

22C:060: Computer Organization

Homework 5

Total points = 40

Assigned November 6, 2012, due November 15, 2012, 11:59 PM

Submit your solution through ICON dropbox.

Solve the following problems from your textbook. Each question is worth 10 points

Problem 1. 5.11 (Assume that all instructions are executed in 5 steps)

Problem 2. 5.12

Problem 3. 6.1

Here is a sample of how you write about the activities in each cycle in part (a):

Cycle	Stage	Activity
1	F	fetching ADD instruction
2	F	fetching Subtract instruction
	D	decoding ADD instruction, reading register R2 (value 2000)
3	F	fetching AND instruction
	D	decoding Subtract instruction, reading register R4 (value 50)
	C	performing arithmetic $2000+20 = 2020$ for Add instruction etc etc.

For part (b), the recommended format is:

Cycle 2: IR=Add, PC=1004, RA=?, RB= ?, RZ=?, RY=? (? Implies unknown)

Cycle 3: IR=Sub, PC=1008 etc. etc

Problem 4. 6.2