SCHOOL OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY

G51CSA Homework/Tutorial Problems – Number Systems (I)

There is a tutorial note by the author of the main textbook, William Stallings, available at this Internet site: ftp://shell.shore.net/members/w/s/ws/Support/NumberSystems.pdf

You can also find relevant information in reference A (Appendix B) and reference B (Appendix A Binary numbers)

The following problems are adopted from reference A, William Stallings, **Computer Organization and Architecture**, 6th Edition, Prentice Hall Inc, 2003, pp. 739

1. Convert the following binary numbers to their decimal equivalents:

   A. 001100
   B. 000011
   C. 011100
   D. 111100
   E. 111111

2. Convert the following binary numbers to their decimal equivalents:

   A. 11100.001
   B. 110011.10011
   C. 101010101010.1

3. Convert the following decimal numbers to their binary equivalents:

   A. 64
   B. 128
   C. 256
   D. 100
   E. 111
   F. 145
   G. 255

4. Convert the following decimal numbers to their binary equivalents:

   A. 34.75
   B. 25.25
   C. 27.1875

5. Convert the following hexadecimal numbers to their decimal equivalents:

   a. C
   b. 9F
   c. B52
   d. F117
   e. ABCD
   f. 1111.1
   g. 888.8
   h. EBA.C

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6.   Convert the following decimal numbers to their hexadecimal equivalents:

    a.   80
    b.   2560
    c.   65536
    d.   204.125
    e.   631.25
    f.   100000.00390625