



805 | 實習

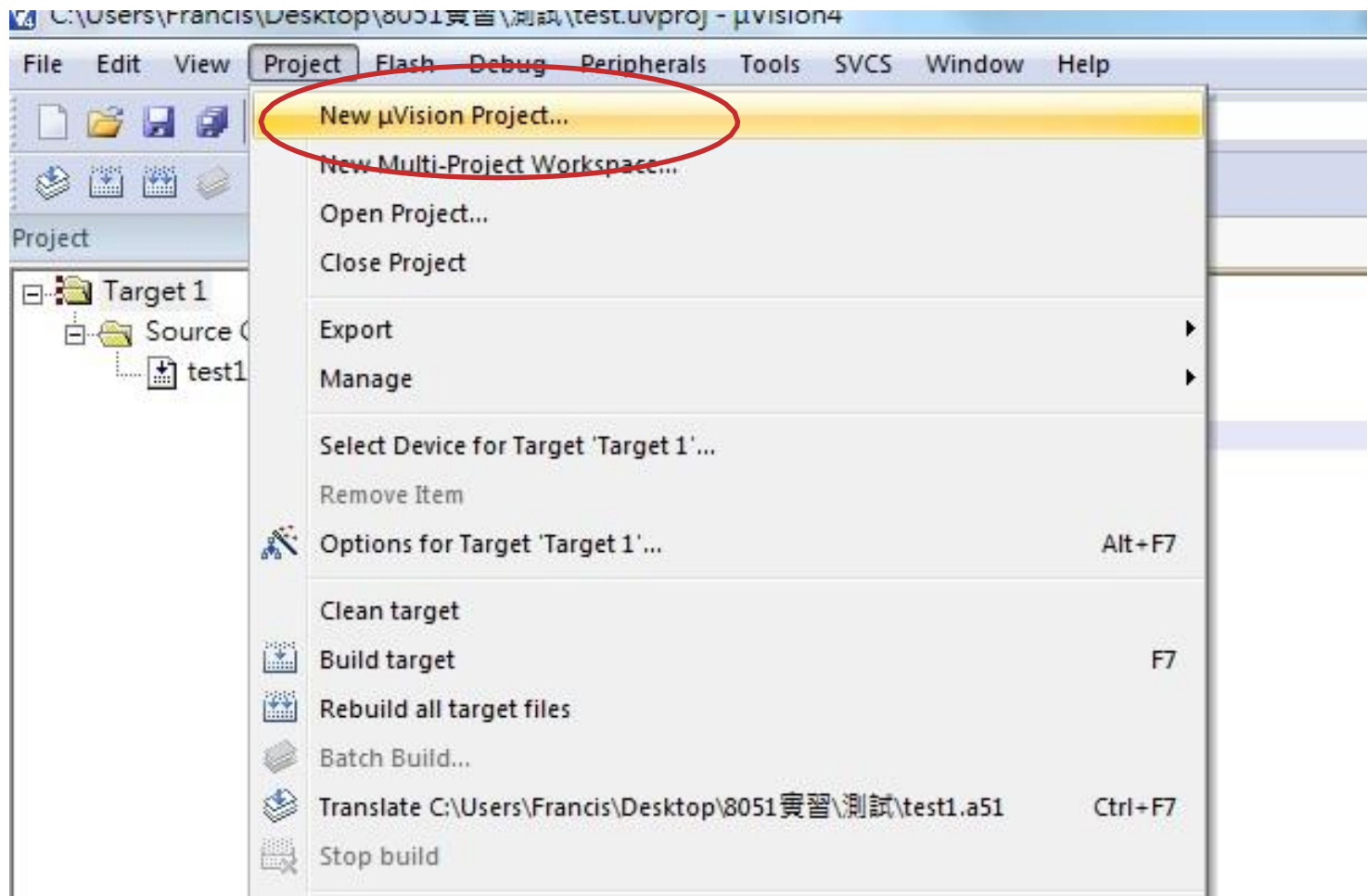
下載軟體

- Keil uVision 4
- <https://www.keil.com/demo/eval/c51.htm>

Enter Your Contact Information Below

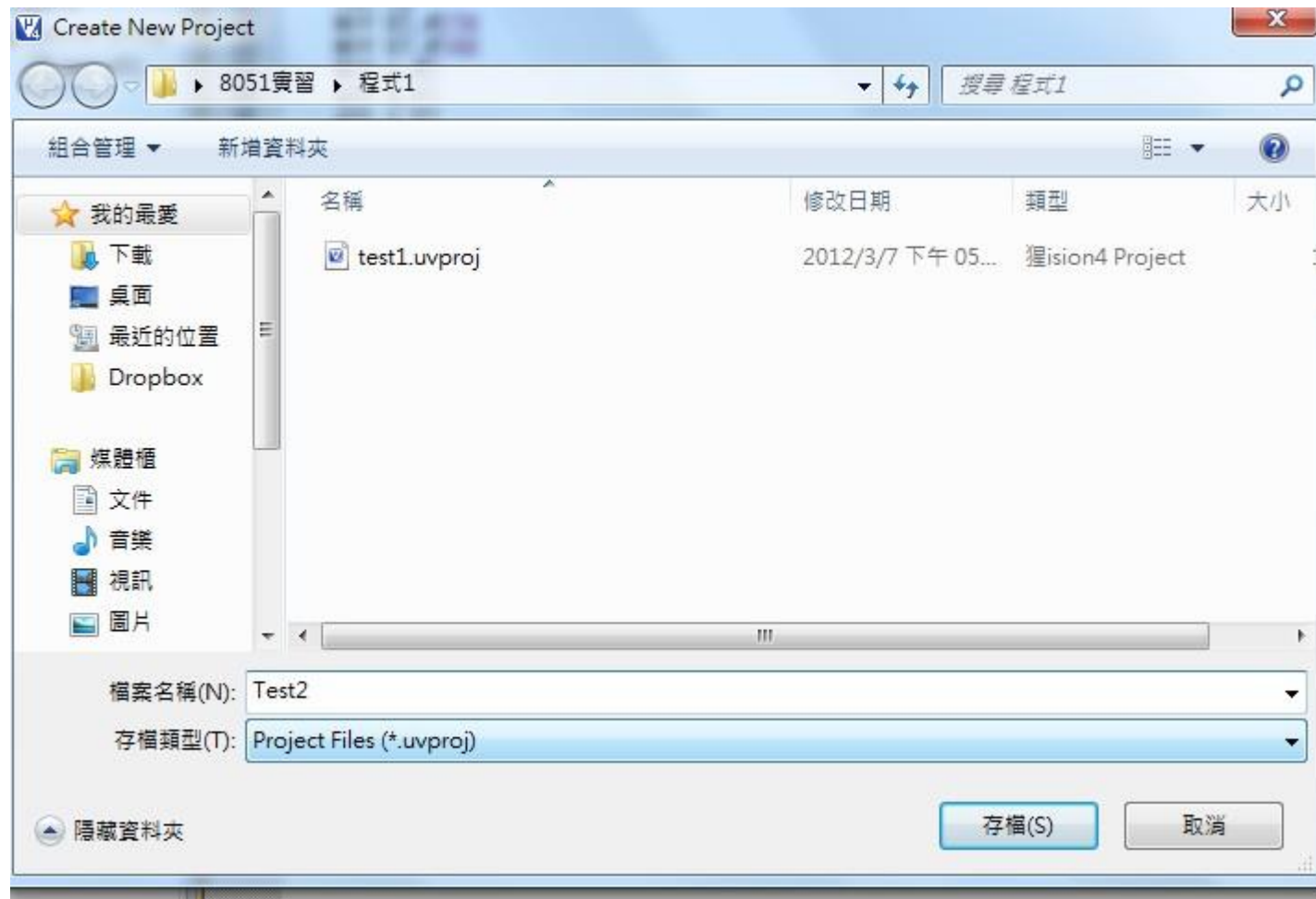
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Last Name:	<input type="text"/>
Professional Title:	<input type="text"/>
E-mail:	<input type="text"/>
Company:	<input type="text"/>
Company Web Site:	<input type="text"/>
Address:	<input type="text"/>
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	<input type="text"/>
City:	<input type="text"/>
State/Province:	Select Your State or Province ▼
Zip/Postal Code:	<input type="text"/>
Country:	Select Your Country ▼
Phone:	<input type="text"/>
Fax:	<input type="text"/>

建立新專案



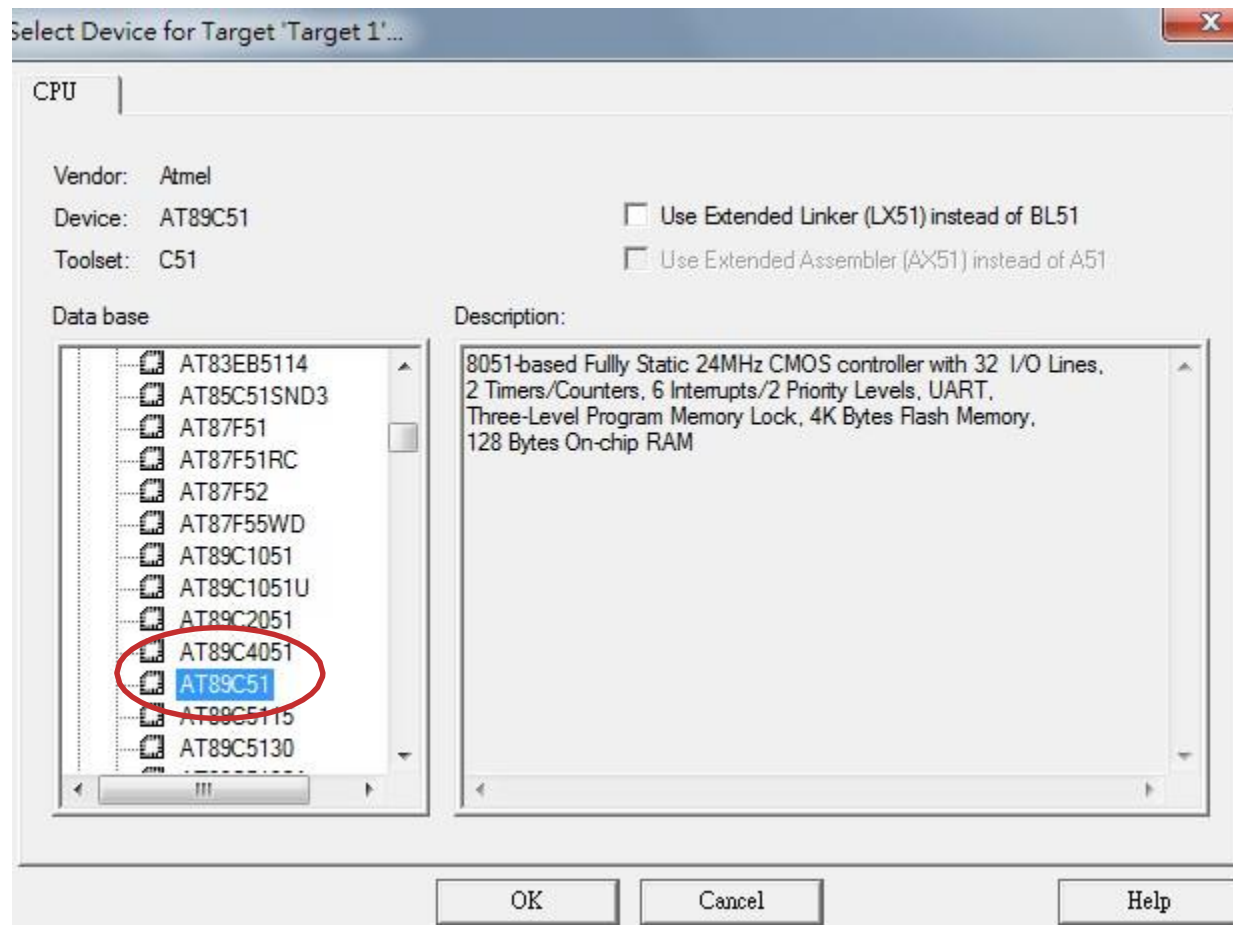
建立新專案

- 輸入專案名稱

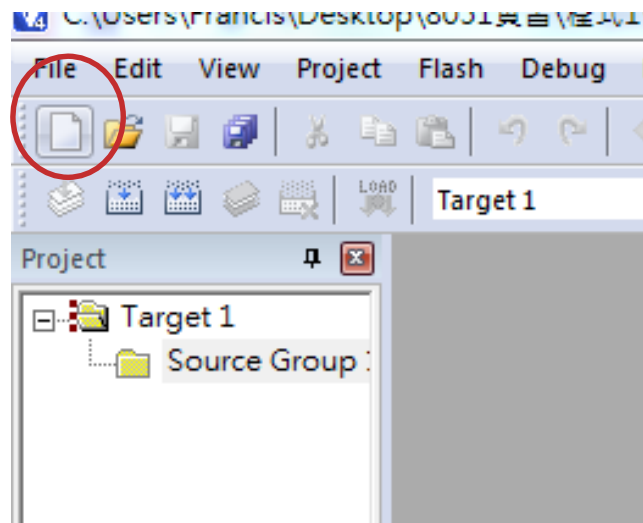
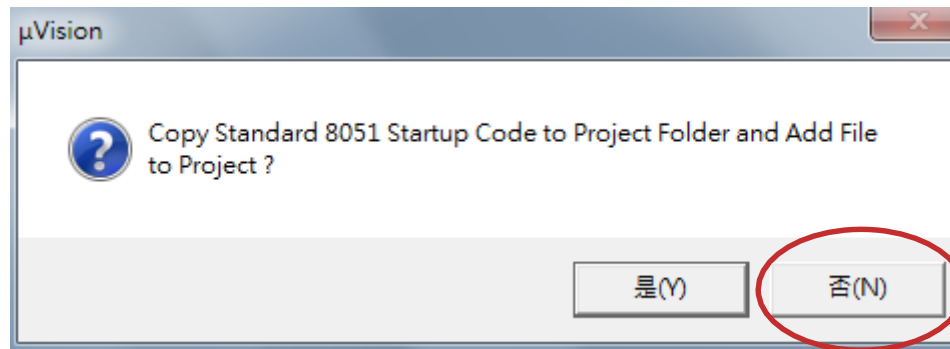


建立新專案

- 選擇Atmel → 89C51

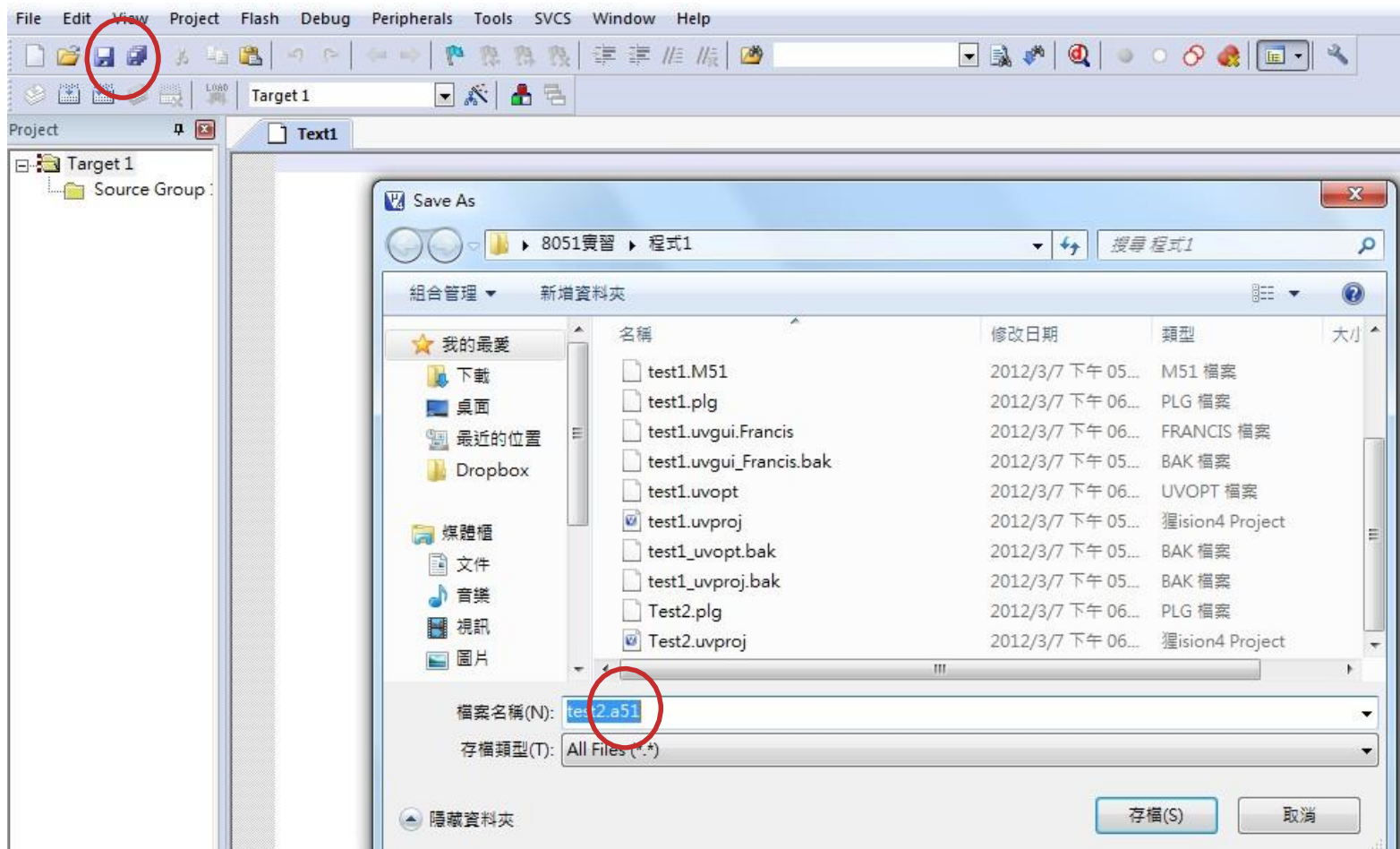


建立新專案



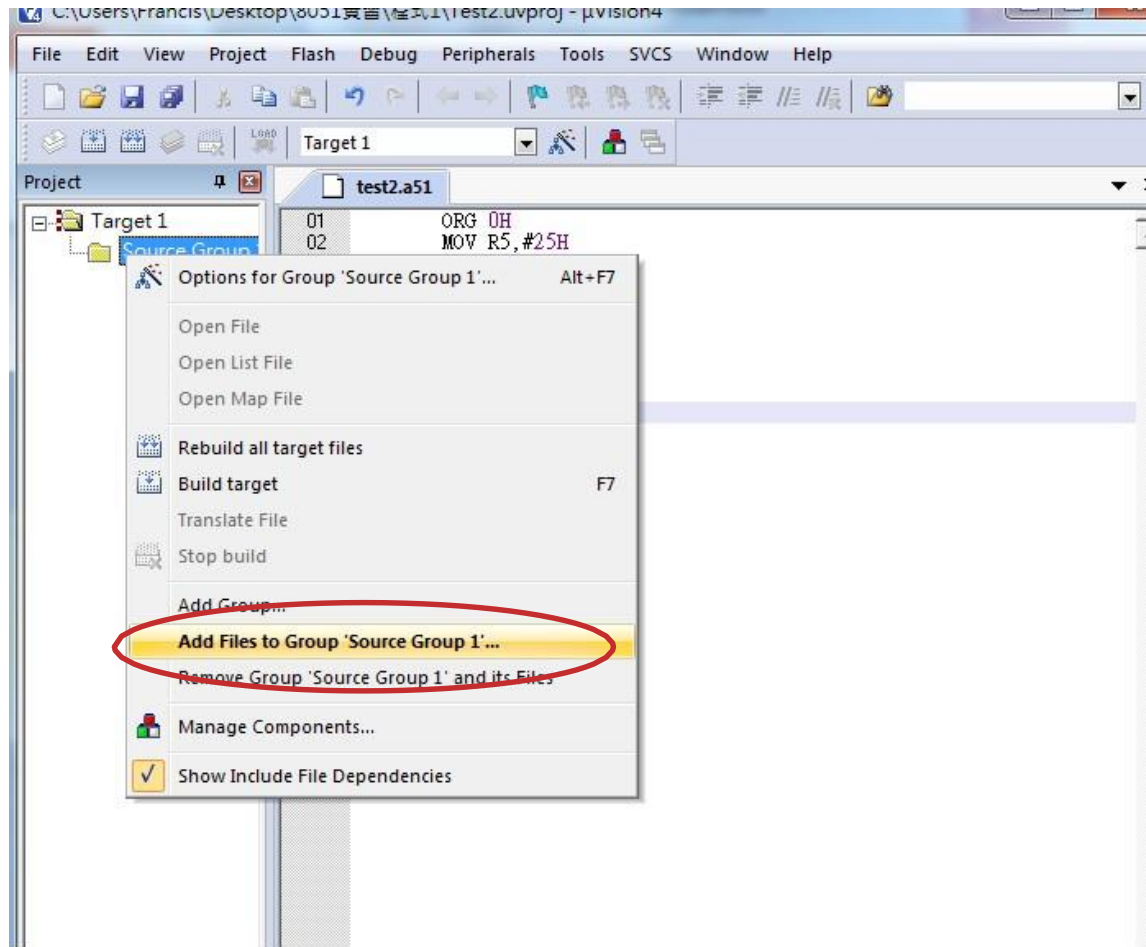
建立新專案

- 按下儲存,並且將副檔名改為 .a51



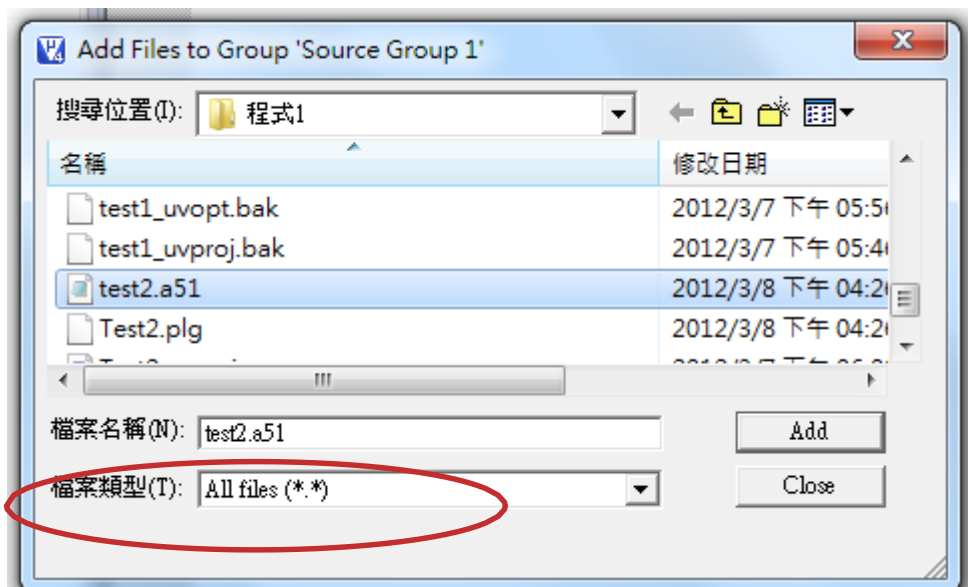
建立新專案

- 在Source Group按右鍵

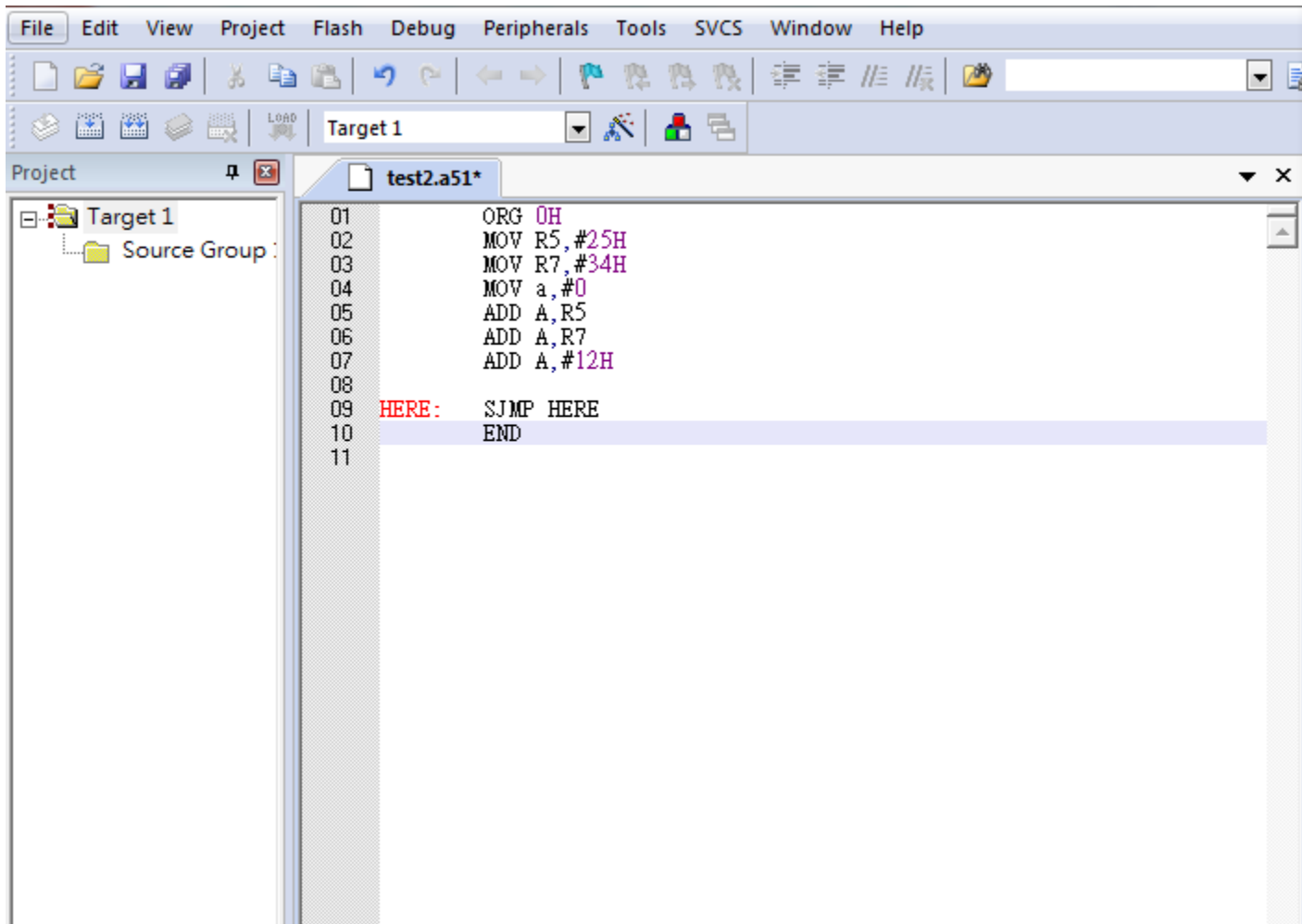


建立新專案

- 檔案類型選**All files** 並選擇剛剛的儲存的檔案



撰寫程式碼

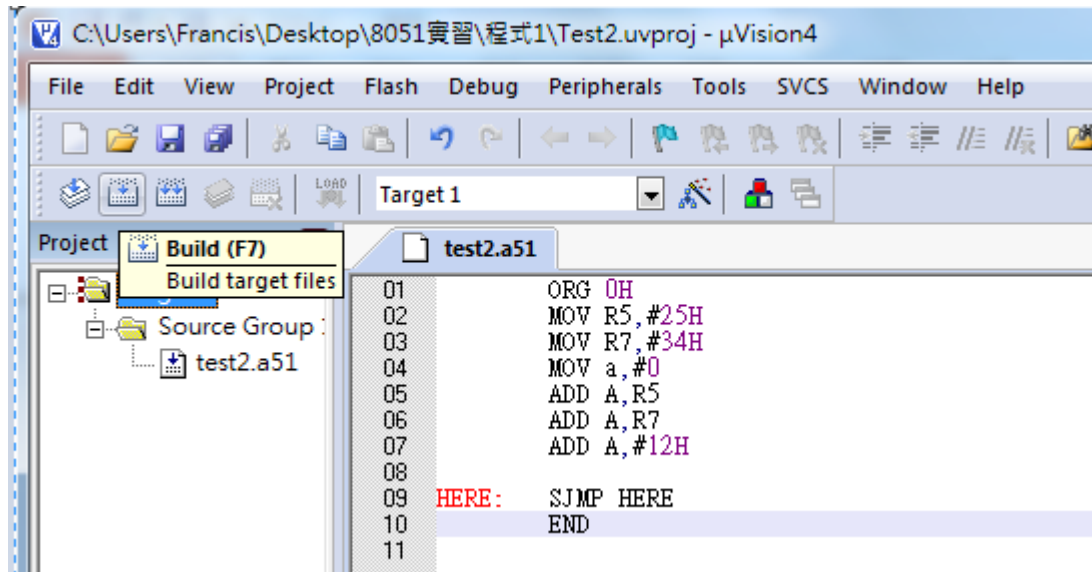


The screenshot displays a software development environment with a menu bar (File, Edit, View, Project, Flash, Debug, Peripherals, Tools, SVCS, Window, Help) and a toolbar. The main workspace shows a project named 'Target 1' with a 'Source Group' containing a file 'test2.a51*'. The code editor displays the following assembly code:

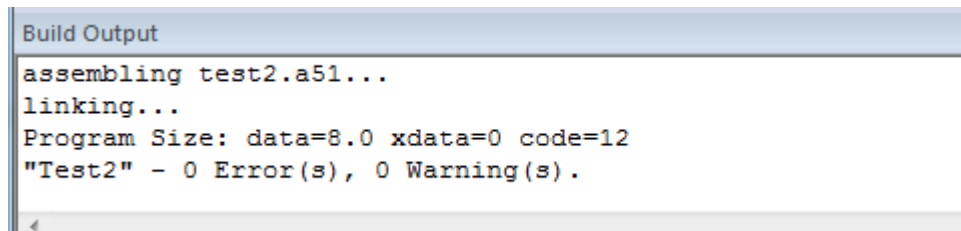
```
01      ORG 0H
02      MOV R5,#25H
03      MOV R7,#34H
04      MOV a,#0
05      ADD A,R5
06      ADD A,R7
07      ADD A,#12H
08
09  HERE: SJMP HERE
10      END
11
```

Build

- 撰寫完之後按下Build

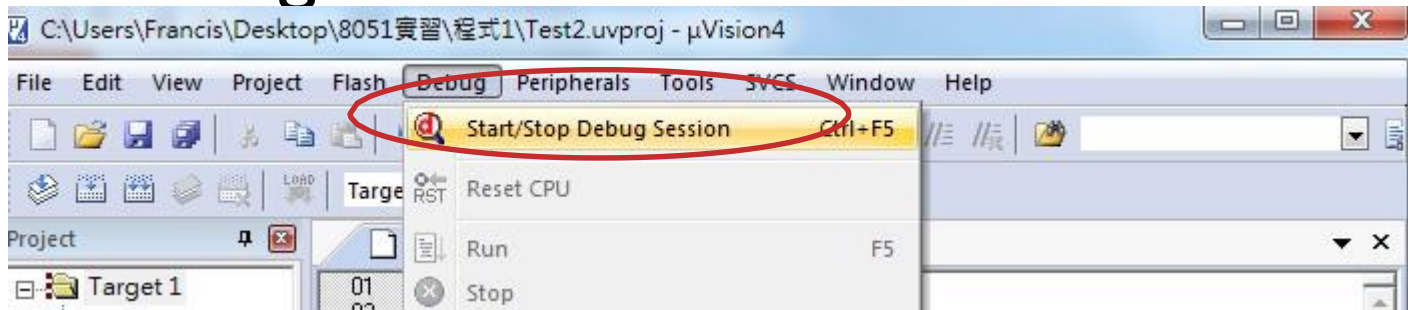


- 最下方會出現有無錯誤訊息

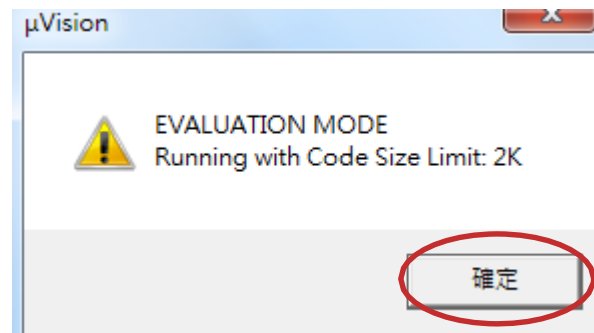


Debug

- 要看程式如何運作和他的成果要使用 Debug 功能



- 因為是評估版本,所以檔案大小限制為 2K



Debug

The screenshot displays a debugger window with two main panes. The left pane, titled 'registers', shows a list of registers and their values. The right pane shows assembly code for a file named 'test2.a51'. A red box highlights the execution mode buttons at the top of the debugger, with the text '選擇執行方式' (Choose execution mode) next to it. Another red box highlights the 'Registers' pane, with the text '暫存器變化視窗' (Register change window) next to it. The assembly code in the right pane includes instructions like 'ORG 0H', 'MOV R5, #25H', 'MOV R7, #34H', 'MOV a, #0', 'ADD A, R5', 'ADD A, R7', 'ADD A, #12H', 'HERE: SJMP HERE', and 'END'. The 'HERE' label is highlighted in blue.

選擇執行的方式

Register	Value
r0	0x00
r1	0x00
r2	0x00
r3	0x00
r4	0x00
r5	0x25
r6	0x00
r7	0x34
a	0x6b
b	0x00
sp	0x07
sp_max	0x07
dptr	0x0000
PC \$	C:0x000A
states	6
sec	0.00000300
psw	0x01

```
01      ORG 0H
02      MOV R5, #25H
03      MOV R7, #34H
04      MOV a, #0
05      ADD A, R5
06      ADD A, R7
07      ADD A, #12H
08
09  HERE: SJMP HERE
10
11      END
```

暫存器變化視窗

練習

- 輸入以下程式碼,並且觀察執行結果

```
ORG 0H           ;start (origin) at location 0
MOV R5,#25H      ;load 25H into R5
MOV R7,#34H      ;load 34H into R7
MOV A,#0         ;load 0 into A
ADD A,R5         ;add contents of R5 to A
                 ;now A = A + R5
ADD A,R7         ;add contents of R7 to A
                 ;now A = A + R7
ADD A,#12H       ;add to A value 12H
                 ;now A = A + 12H
HERE: SJMP HERE  ;stay in this loop
END              ;end of asm source file
```

Program 2-1: Sample of an Assembly Language Program

練習

- 承上題, 嘗試不使用R5和R7, 直接把25H和34H加到A, 觀察最後A的值是否會相同