

報告標題: HW2

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- 程式碼與執行流程與記憶體狀態截圖及說明

一開始memory的狀態

Memory 1									
Address: 0x005E6000									
0x005E6000	23	23	23	23	23	20	20	20	####
0x005E6008	20	20	20	20	23	20	20	20	#
0x005E6010	20	20	20	20	23	20	20	20	#
0x005E6018	20	20	20	20	23	20	20	20	#
0x005E6020	20	20	20	20	23	20	20	20	#
0x005E6028	20	20	20	20	23	20	20	20	#
0x005E6030	20	20	20	20	23	20	20	20	#
0x005E6038	23	23	23	23	23	23	23	23	#####
0x005E6040	00	00	00	00	00	00	00	00
0x005E6048	00	00	00	00	00	00	00	00
0x005E6050	00	00	00	00	00	00	00	00
0x005E6058	00	00	00	00	00	00	00	00
0x005E6060	00	30	31	32	33	34	35	36	.0123456
0x005E6068	37	38	39	41	42	43	44	45	789ABCDE
0x005E6070	46	20	20	20	20	20	20	20	F

轉換後的輸出

```
Microsoft Visual Studio Debug Console

1111 1000
0000 1000
0000 1000
0000 1000
0000 1000
0000 1000
0000 1000
0000 1000
1111 1111

C:\Users\mina6\source\repos\hw2\Debug\hw2..
To automatically close the console when de
le when debugging stops.
Press any key to close this window . . .
```

完整程式碼與註解

```
hw2.asm*  ↵  ✕
1  TITLE Example of ASM
2  INCLUDE Irvine32.inc
3
4  .data
5  ChStr BYTE "#####"
6          BYTE "  #"
7          BYTE "  #"
8          BYTE "  #"
9          BYTE "  #"
10         BYTE "  #"
11         BYTE "  #"
12         BYTE "#####"
13  BitStr BYTE 8 DUP(?)
14  .code
15  change PROC
16      mov bl,10000000b
17      mov dl,0
18      mov edi,0
19  L:
20      mov al,ChStr[esi]          ; 將al定義為ChStr[esi]
21      cmp al,20h                ; compare al and 20h
22      jz L1                     ; if(al>20h): al=al+07h and continue ; if(al==20h): jump directly to L1
23      add al,7h                 ; add 7h to al
24      add dl,bl                 ; add bl to dl
25      shr bl,1                 ; bl shift one position right
26      jmp L2                   ; jump to L2
27  L1:
28      add al,10h                ; add 10h to al
29      shr bl,1                 ; bl shift one position right
30  L2:                           ; L2: convert blank to 0 and # to 1 for each byte in ChStr
31      mov ChStr[esi], al        ; 將ChStr[esi]定義為al
32      inc esi                   ; add one to esi (move to next position at ChStr)
33      cmp bl,0                 ; compare bl and 0
34      jnz L4                   ; if(bl==0): continue ; if(bl!=0): jump directly to L4
35      mov BitStr[edi],dl        ; 將BitStr[esi]定義為al
36      mov bl,10000000b         ; 將bl定義為10000000b
37      mov dl,0                 ; 將dl定義為0
38      inc edi                   ; add one to edi
39  L4:
40      Loop L
41      ret
42  change ENDP
43
44  main PROC
45      mov esi,0
46      mov ecx,64
47      CALL change
48      mov ecx,8
49      mov esi,0
50  L3:                           ; L3: print out the result(BitStr)
51      movzx eax,BitStr[esi]
52      mov ebx,type byte
53      call writebinb
54      call crlf
55      inc esi
56      Loop L3
57      exit
58  main ENDP
59  END main
```

● 心得

作業二將之前所學的眾多運算方法綜合起來,我認為非常具有挑戰性,因為需要對每一種指令非常熟悉才能夠加以運用,希望助教能給多一點提示,作業的難度和課堂所學有一定的落差,不過,自己摸索的好處就是能夠對摸索到的知識點印象深刻。