Assembly Language Report (Week 8)

Group 7

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Program CODE:

.stack 4096

ExitProcess PROTO,dwExitCode:DWORD

FindLargest PROTO aPtr:Ptr SDWORD,arrsize:DWORD

;宣告FindLargest procedure 的 prptptype

.data

Array1 SDWORD 105522063,104502517,104502518

Array2 SDWORD -105522063,-104502517,-104502518

Array1size = LENGTHOF Array1

Array2size = LENGTHOF Array2

.code

FindLargest PROC,aPtr: PTR SDWORD,arrsize:DWORD

push esi ;push the register esi into stack

push ecx ;push the register ecx into stack

mov eax,80000000h ;move 80000000h into register eax

; smallest possible 32bit signed integer

mov esi,aPtr ; point to the first element

mov ecx,arrsize ; set iteration times

L1: cmp [esi],eax

; compare the current value and current maximum

jl L2 ; smaller than max,jump to L2

mov eax,[esi] ; update max value

L2: add esi,4

loop L1

call WriteInt ;show on the cmd window

call Crlf ;line feed on the cmd window

pop ecx ;pop out from the stack

pop esi ;pop out from the stack

ret ;Return from subroutine

FindLargest ENDP

start@0 PROC

INVOKE FindLargest,ADDR Array1,Array1size ;call function

INVOKE FindLargest,ADDR Array2,Array2size ;call function

call WaitMsg ;show on the cmd window

INVOKE ExitProcess,0

exit

start@0 ENDP

END start@0

Review:

這次的作業是新的教授上課後的第一份作業，上課的方式與原本教授上課的方式略有不同，為了讓大家在上課的當下就能吸收到內容，很喜歡點人回答問題，而這次練習的題目是要在宣告好的陣列中找出最大的數字，使用invoke、

Addi取位址，還有讓傳入函數的參數之命名更為自由，此外，在word中給的範例程式碼中好像有一小點錯誤，就是在.stack中arraySize : DWORD後面好像多打了一個冒號，所以一開始run的時候出現了一些錯誤。