(Adv.) Competitive Programming

Submit until 14.06.2019 13:30, via the judge interface

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Problem: vladimir (1 second timelimit)

The little Vampire Vladimir is new in vampire kindergarten. The kindergarten has a playing room with lots of mirrors, so that the little vampires can get used to the fact, that everything can be seen in a mirror except themselves. It was definitely a mistake to let Vladimir in this room on his first day, because it is just very confusing. Now he is sitting in front of mirror crying with all his playing blocks in many different colors. As the teacher you want to help of course, so you ask him to explain what's wrong.

Vladimir tells you, that he put all his blocks in a neat line, perpendicular to the mirror. He crawled around a bit and now he is seeing a bunch of blocks in front of him. Because he is looking at the mirror however, he has no idea, how many of them are real and how many are just in the mirror. Since you're a computer scientist interning in a vampire kindergarten, you immediately stop caring about Vladimir. There is an interesting algorithmic problem to be solved after in this whole situation. Using his information only, how many blocks might he actually have? An example of this problem can be seen in Figure 1.

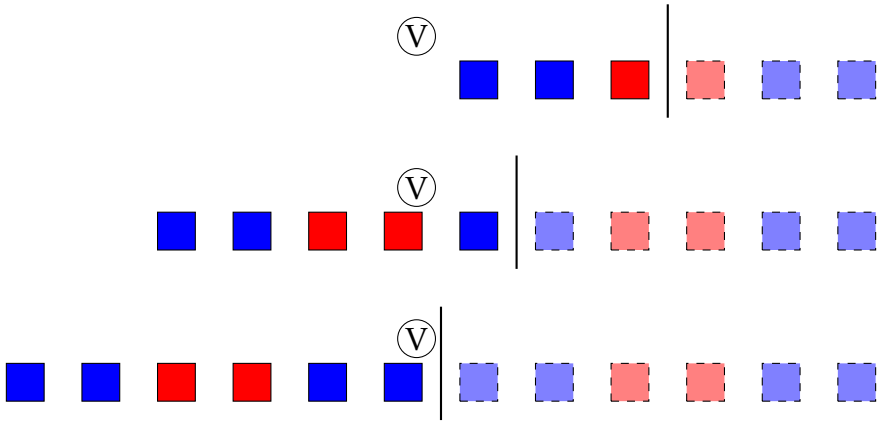

Figure 1: The three possible numbers of blocks Vladimir (V) might have in the sample testcase.

Input First, there is a line with $1 \leq n \leq 3 \cdot 10^5$, the number of blocks Vladimir is seeing in front of him, and $1 \leq c \leq 10^5$, the highest possible color code for a block. Then follows a line with the color codes of the n blocks, starting with the

one directly in front of Vladimir. Maybe the fact that he has so many blocks in front him is also contributing to his confusion...

Output Print the possible numbers of blocks Vladimir might have in ascending order, separated by spaces.

Sample input

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6 2
2 2 1 1 2 2
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Sample output

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3 5 6
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