's any empty units, the software will allocate one for this word. Otherwise, the software will remove the word stored earliest and use the unit freed to store the new word.

Kyaru has used this software to translate an essay of n words, and she would like to know how many times the translation software would turn to the external dictionary during its translation of the whole essay. Assume that there's no translated word stored in the internal memory at the beginning.

Input

The input data contains two lines.

The first line contains two integers, separated by a space, denoting m, n .

The second line contains n non-negative integer not exceeding 1000, separated by spaces. Each integer represents a word in the paper. Two words are considered to be the same if and only if the corresponding integers are equal.

Output

One integer in a line denoting the times that the software would turn to the external dictionary.

Sample Input/Output

Input

```
3 7
1 2 1 5 4 4 1
```

Output

```
5
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Constraint

$$1 \leq m \leq 100, 1 \leq n \leq 1000.$$

