

Problem L. Nuci Umplute cu Cremă

Input file: *standard input*
Output file: *standard output*
Time limit: 2 seconds
Memory limit: 1024 mebibytes

Nuci Umplute cu Cremă (walnuts filled with cream) is a very delicious Romanian dessert. The “wall” of the nuts is a special dough recipe that is then turned into that shape while heated in a special shape oven.

You want to make some Nuci. The recipe from your grandmother says the process is very easy. The most important step is preparing the two sides of the Nuci. In order to have the best possible Nuci, the two sides must be heated to different numbers of degrees Celsius. Also, the absolute difference of the two temperatures must be a multiple of k (the two conditions ensure that the cremă will mix due to convection in a way that will trigger your papillae).



This is harder than it seems because the special shape oven is strange. In order to set the temperature, you must input a digit permutation of the number n . That will be the temperature. Your number can not start with 0.

Due to the number n being quite large, you decided to write a program to find any possible pair of temperatures.

Input

The first line contains two integers: m and k ($2 \leq m \leq 5 \cdot 10^6$, $2 \leq k \leq 5 \cdot 10^6$, $4 \leq m \cdot k \leq 10^7$).

The second line contains an m -digit integer, n , that does not have leading zeros.

Output

If it is impossible to find two temperatures satisfying the conditions, print -1 . Otherwise, print two lines. On each line, print one of the temperatures. The temperatures should be permutations of digits of n , they should not have leading zeros and should be different.

Examples

<i>standard input</i>	<i>standard output</i>
6 3 123042	102234 102243
6 3 111111	-1

Note

In the first example, the temperatures 102 234 and 102 243 are both digit permutations of 123 042. Also, $102\,243 - 102\,234 = 9 = 3 \cdot 3$. There are other possible solutions as well.

In the second example, there is only one unique digit permutation of 111 111. Thus, it is impossible to choose two different temperatures.