## Problem

This tool returns the phase of complex number z (also known as the argument of z).

>>> phase(complex(-1.0, 0.0))

3.1415926535897931

**abs**  
This tool returns the modulus (absolute value) of complex number .

>>> abs(complex(-1.0, 0.0))

1.0

**Task**  
You are given a complex z. Your task is to convert it to polar coordinates.

**Input Format**

A single line containing the complex number z. Note: complex() function can be used in python to convert the input as a complex number.

**Constraints**

Given number is a valid complex number

**Output Format**

Output two lines:  
The first line should contain the value of r.  
The second line should contain the value of ϕ.

**Sample Input**

1+2j

**Sample Output**

2.23606797749979

1.1071487177940904

Note: The output should be correct up to 3 decimal places.

## Solution

# Enter your code here. Read input from STDIN. Print output to STDOUT

import cmath

c = complex(input())

print(abs(c))

print(cmath.phase(c))