

Name:
cs30x_____
Score:

Quiz 2
CSE 30
Fall 2001

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

```
char c = 0x0A;  
float bone = 4.20;  
char *fmt = "Surf Naked\n";
```

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

a) set 0xDDECAFEE, %o1
 sll %o1, 20, %o1

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

b) set 0xDDECAFEE, %o1
 sra %o1, 12, %o1

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

c) set 0xDDECAFEE, %o1
 set 0xC6C6C6C6, %o2
 and %o1, %o2, %o1

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

d) set 0xDDECAFEE, %o1
 set 0xC6C6C6C6, %o2
 btog %o2, %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.

C

```
x = fubar( 420, -17, -4833 );
```

SPARC assembly

```
/* x is mapped to %l3 */
```

Now optimize your answer to eliminate any delay slots:

Optimized version of above SPARC assembly