

Challenge - Area and Volume Calculator

The object of this challenge is to create functions that can accept arguments and return values.

Mild

Create 2 functions from the following choices:

Function	Input	Output
Rectangle Area	<code>l</code> (length) <code>w</code> (width)	<code>area</code>
Triangle Area	<code>b</code> (base) <code>h</code> (height)	<code>area</code>
Circle Area	<code>r</code> (radius)	<code>area</code>

Then create a program that satisfies the following requirements:

- For each function you created:
 - The user provides input.
 - The program uses your function to calculate the area of that shape.
 - The program outputs a message displaying the calculated area and what shape that area is for.

Medium

Create the following function:

Function	Input	Output
Circle Area	<code>r</code> (radius)	<code>area</code>

For your function create 3 tests using `pytest`:

- The function must have at least one test that `asserts` that 2 values are approximately equal.
- The function must have at least one test that `asserts` that 2 values are not approximately equal.

Then create a program that satisfies the following requirements:

- For each function you created:
 - The user provides an input.
 - The program uses your function to calculate slope.
 - The program outputs a message displaying the calculated area.

Spicy

Create the following 2 functions:

Function	Input	Output
Cylinder Volume	<code>r</code> (radius) <code>h</code> (height)	<code>volume</code>
Cylinder Surface Area	<code>r</code> (radius) <code>h</code> (height)	<code>surface_area</code>

For each of your functions create 2 tests using `pytest`:

- Each function must have one test that `asserts` that 2 values are approximately equal.
- Each function must have one test that `asserts` that 2 values are not approximately equal.

Then create a program that satisfies the following requirements:

- For each function you created:
 - The user provides an input.
 - The program uses your function to calculate slope.
 - The program outputs a message displaying the calculated value and what the value is (*for example, volume of a cylinder*).