ELEC362 - Week 3

Practical Exercises

1. Starting from the code L5D1.cpp, modify the code such that after the user has input a sequence of numbers followed by 0, the programme calculates the mean, and the standard deviation of these numbers and output the result back onto the command line. Please implement functions to calculate these parameters.
2. You have the following 4 triangles (not drawn to scale):

2

2

3.1

2.3

3

2

1

2

2

2

2

2

Write a programme that adds the perimeters of all the triangles, then adds their areas as well. The programme should do that by two methods:

1. Using basic variables.
2. Using classes and objects (use the code L6D1.cpp).

Which method did you find easier any why?

Questions to think about:

1. What is nullptr ?
2. What is the difference between the ‘stack’ and the ‘heap’?
3. How do you allocate / deallocate dynamic memory?
4. What is function overloading? When is it useful?
5. What are function templates? When and how are they used?
6. What are exceptions? How do you handle exceptions?
7. What are the differences between classes and structures?
8. Consider an object oriented program for a temperature controller. What objects could use to do this? What methods and attributes would these objects have?