

n people board an airplane with n seats. The first passenger has lost his boarding pass, so he sits in a random seat. Each subsequent passenger sits in his own seat if it's available or takes a random unoccupied seat if it's not.

What's the probability that the n th passenger finds his seat occupied?

Input

The input file contains several test cases. Each test case is described with one integer n on a single line ($2 \leq n \leq 1000$).

The last line contains a single '0' and should not be processed.

Output

For each test case, output the probability that the n -th passenger finds his seat occupied on a single line.

If the probability is 0, output '0/1'. Otherwise, the probability should be expressed as an irreducible fraction a/b , where a and b are positive integers and a and b be are relatively prime. Do not print any spaces between the numbers or the division sign.

Sample Input

```
2
0
```

Sample Output

```
1/2
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