

Signature \_\_\_\_\_

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

**Quiz 1**  
**CSE 30**  
**Spring 2004**

#1. Show the representation of  $-512_{10}$  in the following representation schemes (assume 16-bit words):

a) sign magnitude

b) one's-complement

c) two's complement

#2. Convert  $459_{10}$  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):

```
  10101110
+ 11011001
-----
```

```
  01101011
+ 01010101
-----
```

```
  N   Z   V   C
-----
|   |   |   |   |
-----
```

```
  N   Z   V   C
-----
|   |   |   |   |
-----
```

(over)

**#4. Powers of 2**

$$128G = 2\text{_____}$$

$$2^{12} = \text{_____} \quad (\text{in terms of K, M, G, etc.})$$

**#5. List two examples of systems/programs/devices that use a Stack Architecture (as discussed in class):**

1)

2)

The SPARC Architecture is an example of a \_\_\_\_\_ architecture. The only group of instructions that touch memory are \_\_\_\_\_ and \_\_\_\_\_.