Due Thursday April 6

In this Homework you will write a program that will find the properties of a circle or a box. Please follow the program layout described below. The purpose of the program is to give you experience using function calls. Note, the program outline is not the most efficient design, however, it does require you to use all the various function call types.

**Step one.**
The main program should first call function 1. Function 1 should display a message that describes the purpose of the program. It should display some message that states that the program will find the area and perimeter of a two dimensional shape, or the volume and surface area of a three dimensional shape. It should also state who wrote the program and the date it was written.

**Step two.**
Next the main should call function 2. Function 2 should ask the user if they want a two or three dimensional shape. The user shape information should be returned to the main program.

**Step 3.**
Based on the returned data: the area/perimeter or the volume/surface area will be calculated. Thus, you now must collect the required information, use a switch case. Within each case collect the required information for each shape. For example, to find the area of a circle the user must enter the radius, for the volume of the box the user must enter the height, width and length.

**Step 4.**
Function 3 should have sections to calculate the three dimensional properties. The function should either return the volume or surface area. For example, it should pass the height, width and length of the box, somehow have the function know what property is to be calculated. Hint, pass a property type variable.

**Step 5.**
Function 4 should have sections to calculate the two dimensional properties. The function should either return the perimeter or area. For example, it should pass the radius of the circle, somehow have the function know what property is to be calculated. Hint, pass a property type variable. Also create a global variable PI. Let’s show that a function can call a function, so, Function 4 should call Function 5. Function 5 should calculate the area of the circle and return the result to Function 4.

**Step 6.**
Print out the results. From within main, call Function 6. Have Function 6 print out the results to the screen. You should pass something that tells the function what the shape is, pass the user input data, and pass the computed result. The max number of input arguments to function 6 is 5. Then Function 6 should display all this data.

**Step 7**
Finally put the entire main program within a while loop that allows the user to find the results of another shape. Do not display function 1 again. The program should ask the user: “Do you want to do this again (y/n)?” Allow either lower or upper case letters. Have the program check for user input error and only accept a y, Y, n or N.

Check the script as you design it to make sure it fits all the requirements. Have FUN!!!!!!!!!!!!

Drop a folder named Group#_HW14

Note: Your script must have a header section in comments that identifies:
- Team members
- Instructor:
- HW14
- purpose of script

Also, you will be graded on programming style. Use whitespace, comments, indenting, etc.