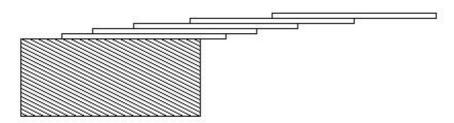
Hangover

How far can you make a stack of cards overhang a table? If you have one card, you can create a maximum overhang of half a card length. (We're assuming that the cards must be perpendicular to the table.) With two cards you can make the top card overhang the bottom one by half a card length, and the bottom one overhang the table by a third of a card length, for a total maximum overhang of 1/2 + 1/3 = 5/6 card lengths. In general you can make n cards overhang by 1/2 + 1/3 + 1/4 + ... + 1/(n + 1) card lengths, where the top card overhangs the second by 1/2, the second overhangs that third by 1/3, the third overhangs the fourth by 1/4, etc., and the bottom card overhangs the table by 1/(n + 1). This is illustrated in the figure below.



Input

The input consists of one or more test cases, followed by a line containing the number 0.00 that signals the end of the input. Each test case is a single line containing a positive floating-point number *c* whose value is at least 0.01 and at most 5.20; *c* will contain exactly three digits.

Output

For each test case, output the minimum number of cards necessary to achieve an overhang of at least *c* card lengths. Use the exact output format shown in the examples.

Input:

1.00

3.71

0.04

5.19

0.00

Output:

3 card(s)

61 card(s)

1 card(s)

273 card(s)