

Help me pls

A person is locked inside a cage underwater, screaming "I'm under the water! Please Help me". And the cage can't be broken mechanically as some unknown transparent strong material made it. But a programmer can free him 😎.



To release him, you need to find a way to build the codeword. However, after you break the codeword, there is some time that it will take to open the cage. This time is calculated according to the following rules:

- At first, you are given an empty string.
- There are two restrictions:
 - The codeword must have a length of l .
 - When you add a character to the string, the time is increased by "p" seconds.
 - When you duplicate the string, the time is increased by level "q" seconds.

Find the minimum amount of time to open the cage so that the person underwater can stop screaming.