

Signature \_\_\_\_\_

Name \_\_\_\_\_

cs30x \_\_\_\_\_

Student ID \_\_\_\_\_

Score: \_\_\_\_\_

**Quiz 1**  
**CSE 30**  
**Winter 2004**

#1. Show the representation of  $-705_{10}$  in the following representation schemes (assume 16-bit words):

a) sign magnitude

b) one's-complement

c) two's complement

#2. Convert  $216_{10}$  into (assume 16-bit words):

a) binary

b) octal

c) hexadecimal

#3. Fill in the CCR bits for the following addition instructions (8-bit two's-complement numbers):

01001011  
+ 01010101  
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10101100  
+ 11111011  
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**N    Z    V    C**

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|    |    |    |  
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**N    Z    V    C**

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|    |    |    |  
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(over)

**#4. Powers of 2**

$$512G = 2^{\text{_____}}$$

$$2^{17} = \text{_____} \quad (\text{in terms of K, M, G, etc.})$$

**#5.** List the five C/C++ Runtime Environment areas in the order as discussed in class that a typical Unix system will lay them out, and in particular the SPARC architecture lays them out:

- A - Stack
- B - Text
- C - BSS
- D - Heap
- E - Data

