

EE 308 – Homework 3

Due Feb. 4, 2002

1. Disassemble the following HC12 op codes:

96 83 8A 28 08 1C 09 A5 05 3F

Indicate what instructions these bytes correspond to. For each instruction indicate the addressing mode which is used.

2. Repeat Problem 1 for the following op codes:

FD 09 45 C1 0A 2E F9 18 0E

3. Which of the conditional branch instructions in the following list will cause a branch to be taken if the condition code flags are: $N=1$, $Z=0$, $V=1$, $C=0$:

- (a) BCC label
- (b) BNE label
- (c) BGE label
- (d) BGT label
- (e) BHI label
- (f) BMI label
- (g) BLS label

4. Consider an array of 8-bit data located in memory with a starting address of $\$0900$ and an ending address of $\$091F$. Write a program which will swap the first element of the array with the last element; the second element with the next-to-last element, etc.
5. Problem 5 from Page 70 of the text (from the Challenging group). Assume the starting address of the table is $\$FCE0$. Treat the numbers as signed. The program should write the minimum value into memory location $\$0900$ and the maximum value into address $\$0901$.
6. Problem 6 from Page 70 of the text (from the Challenging group).