PythonSummerSchool2019-Advanced-Assign-Hongyu(Ray)

July 22, 2019

1 Numbers Comparison

```
Mirko has a younger brother, Filip, who just started going to school and is having trouble witl
```

1.1 Input

The first and only line of input contains two three-digit numbers, A and B. A and B will not be equal and will not contain any zeroes.

1.2 Output

The first and only line of output should contain the larger of the numbers in the input, compared as described in the task. The number should be written reversed, to display to Filip how he should read it.

---

2 What dose the fox say?

(CERC 2013)

```
Determined to discover the ancient mysterythe sound that the fox makesyou went into the forest
```

2.1 Input

The first line of input contains the number of test cases T. The descriptions of the test cases follow:

The first line of each test case contains the recording—words over lower case English alphabet, separated by spaces. Each contains at most 100 letters and there are no more than 100 words. The next few lines are your pre-gathered information about other animals, in the format goes . There are no more than 100 animals, their names are not longer than 100 letters each and are actual names of animals in English. There is no fox goes ... among these lines.

The last line of the test case is exactly the question you are supposed to answer: what does the fox say?

2.2 Output

For each test case, output one line containing the sounds made by the fox, in the order from the recording. You may assume that the fox was not silent (contrary to popular belief, foxes do not communicate by Morse code).

2.2.1 Sample Input

```
1
toot woof wa ow ow ow pa blub blub pa toot pa blub pa pa ow pow toot
dog goes woof
fish goes blub
elephant goes toot
seal goes ow
what does the fox say?
```

2.2.2 Sample Output

```
wa pa pa pa pa pa pow
```

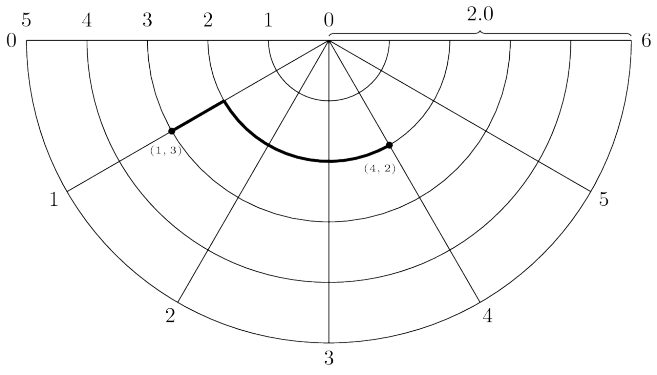
---

3 The Shortest Way in Amsterdam

Your friend from Manhattan is visiting you in Amsterdam. Because she can only stay for a short

|nxmx|+|nymy|

since Manhattan looks like a rectangular grid of city blocks. However, Amsterdam is not well a



The Shortest Way

Depending on how accurately you want to model the street plan of Amsterdam, you can split the

3.1 Input

The input consists of

- One line with two integers M,N and a real number R.
  - 1M100 is the number of segments (or 'pie slices') the model of the city is split into.
  - 1N100 is the number of half rings the model of the city is split into.
  - 1R1000 is the radius of the city, given with at most 15 digits after the decimal point.
- One line with four integers, ax,ay,bx,by, with 0ax,bxM, and 0ay,byN, the coordinates of two corners in the model of Amsterdam.

3.2 Output

Output a single line containing a single real number, the least distance needed to travel from point a to point b following only the streets in the model. The result should have an absolute or relative error of at most 106.

3.2.1 Sample Input 1

```
6 5 2.0
1 3 4 2
```

3.2.2 Sample Output 1

```
1.65663706143592
```

3.2.3 Sample Input 2

```
9 7 3.0
1 5 9 5
```

3.2.4 Sample Output 2

```
4.28571428571429
```

3.2.5 Sample Input 3

```
10 10 1.0
2 0 6 0
```

3.2.6 Sample Output 3

```
0
```