**Assignment 1 – Programming Concepts BSc in IT (30%)**

**Overview of assignment**

* This is your first assignment.
* You are asked to write a working animation.
* You will then be asked to present your code during your lab the week following submission.

***Specification***

This is the specification of your first summative assignment. This means that this is the first time that your submission will go towards your final module mark. This specification will describe:

* What is expected from your code
* The marking scheme for the assignment.
* Submission details including submission date

***Assignment Advice***

* Read the specification carefully.
* Start working on the assignment early.
* When you think you are ready to submit check the following:
  + Ensure you have all covered all the elements mentioned in the marking scheme
  + Ensure specifically that your indentation is consistent.
  + Write comments to explain what any methods do and how any particularly tricky code works and what it does
  + Ensure that your name, student number and description of what your code does is written at the top of the sketch file.
  + Ensure that you have named the submission (zip) file according to the prescribed naming convention

***Specification***

You are asked to write code to produce a working animation of your choice. The aim of the assignment is for you to demonstrate your understanding of structures seen so far, so you are asked to include the following:

* At least the following methods:
  + setup( )
  + draw( )
* Variables
* if statements
  + including, if statements (more than one)
  + and if else statements (more than one)
  + multiple if else if …… statements (more than one)

The complexity of the entire code is important, i.e. the more complex the code, the more marks you will achieve. (See marking scheme.)

***Marking Scheme***

There are two components to your overall mark:

* Structure of code
* Interview mark

***Structure of Code (100 Marks)***

* Working animation (20 Marks)
  + Use of
    - setup() and draw ()
    - other appropriate methods, ones we have seen and not seen in class
    - complexity \*\*
* Use of variables (10 Marks)
* Use of :
  + if statement (15 Marks)
  + if, else if, else if etc… (30 Marks)
* Comments, indentation (5 Marks)

***\*\*Complexity of code***

This is based on the complexity of the problem solved/code. So you will get more marks if the animation is more involved than one that is very simple. Please do not confuse an elegant solution of a complex problem with a simple problem.

***Interview Mark (10 Marks)***

You will be asked to explain your work. This is to ensure that the work is your own. You may be asked (for example) to explain:

* Any of the code.
* The effect of changing values in the if statement loop.
* How you decided on your animation and how you developed it.
* Anything else about the code.

***How is the final mark calculated?***

The final mark is calculated by multiplying the three component marks and dividing by 100. This means that each of the marks is used as a multiplier so a weakness in any of the components.

Example 1:

* Structure of code = 80/100
* Interview Mark = 9/10
* Final mark = (80 \* 9 ) / 10 = 72%

Example 2:

* Structure of code = 50/100
* Interview Mark = 10/10
* Final mark = (50 \* 10 ) / 10 = 50%

***Note***

Specifically, the multiplier effect means that if you do not present for your interview you will receive 0 for the interview and 0% overall. This means you must be available for interview during the class the week after submission.

***Hand up of submission***

**Date**

The submission is due on Monday 16th of November 2020 by 12:15pm.

Demo will be held in the following practical class.

**Where**

The dropbox is available in this 'Assignments' section.

**File naming convention**

Your file should be contained in a sketchbook named according to the rule: first name + second name, e.g. Sinead Walsh’s sketchbook would be called SineadWalsh. You should then compress (zip) the folder that contains this sketchbook (SineadWalsh) and this is the file that you should submit.

**readme tab**

You should include a readme tab in the sketchbook that you use to write the following information in the following format:

/\*

Name : Student Number: Programme Name:

Description of the animation:

Known bugs/problems:

\*/

**Non-Commented Version of Code**

For your demos you are required to have removed all your comments from your code. Therefore, you are required to have 2 copies of your assignment, the first copy is the one you will submit to Moodle (with comments) and the second copy is the one for the demo which has the comments removed.