Name:

Computing assessment

You are free to use the web or look at previous programs that you have written.

Throughout the assessment I will be looking to award 5 extra bonus marks for well documented code that has lots of comments.

1) Write a program that outputs the following poem. Name the program: *Q1_Poem*   *[4 marks]*

   What is this life, if full of care,
   We have no time to stand and stare.
   Underneath the apple boughs
   And stare as long as sheep and cows.

2) You are working for a software company and you have been asked to write a program by your manager that asks a user for input in metres and converts that number into feet and outputs the result. There are 3.28 feet in a metre.

a) Decompose the problem into input, process and output. *[2 marks]*

b) Draw the flow diagram *[3 marks]*

c) Write down the pseudo code *[2 marks]*

d) Write the program in Python. Name the program: *Q2_cm2inches*   *[4 marks]*

3) a) Without writing the program down, what does the following program output? *[2 marks]*

```
x=3
while (x<20):
  print ("Number", x)
  x=x+3
```

Answer:

b) Modify the program above to print out the following sequence of numbers. Name the program: *Q3_sequence*

7   15   23   31   39   47   55

[4 marks]

4) Google's driverless car software needs to be able to control what the car does at a traffic light. Write a program that gives the instruction for the car to stop when the light is red and go when the light is green. Hint use if statements. Name the program: *Q4 car [4 marks]*

5) Rewrite program 2 using a function [3 marks]