Task

Eljmike Mang has organized a hacking contest with various hackers around the world. The rules are as follows:

1. At the beginning every hacker creates their own signature virus, loads it on to their computer, and chooses another participant to hack.
2. Every iteration, any computer viruses on a hacker's computer transfers to the participant they chose to hack.
    a. If the same virus is transferred to a computer more than once, the computer's antivirus recognizes it and destroys the extra copy. The original copy of the virus still remains however.
3. These iterations continue until no new viruses are being transferred from one computer to another.
4. After the iterations stop, a contestant loses if during any iteration their own signature virus is transferred to their computer.

Eljmike has organized this contest in 5 different locations, and for each of those locations each of the participants have already created their own virus, loaded it onto their own computer, and chosen another participant to hack. Your job is to report to Eljmike how many contestants were eliminated in each of the 5 locations.

Interaction Details:

The grader will start by outputting **6** lines. The first line will say "input:". Each of the next five lines will contain a list of **1 ≤ n ≤ 10^6** comma separated numbers where each number lies between **1** and **n** inclusive. If the **ith** number in the list is **x**, this corresponds to the **ith** hacker choosing the **xth** participant to hack. You must output a list of 5 values separated by a comma followed by a space corresponding to the number of participants eliminated for each location respectively.

You will be given the flag if you have sent the correct output in under 25 seconds

Sample Interaction:

Input:
1
2, 1
2, 1, 2
2, 1, 2, 2
2, 1, 4, 5, 3, 2
1, 2, 2, 2, 5
Deliberating your response...
Flag :)