**EEEN 311 Logic Circuits & Microprocessors**

**Laboratory Manual 1**

**Problem 1)**

The values 1020h and 2040h are assigned to addresses 0080:1000h and 0080:1002h respectively. Then, we want to add these numbers and store the summation in 0080:1004h. Write a program for the desired purpose.

org 100h

mov ax,0080h

mov ds,ax

mov [1000h],1020h ; assign 1020 to 0080:1000h

mov [1002h],2040h ; assign 2040 to 0080:1002h

mov ax, [1000h] ; assign the value inside the 0080:1000h to ax

; your job is adding the numbers and store the result in 0080h:1004h

Ret

**Solution (Watch the video of Lab. 1 on Nov. 12, 2021):**

org 100h

mov ax,0080h

mov ds,ax

mov [1000h],1020h ; assign 1020 to 0080:1000h

mov [1002h],2040h ; assign 2040 to 0080:1002h

mov ax, [1000h] ; ax = [1000h]

; your job is adding the numbers and store the result in 0080:1004h

add ax, [1002h] ; ax=ax+[1002h]

mov [1004h],ax ; store the summation in 0080:1004h.

ret

**Problem 2)**

Calculate the two times of the value in 0080:1004h and store it in 0080:1006h

**If something is wrong:**

* Check the numbers’ base (is it a decimal number or hexadecimal number?)
* Check the parenthesis (is it a number or an address?)
* Becareful with the order of the operands of the command you write.
* Always start with org 100h and finish with ret for com type application.

**When in doubt, you can always check your result by using a converter!**