# Project 1

## **Triangle Calculator**

Name:

Time spent: \_\_\_\_

min

### Deliverables

## 4:00 pm W10 – C2 – no exceptions

#### via the box

Flow Diagram
Code – in xyz.c file
2 examples for each shape

#### via Teams

Executable file (from the Debug directory of your project) After compilation – in Windows go to the project\_directory Go into the debug folder The executable file is called project\_name.exe

project\_directory and project\_name are what you used for your project

Create a program to calculate the angles (degrees) and side lengths of various triangles. 100 pts

- Main must be used for control only all calculations must be in functions
- Run a while(1) loop to continuously request a new calculation
- Each shape must have its own function (each requires different inputs)
- Function re-use is encouraged
- Only concepts and techniques covered in class my be used (pointers are not required but may be used)
- Shapes: right-triangle, equilateral-triangle, isosceles-triangle, and scalenetriangle
- <math.h> may have some functions you will find useful

Look at your code – are you doing the same thing in multiple places  $\rightarrow$  create a function

Spend some time upfront thinking about what actions are required - can similar actions allow re-use of some functions

Create a program to calculate the angles (degrees) and side lengths of various triangles. 100 pts

Example output (partial) – you do not need to match this

HW\_Project.exe (1) [C/C++ Application] [pid: 5]

Dr. Johnson

Project 1 - Triangle Calculations

Select the type of triangle you would like to use - right(r), isosceles(i), equalateral(e) or scalene(s): s Would you like to enter the information for your scalene triangle in SAS(1) or ASA(2) format: 1 Enter side length 1, angle in degrees, and side length 2: 1.5 70 3.3 Your triangle has sides: 1.500000 3.123138 3.300000 and corresponding(opposite) angles: 26.828506 70.000000 83.171646 in degrees

Select the type of triangle you would like to use - right(r), isosceles(i), equalateral(e) or scalene(s):