

# Competitive Programming SS23

Submit until end of contest

## Problem: vladimir (1 second timelimit)

We often hear complaints about absurd and unrealistic problem statements. But rest assured, we at the Competitive Programming Lecture™ are working hard to propose real-world problems with real-world solutions for real-world individuals like Vladimir.

Vampire Vladimir has a problem. Yesterday, for some vicious vampire reason, Vladimir laid out  $n$  colorful blocks in a straight line in front of a mirror.

Last night he drank way too much... blood. He woke up somewhere before, between or after the blocks and just stares in the direction of the mirror. He sees  $k$  blocks in front of him. He is not sure how many of them are real since some of them could just be the reflection in the mirror. As usual for vampires, Vladimir can't see himself in a mirror, so he has no idea where he is. He forgot how many blocks he laid out. This bothers him.

Help Vladimir. Given his observation, find all possible numbers of blocks  $n$  he could have laid out.

The first sample input is visualized in [Figure 1](#). Additionally, you will find a larger sample input on the problemset page

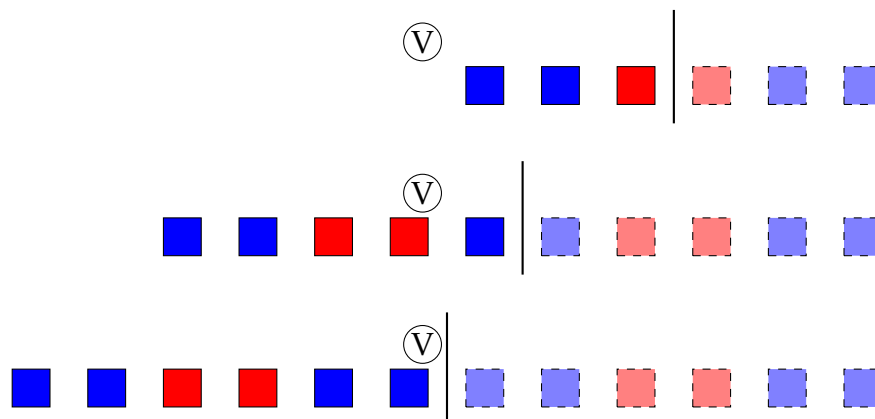


Figure 1: The three possible numbers of blocks Vladimir (V) might have in the sample testcase. Note that he sees all the mirrored (dashed) blocks but not all real blocks (solid).

**Input** The first line contains the number of blocks Vladimir is seeing in front of him  $1 \leq k \leq 3 \cdot 10^5$  and the highest possible color code for a block  $1 \leq c \leq 10^5$ . Then second line contains  $k$  integers, the colors of the blocks Vladimir sees, starting with the one directly in front of Vladimir.

**Output** Print every possible numbers of blocks Vladimir might have  $n$  in ascending order, separated by spaces.

**Sample input**

```
6 2
2 2 1 1 2 2
```

**Sample output**

```
3 5 6
```