Name:
cs30x____
Score:

Quiz 2
CSE 30
Summer 2001

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

```
char *fmt = "CS30 Rules\n";
long l = 405;
double d = 12.34;
```

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

a)
```
set   0xBEADF00D, %o1
sll   %o1, 8, %o1
```

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

b)
```
set   0xBEADF00D, %o1
sra   %o1, 12, %o1
```

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

c)
```
set   0xBEADF00D, %o1
set   0x5C5C5C5C, %o2
or    %o1, %o2, %o1
```

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

d)
```
set   0xBEADF00D, %o1
set   0x5C5C5C5C, %o2
bclr  %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

```
for ( i = 32; i < 420; ++i ) {
    x = i + 7;
}
```

SPARC assembly

```
/* i is mapped to %l3 */
/* x is mapped to %l5 */
```

Now optimize your answer to eliminate any delay slots:

Optimized version of above SPARC assembly