

ECE 662

Homework #2

Problems:

1. Problem 2.5. Give the contents for the two memory words in hexadecimal. Assume the memory is initially cleared.
2. (a) Problem 3.27. Note that all values are given in decimal.
 - (b) Give the machine code (opcode word, etc.) for the 68000 program of Figure 3.25 of the text. Assume that the program starts at location \$30E000, N=\$50E000, SUM=\$50E004, and all the addresses are given in hexadecimal. That is, complete the following:

<u>Instruction</u>	<u>Address</u>	<u>Contents (HEX)</u>
MOVE.L N,D1	30E000	2239 0050 E000
MOVEA.L #NUM1,A2	30E006	
.		
.		
.		

3. Problem 3.25.(a),(c) Change the mnemonic in (c) to be ADDI.L. Note that the 68000 can access one memory word (16 bits) at a time. Also, give the machine code for each instruction.
4. Consider the 68000 program of Figure 3.23 of the text. Answer the following questions:
 - (a) Give the machine code for the program (in HEX) using the same format as in problem 2(b) above. Be sure to give the contents of addresses \$201150-\$201153 and \$201200-\$201211.
 - (b) The contents of A and B are changed so that [A]=\$E000 and [B]=\$2000. What are the contents of memory location C after the program executes? What are the contents of the least significant 5 bits of the status register, [SR₄₋₀]?
 - (c) For [A]=\$F000 and [B]=\$8000, what are [SR₄₋₀] after the ADD instruction?