Recursive Directory Space  
100 points

Write a (or 3 versions of the same) program to calculate the size taken up by all files in a directory and all sub-directories and use three (3) different language types which are A) Procedural, B) Object Oriented, and C) Scripting. Language choices are given below.

**INSTRUCTIONS**  
 1. Turn in your program using Canvas. Do not email your program to the TA or the instructor.

2. Name your source file as netid\_lab01.extension where netid is your UTA netid and the extension is whatever is appropriate for that language (ksf\_lab01.c or ksf\_lab01.py, etc). If you do not know your netid, check what it is by using NetID Self Service. Your 1000 number is NOT your netid. If your file name is wrong, your assignment will not be graded. There is an exception for Java since the Class name must match the filename but I suggest you just name your class '<netid>\_lab01. so the naming issue is not as much of a factor.

3. The programs will be tested against a directory with multiple levels of subdirectories.  
4. Write an explanation of your code using comments. If the code is hard to understand, you may not receive full credit.  
5. The code should have your name, 1000 number, lang ver, and OS used as the first 4 lines of the source.  
6. Submit a single ZIP file containing all your source code files. The filename will by netid\_lab01.zip where ‘netid’ is replaced by your netid just as in #6 above.  
7. NOTE: Your code must include a recursive function written and called by the student; this means the library function ‘os.walk()’ is not allowed when using Python.

Objective: Write the same program in 3 different languages.

Description:  
Write a program to calculate the total size (in bytes, no text or commas, just the integer answer) of all files in the current directory / folder and all sub-folders.  
The code should be runnable on the Omega server(netid@omega.uta.edu)without any configuration.

Languages to choose from:

A)Procedural

'C'

B) Object Oriented

Java

C++

C) Scripting

Python

Perl

If you want to choose a different language for one of the categories get GTA approval beforehand, preference will be given if the language is available on Omega.

If you would like, you may install the CSE Virtual Machine (see the link under 'Resources' Module) to compile and run your programs.  Another option is Visual Studio Code from Microsoft, also known as VS Code but you will have to provide the compilers yourself.