Purpose: Simple functions

Learning outcomes: 1, 2 and 3

Time: submit before 5pm Friday of Week 7.

Resources: MyLO: lecture notes and tutorial materials

Description:

An architect is trying to work out the cost of paint for an unusual facade sign (a triangle "hat" on a circular disk) she has designed for a building.

Task:

Write a function called `printPaintCost` that takes three named parameters: *`height`*, *`base`* and *`radius`*, which then calculates the area of a circle of the given radius, as well as the area of a triangle with the given height and base dimensions. The function prints the areas of each shape with proper messages to the output, as well as the overall paint cost where the cost is defined as $6.99 per square meter.

In the main code, the user should be asked for the values of the requested parameters (in meters), and the `printPaintCost` function is called with this data. The user should then be asked if they want to run the program again (answer 'y') and the program should repeat the entire process until they answer 'n' to the *run again* prompt.

Example output:

```
Enter the triangle height :4
Enter the triangle base   :5.5
Enter the circle radius   :6.5

The area of the circle is 132.73 meters squared
The area of the triangle is 11.00 meters squared
The total paint cost is $1004.66

Do you want to run this again? (y/n):y

Enter the triangle height :2
Enter the triangle base   :2
Enter the circle radius   :3.1

The area of the circle is 30.19 meters squared
The area of the triangle is 2.00 meters squared
The total paint cost is $225.01

Do you want to run this again? (y/n):n

Goodbye!
```

Hint

You **must** define the function `printPaintCost`. Your main code will need a *while* loop that calls the `printPaintCost` function repeatedly until the user decides they don't want to run it any more.

- The area of a circle is pi * radius * radius.
- The area of a triangle is 1/2 * base * height (where height is measured at a right-angle from the base to the triangle apex)

You should define the value of pi (3.1415 will do) and the paint cost as **constants**.

Submission Details

Upload the following to the MyLO submission folder for this task:

1. The source file (i.e. the text file containing your code)
2. A screenshot of the Python shell window that shows the **execution** results of the source code.

Assessment Criteria & Hints

A completed submission **must**:

1. Include comments about the program purpose and the author of the program (your name)
2. Define any constants at the start of the program
3. Define function(s) at the start of the program (after constants) using the parameters specified
4. Use meaningful names for variables, starting with a lower case
5. Ask the user for the values of height, base and radius
6. Display the areas of the circle and triangle, followed by the overall paint cost (with appropriate formatting)
7. Ask the user to enter values until they answer 'n' to the "*Do you want to run this again?"* prompt
8. Submit both the source file and the screenshot