## CS1021 Tutorial 2

- Q1 The NXP LPC2468 has 512KiB of flash memory starting at address 0x00000000. What is the last address of the memory area (in hexadecimal)?
- Q2 The NXP LPC2468 has 64KiB of read write memory starting at address 0x40000000. What is the last address of the memory area (in hexadecimal)?
- Q3 One hundred <u>8 bit</u> unsigned integers are stored consecutively in memory starting at address 0x00002000. What is the address of the byte containing (i) the first integer (ii) the 22<sup>nd</sup> integer (iii) the 75<sup>th</sup> integer and (iv) the last integer?
- Q4 One hundred <u>32 bit</u> signed integers are stored consecutively in memory starting at address 0x004420C0. What is the address of the word containing (i) the first integer (ii) the 22<sup>nd</sup> integer (iii) the 75<sup>th</sup> integer and (iv) the last integer?
- Assuming that x is stored in R1, yin R2, z in R3 and the result in R6: Help
  - (i) Write ARM assembly language instructions to compute x + y + z.
  - (ii) Write Almater by an analysis of encountry x z.
  - (iii) Write ARM assembly language instructions to compute  $x^2 + y^2 + z^2$ .
  - (iv) Write ARM assembly language instructions to compute of (x-1y).
  - (v) Write ARM assembly language instructions to compute (x + y)(y z).
  - (vi) Write ARM assembly language instructions to compute  $3x^4 5x 16y^4z^4$ .