Another Continuous Fractions Problem

The problem description is the same as the problem **CFRAC** and **CFRAC2**.

Input & Output

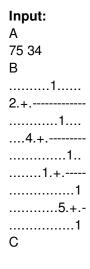
Multiple test cases, a single line with a single uppercase character C indicates the end of the input. The number of test cases will be less than 1000.

For each test case:

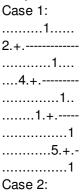
The first line of the input contains a single uppercase character A or B.A denotes that the input following character A and output format of this test case is the same as problem <u>CFRAC</u>, otherwise the input following character B and output format of this test case is the same as problem <u>CFRAC2</u>. But please pay attention that: the width and the height of the image after the character B will not appear in the input; the original fraction will not appear in the output of the test case of type A.

The example will make everything clear.

Example



Output:



75 34