

7075 Squared Frequency

You are now working in a physical laboratory. One day, when you were skimming through your records of experiments, you find that the squared frequency, defined as $(P/Q)^2$, in which Q indicates times of experiments and P means number of experiments in which the expected phenomenon appears, is somehow unreasonable. The squared frequency F ($0 < F < 1$) is written in decimal form, and rounded to K ($K \leq 9$) numbers after the decimal point. You think that Q , i.e. times of experiments, is too small to obtain such a number. Now you need to work out a fraction P/Q , so that rounding $(P/Q)^2$ to K numbers after the decimal point gets exactly F , and minimizes Q .

Input

Input contains no more than 2000 test cases.

Each test case has a single line, which contains a decimal fraction indicating F , the squared frequency.

Output

For each test case, output your answer in a line with the case number, follow the format in sample. You should print a blank after ‘:’.

If the answer is not unique, output the one with the minimum P .

Sample Input

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0.3
0.5
0.50
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Sample Output

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Case #1: 1/2
Case #2: 5/7
Case #3: 12/17
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