Honors Computer Science Python
Mr. Clausen
Program 2A, 2B

Program 2A Sphere (20 points)

Write a program to calculate the diameter, circumference, surfaceArea, and volume of a sphere. Ask the user to enter a value for the radius. Make your program user friendly by prompting them for this value. Use one line comments to separate this program into its parts: input, calculations, and output.

1) Use a `DocString` at the beginning of the program for your comments.

2) Import math.

3) Initialize all of the variables that are to be used in this program.

4) Use print statements to display your name and period output just like those used for program 1A.

5) Ask the user for the radius.

6) Perform all of the calculations.

7) Echo out the value of the radius as well as the results of your calculations for the diameter, circumference, surfaceArea, and volume of a sphere. Make sure that you use descriptive identifiers for all of your variables.

The formulas are:

diameter = 2 * radius
circumference = diameter * pi
surface area = 4 * pi * radius * radius
volume = 4/3 * pi * radius * radius * radius

Use the exponent calculation instead of multiplying the radius by itself.
Use the value of pi contained in the math module you imported.

Program 2B Momentum and Kinetic Energy (Page 74 #5-6) (20 points)

The description for this program is found in our textbook on page 74 Projects 5 – 6. Use good programming style as described for program 2A.