

10215 The Largest/Smallest Box ...

In the following figure you can see a rectangular card. The width of the card is W and length of the card is L and thickness is zero. Four $(x * x)$ squares are cut from the four corners of the card shown by the black dotted lines. Then the card is folded along the magenta lines to make a box without a cover.



Fig: Cutting & Folding the Card

Given the width and height of the box, you will have to find the value of x for which the box has maximum and minimum volume.

Input

The input file contains several lines of input. Each line contains two positive floating-point numbers L ($0 < L < 10000$) and W ($0 < W < 10000$); which indicate the length and width of the card respectively.

Output

For each line of input you should give one line of output, which should contain two or more floating-point numbers separated by a single space. The floating-point numbers should contain three digits after the decimal point. The first floating point number indicates the value for which the volume of the box is maximum and then the next values (sorted in ascending order) indicate the values for which the volume of the box is minimum.

Sample Input

```
1 1
2 2
3 3
```

Sample Output

```
0.167 0.000 0.500
0.333 0.000 1.000
0.500 0.000 1.500
```