Bachelor of Technology Partnership

C++ Programming – ENG TECH 1CP3
Looping

Lab L2

For each of the following problems, be sure to output the results to the console.

Question number and page references correspond to the 7th edition and Custom edition of the text.

1. Create a program that will output the volume V of a sphere for range of values of radius R. The program will ask the user to enter the initial, incremental, and ending values of the radius. For each value of the radius, the program will calculate the corresponding volume $V = 4\pi R^3/3$ and will print the radius and the volume in tabular format (2 columns). Use SI units.

2. Create a program that validates input as follows:
   a. Prompt the user for a value that could be a decimal value.
   b. Use a loop structure to test the value. The value must be between 0 and 200, including 0 and 200. If the value is outside this range, output an appropriate message and prompt the user for a new value. If the value is within the range, output a message that displays the value and indicates it is in the appropriate range.

3. Using Files—Numeric Processing: Question 24, pg 319 Custom text (Q24, Page#299 7th edition, Chapter 5). The text file is in Labs and Assignments module on Avenue.

Note:- Indicate the units for all I/O values required from- or provided to- the user.

Create a Word .doc file that contains the source code and a screen captures of the console window as the program is running, for all C++ programs. Save this file as YourName_Lab_2.doc and upload and submit to the appropriate AVENUE lab assignment drop-box.