

Problem D. Integer Approximation

Input file: INPUT.TXT

Output file: OUTPUT.TXT

Time limit: 15 seconds

The FORTH programming language does not support floating-point arithmetic at all. Its author, Chuck Moore, maintains that floating-point calculations are too slow and most of the time can be emulated by integers with proper scaling. For example, to calculate the area of the circle with the radius R he suggests to use formula like $R * R * 355 / 113$, which is in fact surprisingly accurate. The value of $355 / 113 \approx 3.141593$ is approximating the value of π with the absolute error of only about $2 \cdot 10^{-7}$. You are to find the best integer approximation of a given floating-point number A within a given integer limit L . That is, to find such two integers N and D ($1 \leq N, D \leq L$) that the value of absolute error $|A - N / D|$ is minimal.

Input and output data

The first line of input file contains a floating-point number A ($0.1 \leq A < 10$) with the precision of up to 15 decimal digits. The second line contains the integer limit L . ($1 \leq L \leq 100000$).

Output file must contain two integers, N and D , separated by space.

Sample INPUT.TXT:

```
3.14159265358979
10000
```

Sample OUTPUT.TXT:

```
355 113
```