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cs30x _____

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Score: _____

Quiz 2
CSE 30
Winter 2005

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

```
char BadReligion[] = "LA Is Burning";  
double radio = 94.9;
```

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

a) set 0xFEEDBABE, %o1
 sra %o1, 8, %o1

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

c) set 0xFEEDBABE, %o1
 set 0xC3C3C3C3, %o2
 and %o1, %o2, %o1

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

c) set 0xFEEDBABE, %o1
 set 0xC3C3C3C3, %o2
 xor %o1, %o2, %o1

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

#3. List two instructions that are not eligible to be used to fill a delay slot in the SPARC architecture.

#4. Write the equivalent **unoptimized** SPARC assembly language instructions to perform the following C code fragment. **Use the loop construct specified in class/Notes.**

C	SPARC assembly
for (i = 9021; i >= 17; --i) {	/* i is mapped to %12 */
x = i + 420;	/* x is mapped to %14 */
}	

#5. Write the equivalent **unoptimized** SPARC assembly language instructions to perform the following C code fragment.

C	SPARC assembly
x = x / 5555;	/* x is mapped to %14 */

Now optimize your answer to eliminate any delay slots:

Optimized version of above SPARC assembly