Section 7, Chapter 33

worksheet – The ‘fetch-execute’ cycle

1. Where does the fetch part of the fetch-execute cycle read each data item from?
2. Create a presentation that explains how the four registers listed below are connected and the part they play in the fetch-execute cycle:

* PC (program counter)
* CIR (current instruction register)
* MAR (memory address register)
* MBR (memory buffer register)

1. In theory, it takes just one run through the cycle to carry out one command, but the reality is that it may take a lot more cycles than this to carry out one line of code.

Why is this?

1. Write pseudo assembly code for the following requirements:
   1. Find the average of three numbers.
   2. A sequence of numbers is stored in main memory. The first number is stored at memory location 2A16. The last number in the sequence is known to be 99. Write assembly code to find the total value of all the numbers (excluding the 99).
   3. Find the area of a circle (Area of a circle = πr2)