EE 3170 Microcontroller Applications
Midterm 2 Review: Miller Chapter 3-6
-The Stuff That Might Be On the Exam

Q. 5.36 of HW5

One possible solution could be:

- EXCHAB
- PSHA
- TBA
- PULB
- RTS

Q. 5.37 of HW5

(a) 06, 04
(b) CFFA
(c) 60
(d) 08
(e) 22
(f) None
(g) 09

Q. 5.38 of HW5

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NEXT RTS
Q.5.45 of HW5

Overview of Midterm2

- The exam covers lecture #10-#13
- You can bring manual of the instruction and the manual of ports and registers with you in the exam

Chapter 3/Lecture 10

- Tips on Good Programming Style
- Procedures/Steps of an assemble language program development

Chapter 4/Lecture 11

- Flow Chart
- Structured Programming
  - Three fundamental structures
  - Two extended program structures
- Top/Down Design
  - Top down vs. bottom up
Chapter 5/Lecture 12 Part I: Stacks & Subroutines

- Stack
  - Know the operations of instructions
  - Effects
  - Stack Pointer
- Before/during/after a subroutine is called
  - Track of PC register and SP register
- Calling conventions: Pros and Cons
  - Register-based
  - Memory-based
  - Stack-based
- Subroutine
  - Parameter passing
  - Local variables

Chapter 5/Lecture 12 Part 2: Stacks & Subroutines

- Passing Call Parameters
  - Call-by-Value
  - Call-by-Reference
- Randomly Accessing Parameters
  - Base Pointer (BP) register
  - Get very familiar with index addressing mode

Chapter 6/Lecture 13: Introduction to Microcontroller Hardware

- Busses
  - bus organization
  - interfacing to & controlling memory chip(s)
- Memory
  - Definitions/classifications
  - Multi-chip organization