

Yet Another Multiple Problem

Given a positive integer N ($1 \leq N \leq 10000$) and some digits, find the smallest positive multiple of N whose decimal notation does not contain any of the given digits.

Input

Each test case contains two lines. The first line contains two integers N and m separated by a single space. The second line contains m digits separated by spaces. Input terminates by EOF.

Output

For each test case output its case number (starting from 1) and the answer in a single line, or "-1" (without quotes) if the answer doesn't exist.

Example

Input:

2345 3

7 8 9

100 1

0

Output:

Case 1: 2345

Case 2: -1