

(20) 2.1. Disassemble the following HC12 op codes:

B6 10 00 8B 0A 90 10 6A 0A 3F

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

(20) 2.2. Repeat Problem 1 for the following op codes:

B7 F6 18 03 A2 17 21 5A A6 2E 04 B6 F5

(20) 2.3. 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=0, C=1:

- (a) BCC label
- (b) BGE label
- (c) BHI label

(20) 2.4. Below shows a sequence of instructions to be executed by a 68HCS12. Fill in the table, showing the value in accumulator A and the state of the condition flags N, Z, V and C after each instruction. The table shows the initial value of the condition flags and A

Instruction	Accumulator A	N	Z	V	C
	\$00	1	0	1	0
TSTA					
ADDA #\$40					
SUBA #\$78					
LSLA					
ROLA					
ADDA #\$CF					

(20) 2.5. Write a program to count the number of elements, in an array of 20 numbers, that are greater than 16. The array has N=20 8-bit unsigned elements.