Problem 1: For answers to this problems consult the SPARC Architecture Manual Version V8, linked to the course references page.

Suppose a SPARC V8 trap table has been set up at address 0x12340000.
(a) Write a SPARC V8 program that sets the trap base register (TBR) to that address. Assume the processor is already in privileged mode. Hint: A correct solution consists of two instructions, a three-instruction program is okay too.

Call the SPARC V8 instruction that writes the TBR foo. The ISA definition of foo makes it easy to design the control logic and bypassing hardware on certain implementations.

(b) What about the definition of foo makes the control logic and bypassing hardware design easy on those certain implementations?

(c) Why not do the same for, say, the add instruction?

(d) Describe an implementation in which the control logic for foo would not be so simple despite the “help” from the ISA definition.

Problem 2: Solve the EE 4720 Spring 2007 Final Exam problem 1.

Problem 3: Solve the EE 4720 Spring 2007 Final Exam problem 3.