CS410 INTRODUCTION TO COMP SCI APPLIC

Assignment 4 – Cone, Pyramid Calculations

Program

Write a program called **ConePyramid** where the user can calculate the volume or the surface area of a closed cone or a closed pyramid with a square base. Your program should prompt for and input the choice of shape and calculation and appropriate inputs. Then it should calculate and print the answer.

A sample run would look like:

```
Choose shape: Cone (1), Pyramid (2)....2
Choose calculation: Volume (1), Surface Area (2)....1
Enter base edge....7.8
Enter height....3.44
Answer = some number formatted to 4 dec pl
```

Notes

1. **Use if-else structures with nesting only - you cannot use if-else if-else if-else structures. You can only use simple conditions – no compounds conditions using && or ||.**

2. You can find formulas online. For the pyramid use formulas for one where the base is a square (called a right square pyramid). For a cone the inputs are radius and height.

3. Use `Math.PI`, `Math.sqrt`, `Math.pow` as necessary.

4. Display your answer to 4 decimal places. Check that your answers are correct.

5. Properly comment, indent and line up your program. Add comments for all variables used.

Turning in the Assignment

1. When you have finished, run your program using the test data below (4 separate runs of the program, one after the other):

Shape	Calculation	Inputs
Cone	Volume	Radius = 5.555, Height = 8.888
Cone	Surface Area	Radius = 5.555, Height = 8.888
Pyramid	Volume	Base edge = 5.555, Height = 8.888
Pyramid	Surface Area	Base edge = 5.555, Height = 8.888

2. Take a screenshot of the test data running. Turn in the screenshot, **ConePyramid.java** and **ConePyramid.class** to Canvas. **Due Date: start of class on 2/10**

   Bonus: Handle the error case if either input for choices is not 1 or 2. Keep to the same rules for using if structures. Turn in screenshots of your program handling error cases.