

Chandler is joking all the time. He notes how many of his friends laugh on each joke - it is a number from 0 to 5, because he has 5 friends. These numbers measure the awesomeness of the jokes, so obviously he wants to create statistics: count how many jokes achieve 0 laughing friend, 1 laughing friend, 2 laughing friends, ..., 5 laughing friends. Can you help him with this?

Input

The first line of the input contains n ($0 \leq n \leq 1000$) – the number of jokes. The second line contains n integers, the number of friends laughing, for each joke. These numbers are all either 0, 1, 2, 3, 4, or 5.

Output

Your program should print exactly 6 numbers in one line separated by spaces: the number of 0's, number of 1's, number of 2's, ..., number of 5's in the input.

Example

input

Copy

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7
5 0 2 3 3 2 2
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output

Copy

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1 0 3 2 0 1
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Note

Explanation: there is 1 joke that makes 0 friends laugh, there is no joke that makes 1 friend laugh, there are 3 jokes that make 2 friends laugh, 2 jokes that make 3 of them laugh, there is no joke that makes 4 of them laugh, and finally there is 1 joke that makes all 5 of them laugh.