CSE 232 Systems Programming

2023 Spring

Assignment 3

Purpose of This Assignment:

The purpose of this assignment is to practice the index register and addressing methods in M6800 assembly language programming.

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1) Write an assembly code that implements the following C program with arrays:

```
int A[] ={A,17,4,D,25 };
int B[] ={9,13,4,E,5};
int C[5];
int i;
for(i=0; i<5; i++) {
      if (A[i] - B[i]>0) {
            C[i]=1;
      }
      else{
            C[i]=0;
      }
}
```

You should place A and B arrays via load and store operations to the addresses between **50H-54H** and **60H-64H**, respectively. In the code above, indices of A and B are given as hexadecimal. At the end of your program C array should be stored at addresses between **70H-74H**. Your machine code should be placed in the memory starting from address **100H**.

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2) Please fill the blank cells with appropriate answers. Note that machine code consists of opcode and offset.

Assembly program	Program Counter	Machine Code	Addressing Mode
.ORG $2000	--	--	--
LDX #1000			
L: CPX #0			
BEQ FIN			
LDAA #20			
STAA $120			
LSR $120			
STAA $30			
ASLA			
DEX			
BRA L			
FIN: CLR $120			
.END			

Hint: .ORG operation starts the program counter from the identified address. Therefore, there is no need to make changes in the first row(i filled it with -- already)

SUBMISSION

Submit your assignment with the name "nameLastNameID_assignment3" using YULEARN.