CS 3330
Computer Architecture

Problem Set 2
Spring 2014

Due: 2/7/14 (**Fri 2:30 - 4:00 p.m.** Rice Hall 514 Mondol's Office Hours)

Read Chapter 2 (2.1 through 2.14 inclusive and 2.18 and 2.19)

Show all work.

1. To load a constant in a register we can use a *lw* or an *addi* instruction. Explain the key differences and why you might prefer the *addi* instruction.
2. Assume a 1-D array A of 7 words is in memory starting at a location pointed at by register $s3. Write an assembly language code fragment to load the array into registers $t0 to $t6, respectively. Next write code to place the data back into memory in reverse order, i.e., what was in A[0] is now in A[6], etc.
3. Describe what spilling registers means.

The following problems are from the text

4. 2.1
5. 2.2
6. 2.3
7. Text 2.8
8. Text 2.10 ,
9. 2.14
10. 2.23
11. 2.31 (recursive procedure to implement a Fibonacci sequence)