

Write a program that, given a natural number N between 0 and 4999 (inclusively), and M distinct decimal digits X_1, X_2, \dots, X_M (at least one), finds the smallest strictly positive multiple of N that has no other digits besides X_1, X_2, \dots, X_M (if such a multiple exists).

Input

The input file has several data sets separated by an empty line, each data set having the following format:

- On the first line — the number N
- On the second line — the number M
- On the following M lines — the digits X_1, X_2, \dots, X_M .

Output

For each data set, the program should write to standard output on a single line the multiple, if such a multiple exists, and '0' otherwise.

Sample Input

```
22
3
7
0
1
```

```
2
1
1
```

Sample Output

```
110
0
```