Write a Python program that implements Heron's formula for the area of a triangle.

Heron's formula calculates the area of a triangle when the lengths of all three sides are known. The formula is given by:

$$A = \sqrt{s(s-a)(s-b)(s-c)}$$

Where:

- A is the area of the triangle
- a, b, and c are the lengths of the sides of the triangle
- s is the semi-perimeter of the triangle, which is calculated as:

$$s = \frac{a+b+c}{2}$$

Here's a Python program that implements Heron's formula:

python Copy code

```python
import math

def herons_formula(a, b, c):
    # Calculate the semi-perimeter
    s = (a + b + c) / 2

    # Calculate the area using Heron's formula
    area = math.sqrt(s * (s - a) * (s - b) * (s - c))

    return area

# Input the lengths of the sides of the triangle
a = float(input("Enter the length of side a: "))
b = float(input("Enter the length of side b: "))
c = float(input("Enter the length of side c: "))
```