3677 - Dominoes Probabilities

Description

Pedrito and Carlitos are always discussing about who the best is playing dominoes. Today, they decided to end with the doubts and so they are going to play a set of games to see who the best really is. They decided to play, until there is a difference of exactly N victories between them. That means, they are going to be playing until one of them has N victories more than the other one.

Your task is, knowing the probability Pc/100 of Carlitos to win a game, find the expected number of games they are going to play and the probability of Carlitos to win the bet.

Input specification

The input will consist of a single line containing two integers: 1 <= N <= 100 and 0 <= Pc <= 100.

Output specification

The output will consist of a single line containing two numbers separated by a space. The first number is the expected number of games they are going to play and the second the probability of Carlitos to win the bet. To be accepted, your answer must be rounded to exactly five decimal places.

Sample input

```
1 50
```

Sample output

```
1.00000 0.50000
```

Hint(s)

Sample Input 2

4 65

Sample Output 2
11.26542 0.92245

Source	Daniset González Lima
Added by	**morpheuz**
Addition date	2016-06-03
Time limit (ms)	0
Test limit (ms)	0
Memory limit (kb)	0
Output limit (mb)	64
Size limit (bytes)	0
Enabled languages	Bash C C# C++ C++11 Java JavaScript-NodeJS Pascal Perl PHP Prolog Python Ruby Text