

Name:

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COE 205, Term 062
Computer Organization & Assembly Programming
Quiz# 1

Date: Saturday, March 3, 2007

Q1.What is the Instruction Set Architecture (ISA) of a computer?

Q2.What is Assembly Language and how it is different from Machine Language?

Q3.Give two advantages for programming in Assembly Language and two advantages for programming in High-Level Language.

Q4. Fill the blanks in the following questions:

- (i) Assuming **8-bit 2's complement** representation, the smallest (negative) number is _____ in binary and _____ in decimal and the largest (positive) number is _____ in binary and _____ in decimal.
- (ii) Consider an **8-bit** register that has the binary number 10010110. The decimal value of this number as a signed number in sign-magnitude representation is _____ while in 1's complement representation it is _____ and in 2's complement representation it is _____.
- (iii) Assuming **8-bit 2's complement** representation, the number F0 represents the decimal number _____.
- (iv) The binary number 01100100 represents character _____, and uses an _____ parity bit. Note that the ASCII code of character **A** is 41H and that of character **a** is 61H.

Q5. Perform the following arithmetic operations assuming that numbers are represented using **8-bit 2's complement** representation. Indicate in your answer when an overflow occurs.

i. $8F + FC$

ii. $6E - E0$