

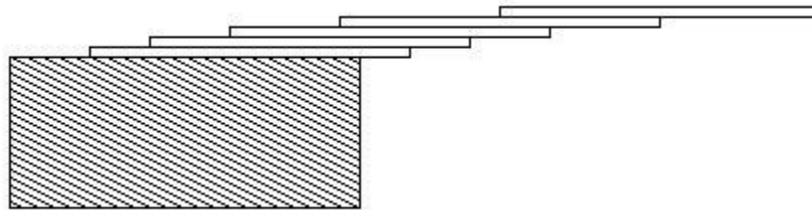
Problem E: Hangover

Source file: `hangover.{c, cpp, java, pas}`

Input file: `hangover.in`

Output file: `hangover.out`

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 $1/2 + 1/3 + 1/4 + \dots + 1/(n + 1)$ card lengths, where the top card overhangs the second by $1/2$, the second overhangs the 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.



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.

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.

Example input:

```
1.00
3.71
0.04
5.19
0.00
```

Example output:

```
3 card(s)
61 card(s)
1 card(s)
273 card(s)
```

Last modified on October 27, 2001 at 5:20 AM.