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

```assembly
char alive[] = "P.O.D.";
short sd = -404;
double df = 42.1;
```

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

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

Value in %o1 at this point is 0x____________________________________

b) set 0xCafeBabe, %o1
    sra %o1, 8, %o1

Value in %o1 at this point is 0x____________________________________

c) set 0xCafeBabe, %o1
    set 0xB9B9B9B9, %o2
    or %o1, %o2, %o1

Value in %o1 at this point is 0x____________________________________

d) set 0xCafeBabe, %o1
    set 0xB9B9B9B9, %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 = 6528; /* x is mapped to %l7 */

if ( x <= 59 ) {
    x = x % 15;
}
x = x - 8;
```

SPARC assembly

Now optimize your answer to eliminate any delay slots:

```
Optimized version of above SPARC assembly
```