

Name:

Id#

ICS 233, Term 141

Computer Architecture & Assembly Language

Quiz# 1

Date: Tuesday, Sep. 14, 2014

Q1. Fill the blanks in the following questions:

1. There is a one-to-one correspondence between _____ and _____.
2. Two main advantages of programming in high-level language are: _____ and _____.
3. Two main advantages of programming in assembly language are: _____ and _____.
4. Given an address bus of 32 bits and a data bus of 64 bits, the maximum memory size that can be interfaced with the CPU is _____ bytes and the maximum number of bytes that can be read in a single read/write cycle is _____ bytes.
5. _____ RAM is slower than _____ RAM but is denser and cheaper.
6. The need for a memory hierarchy is due to _____.
7. _____ is a register that holds the address of the next instruction to be fetched from memory.
8. The _____ is considered as an interface between software and hardware and consists of _____, _____ and _____.

9. _____ is program that translates high-level languages to assembly language.

10. Given a magnetic disk with the following properties:

- Rotation speed = 8000 RPM (rotations per minute)
- Average seek = 7 ms, Sector = 1024 bytes, Track = 250 sectors

The average time to access a block of 200 consecutive sectors is _____ ms.

11. 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.

12. Assuming **8-bit 2's complement** representation, the binary number 11011100 represents the decimal number _____.

13. Assuming **8-bit 2's complement** representation, the number F0 represents the decimal number _____.

14. The binary number 11100101 represents character _____, and uses an _____ parity bit. Note that the ASCII code of character **A** is 41H and that of character **a** is 61H.