

Name:
cs30x_____
Score:

Quiz 2
CSE 30
Spring 2001

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

```
char ch = 'a';  
int i = 405;  
char *fmt = "Hello World\n";
```

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

a) set 0xDEADF00D, %o1
 sll %o1, 12, %o1

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

b) set 0xDEADF00D, %o1
 sra %o1, 20, %o1

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

c) set 0xDEADF00D, %o1
 set 0x9C9C9C9C, %o2
 and %o1, %o2, %o1

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

d) set 0xDEADF00D, %o1
 set 0x9C9C9C9C, %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

SPARC assembly

```
x = -8118;                                /* x is mapped to %14 */  
  
do {  
    x = x + 15;  
    --x;  
} while( x <= 420 );
```

Now optimize your answer to eliminate any delay slots:

Optimized version of above SPARC assembly