CSE 232

Systems Programming

2017 Spring

Assignment 4
Last Submission Time: 19.3.2017, 23:45

Purpose of This Assignment

The purpose of this Assignment is to have experience with the **subroutine** structure in M6800 assembly language together with the **index register** and **time delays**.

Part 1: (20 pts)
Compute the amount of delay introduced by the following subroutine in terms of milliseconds:

```
DELAY   STX   $40
        LDX   #100
DEL2    DEX
        CPX   #0
        BGT   DEL2
        LDX   $40
        RTS
```

Evaluate your answer for a processor with 1MHz clock.

Part 2: (80 pts)

Write a M6800 assembly language program that implements the following C program with arrays:

```
int A[]={5,3,8,18,2};
int sum=0;
int i;
for(i=0;i<5;i++)
{
      if (A[i]%2==0)
         sum+=A[i];
}
```

Starting address of the input array is 20H. Write the value of sum into memory address 30H. In the code above, the values stored in array A are given as decimal.

SUBMISSION

Enroll the CSE 232 COADSYS page if you haven't done yet. Submit your assignment with the name "**nameLastNameID_assignment4.zip**" using COADSYS. In your zip file, include part 1 and part 2 as two different files.