



## 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**, 6<sup>th</sup> 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



**SCHOOL OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY**

---

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