CSC 103
Assignment 2

Due Date: October 8, 2019 until 9:00 AM

In this assignment you are supposed to write simple applications by using *I/O* and selection structures. **Write the complete program. *pi* value is in math, import it and use. Bold red values in the example runs are input given by the user.**
Write a program that shows a menu of possible operations, namely

- volume,
- area or
- circumference calculations,

on geometric shapes. Depending on the choice of the user ask the type of the shape:

- If volume is selected shapes can be
  - sphere or
  - rectangular prism,
- else if area is selected shapes can be
  - rectangle,
  - circle,
  - sphere or
  - rectangular prism,
- else if circumference is selected shapes can be
  - rectangle or
  - circle.

Ask the required information by using

- the calculation and
- shape type (e.g. radius, sides etc.).
- Give error messages for wrong calculation or shape selections.

Example runs are shown below:

Example Run 1
1.Volume
2. Area
3. Circumference
Calculation of what: **1**
1. Sphere
2. Rectangular prism
Selection of shape: **1**
Radius: **1**
Volume = (4/3) * PI * Radius^3 = 1.33 * 3.14 * 1.00 ^ 3 = 4.19
Example Run 2
1.Volume
2. Area
3. Circumference
Calculation of what: **1**
1. Sphere
2. Rectangular prism
Selection of shape: **2**
Length: **1**
Width: **2**
Height: **3**
Volume = Length * Width * Height = 1.00 * 2.00 * 3.00 = 6.00
Example Run 3
1.Volume
2. Area
3. Circumference
Calculation of what: **2**
1. Rectangle
2. Circle
3. Sphere

4. Rectangular prism
Selection of shape: **4**
Length: **2**
Width: **3**
Height: **4**
Area = 2 * (Length * Width + Length * Height + Width * Height) = 2 * (2.00 * 3.00 + 2.00 * 4.00 + 3.00 * 4.00)= 52.00

Example Run 4
1.Volume
2. Area
3. Circumference
Calculation of what: **4**
Wrong calculation type

Example Run 5
1.Volume
2. Area
3. Circumference
Calculation of what: **2**
1. Rectangle
2. Circle
3. Sphere
4. Rectangular prism
Selection of shape: **5**
Wrong shape type

Submission

- Create a folder and name the folder as **Assignment2_ID_Name_Surname**
- Provide your code file with a .py extension, sample run screenshots or copy/paste of I/O under the folder
- Submit this folder as a single file (compressed) from Nexus. https://nexus.union.edu
- Cite appropriately if you get help from anywhere in your source code as a comment.
- Add the honor code as a comment at the top of your code "I affirm that I have carried out my academic endeavors with full academic honesty." [Signed, Jane Doe]
- **NO LATE SUBMISSIONS!!!**