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cs30x _____

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Score: _____

Quiz 2
CSE 30
Spring 2004

#1. a) Write the SPARC assembly instructions to define the following **global** variables in the **data** segment:

```
char jet[] = "Cold Hard B!!!!!!";  
double mint = 103.5;  
short stop = -420;
```

#2. What is the value (**in hex**) of %o1 after each set of instructions:

a) set 0xCAFE5742, %o1
 set 0xC359C359, %o2
 btog %o2, %o1

Value in %o1 at this point is **0x**_____

b) set 0xCAFE5742, %o1
 sll %o1, 8, %o1

Value in %o1 at this point is **0x**_____

c) set 0xCAFE5742, %o1
 set 0xC359C359, %o2
 or %o1, %o2, %o1

Value in %o1 at this point is **0x**_____

d) set 0xCAFE5742, %o1
 sra %o1, 12, %o1

Value in %o1 at this point is **0x**_____

(over)

#3. Write the equivalent **unoptimized** SPARC assembly language instructions to perform the following C code fragment. **Do not** use the **ba test** way of setting up a loop.

C	SPARC assembly
for (i = 420; i < 4902; ++i) {	/* i is mapped to %11 */
x = i / 17;	/* x is mapped to %13 */
}	
x = x + 5;	

Now optimize your answer to eliminate any delay slots:

Optimized version of above SPARC assembly