Problem 2—Stamp Out Holes

Professor Plum is somewhat compulsive about postage stamps when he travels because he likes to mail home souvenirs from the road. Before leaving for MICS, he packed his postage scale and filled his pocket with a hand full of stamps from home. As he drives the van, he wants you to inventory his stamps and write a program to determine the least amount of postage that can't be made using his collection of stamps, and how many amounts between 0 and the total of all his stamps can't be made from the pocketful of stamps.

Input Format

The input consists of two lines. The first line contains the current value of a "Forever" stamp. The second line lists one or more positive integer stamp values or the letter F (for "Forever" stamps). There are at most 25 stamp value(s) on the second line which are all separated by one space.

Output Format

For the given input, compute the least nonnegative integer amount that cannot be made exactly using stamp values from the input list. Note that it must be greater than zero (which can always be made using no stamps) and not greater than the total of the stamps plus one. Also compute the number of amounts between zero and the total of the stamps that cannot be made exactly using stamp values from the input list. Format the output as shown in the output sample below.

Input Sample

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49
20 F 1 4 34 3 5 1 F 20
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Output Sample

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The least amount that cannot be made exactly is 15
The number of amounts between 0 and 186 that cannot be made exactly is 10
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