

Name:

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COE 205, Term 071
Computer Organization & Assembly Programming

Quiz# 1

Date: Monday, Sep. 24, 2007

Q1. Fill the blank in each of the following questions:

1. The program that translates assembly language into machine language is called _____.
2. There is a one-to-one mapping between assembly language and _____.
3. Two of the reasons for why it is important to program in Assembly Language are _____ and _____.
4. Two advantages of programming in high-level language are _____ and _____.
5. The _____ register holds the address of the next instruction to be fetched from memory.
6. The Instruction Set Architecture (ISA) of a computer consists of _____, _____, and _____.
7. The _____ provides an interface between hardware and software.
8. The CPU is divided into two main units called _____ and _____.

9. With an address bus size equal to 36 bits, the memory address space is _____ Bytes.
10. With a data bus size equal to 64 bits, the maximum number of bytes that is transferred between the CPU and memory per a read/write cycle is _____ Bytes.
11. In _____ memory, data is lost when device is powered off while _____ memory stores information permanently.
12. In _____ RAM, each cell is made up of 6 transistors and it is faster but less dense than _____ RAM.
13. The need for memory hierarchy is due to _____.
14. The Cache memory is faster than _____ and slower than _____.
15. Given a magnetic disk with the following properties:
✧ Rotation speed = 7200 RPM (rotations per minute)
✧ Average seek = 8 ms, Sector = 512 bytes, Track = 200 sectors
- Then, Time of one rotation (in milliseconds) = _____
- Average time to access a block of 64 consecutive sectors = _____
16. The 6-bit binary number 110100 in sign-magnitude representation represents the decimal value _____ while in 1's complement representation it represents the decimal value _____ and in 2's complement representation it represents the decimal value _____.
17. Assuming 8-bit 2's complement representation, the largest positive number that can be stored in decimal is _____ and in binary it is _____ while the smallest number that can be stored in decimal is _____ and in binary is _____.
18. Assuming 8-bit 2's complement representation, the following operation $A9 - 70$ produces the results _____ and the overflow flag will be equal to _____.