

EE/CPE 390 – Microprocessor Systems

Lab 4

Instruction:

This lab is about Machine Code. Understand the contents of the lab to complete the following questions. Don't forget to refer to Appendix B of the textbook (Page 536) if necessary.

Submission Requirements:

- Please finish all questions shown below.
- Submit a '.doc' or '.pdf' file to Canvas.
- **Note: You can add any notes you want about this assignment or leave me a message in the comment of the submission link, but you can't put the answer directly in the COMMENT! If you put the answer directly in the comment of the submission link, you will lose points.**

Exercise:

Consider the following ARM assembly language snippet. The numbers to the left of each instruction indicate the instruction address:

0x00000000 FUNC1:	MOV R10, R1
0x00000004	ADD R5, R3, R2
0x00000008 FUNC2:	LDR R2, [R10, #4]
0x0000000C	CMP R5, R2
0x00000010	BLT ELSE
0x00000014 ELSE:	SUBS R5, R5, #1
0x00000018	BNE FUNC2

Translate the instruction sequence into machine code. Write all of the machine code instructions in hexadecimal. Make sure you clearly “show your work” by labeling the different fields used for the different types of instructions and otherwise demonstrating to us that you understand the process.