The UNIVERSITY *of* NORTH CAROLINA *at* CHAPEL HILL

Comp 411 Computer Organization
Spring 2011

Problem Set #6 [LAST ONE]
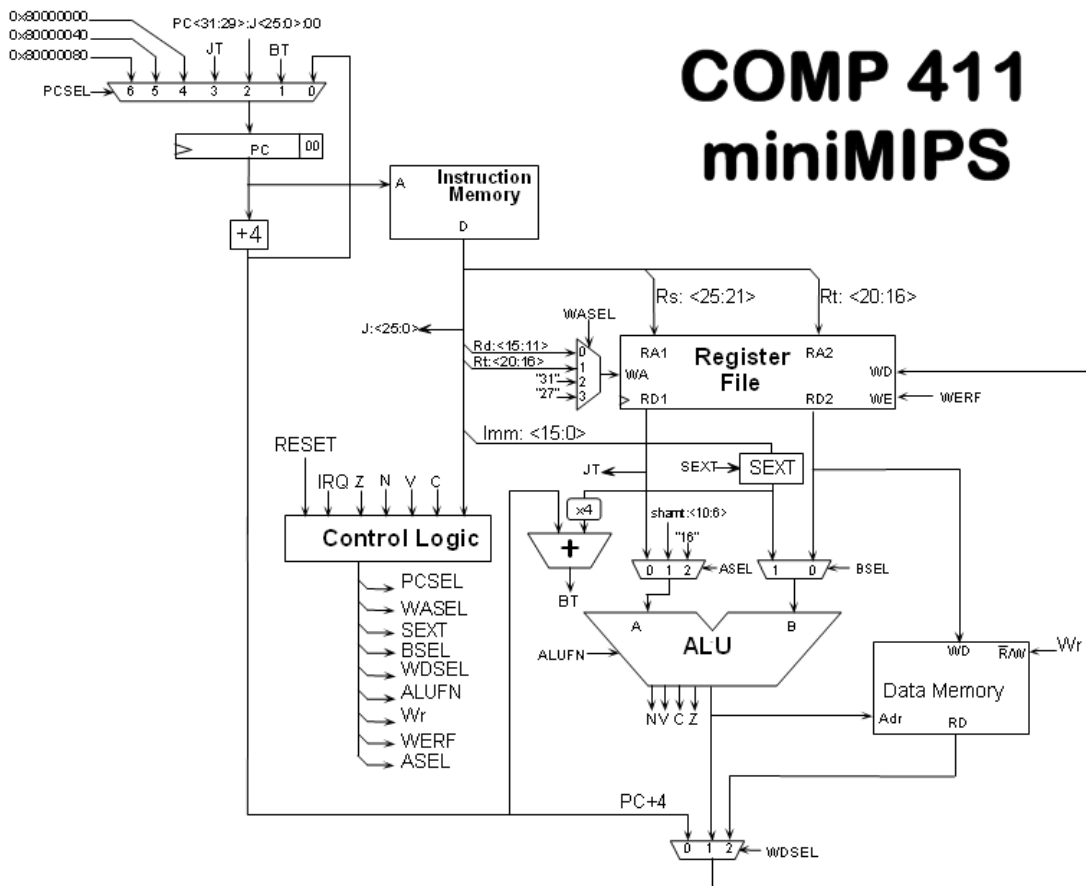*Issued Monday, 4/18/11; Due Monday, 4/25/11 (beginning of class)*

Problem 1. Complete the following exercises from the textbook (45 points)

Exercises #: 1.3.1, 1.3.2, and 1.3.3.

[You will find these exercises on page 59 of the textbook (Patterson/Hennessy 4th ed.).]

Problem 2. "Out of Control" (55 points)

Refer to the following picture of a MIPS implementation and answer the question that appears below.

Fill in the missing entries of the Control Logic ROM in the table below, based on the data path shown above. *Hint:* All of the information you need to answer this question can be found in the slides from Lecture #15.

Opcode	PCSEL	WASEL	SEXT	BSEL	WDSEL	Sub	Bool	Shft	Math	Wr	WERF	ASEL
							ALUFN					
sub	0	0	X	0	1	1	XX	0	1	0	1	0
xor	0	0								0		
addi	0	1										
sll	0	0	X	0	1					0	1	
andi	0									0		
lw					2					0		
sw										1		
j						X	XX	X	X	0		
jal						X	XX	X	X	0		
lui										0		