

Name:

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ICS 233, Term 142

Computer Architecture & Assembly Language

Quiz# 1

Date: Tuesday, Feb. 10, 2015

Q1. Fill the blanks in the following questions:

1. 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.
2. 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 _____.
3. Assuming **8-bit 2's complement** representation, the hexadecimal number A0 represents the decimal number _____.
4. The binary number 11100110 represents character _____, and uses an _____ parity bit. Note that the ASCII code of character **A** is 41H and that of character **a** is 61H.
5. The _____ register is the register in the CPU that holds the address of the next instruction to be fetched from memory.

6. Given a magnetic disk with Rotation speed = 7200 RPM (rotations per minute). Then, the average rotation latency, i.e. time to locate needed sector is _____.

7. With a 36-bit address bus and 64-bit data bus, the maximum memory size than can be accessed by a processor is _____ Byte and the maximum number of bytes that can be read or written in a single cycle is _____ Bytes.

8. Two main advantages of programming in high-level language are: _____ and _____.

9. Two main advantages of programming in assembly language are: _____ and _____.

10. The instruction set architecture of a processor consists of _____ and _____.