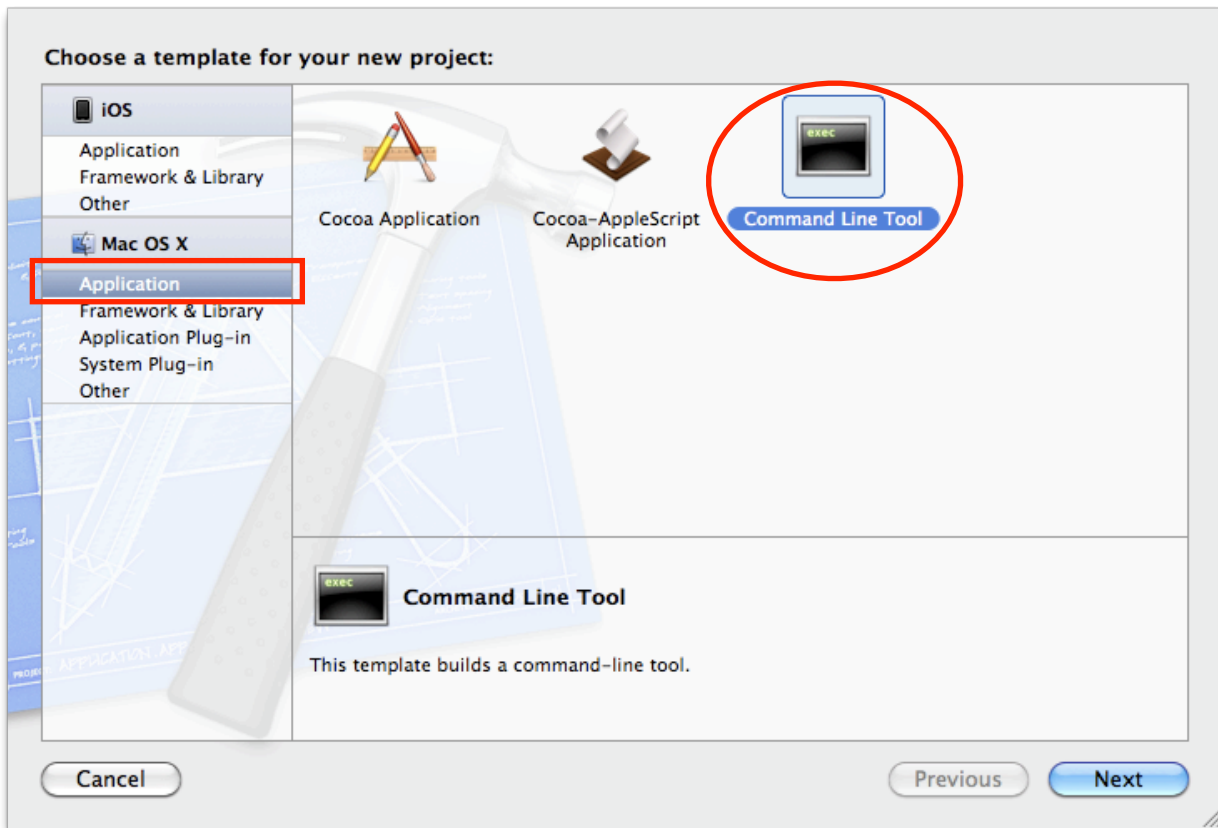
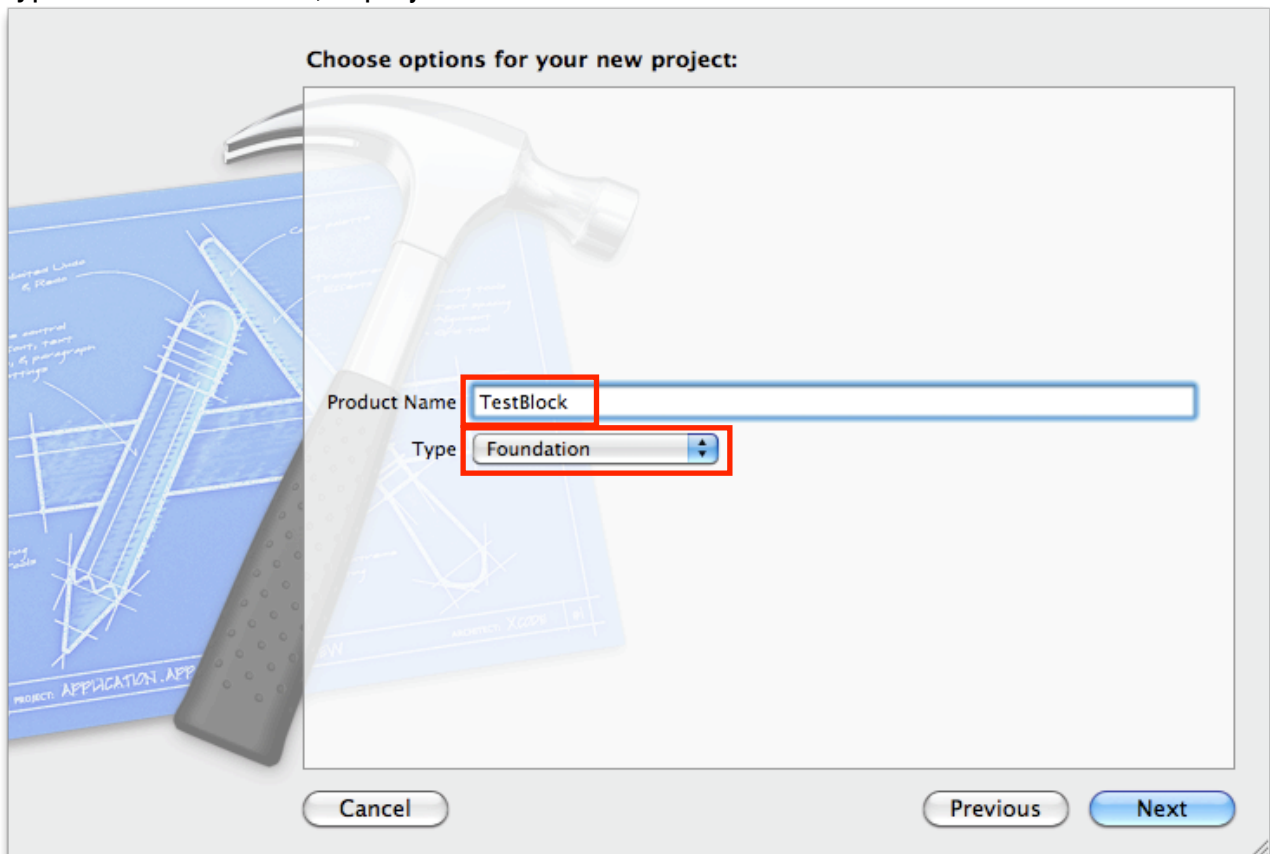


# Lab TestBlock

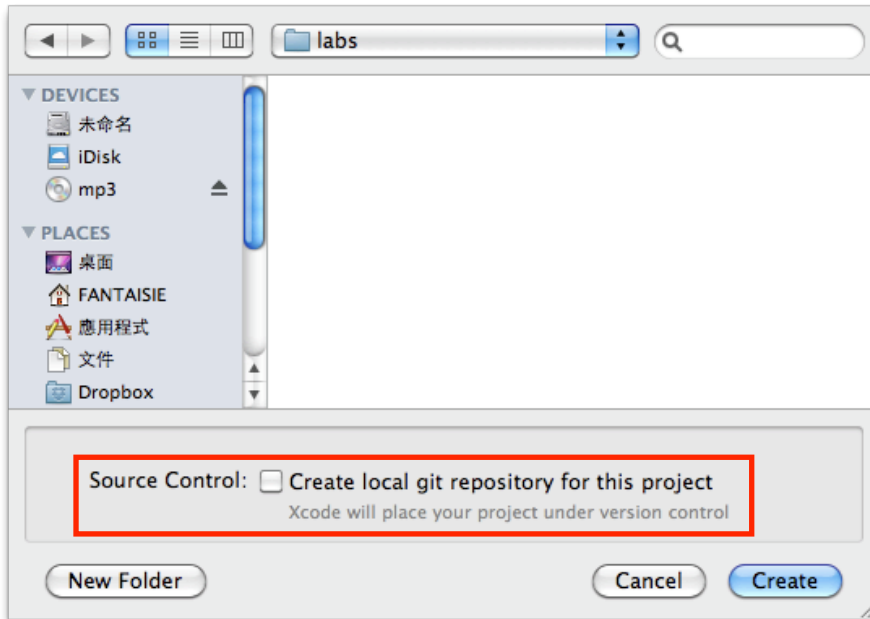
Step 1. 在File > New > New Project開啓一個新的project, 選擇MAC OS X的Application目錄裡的 **Command Line Tool**



Type選擇 **Foundation**, 將project命名為 **TestBlock**



在此我們不做version control的動作,所以不勾選Create local git repository for this project



Step 2. 在Xcode左邊 Project Navigator 視窗中, 開啓 **main.m**, 先將印出Hello, World!這行Mark掉, 宣告block int var1和一般int var2,然後實作我們的block叫做myBlock, 之後第一次更改var1第二次更改var2,在每次更改後印出var1和var2以及執行myBlock所return的回傳值  
`#import <Foundation/Foundation.h>`

```
int main (int argc, const char * argv[]) {
    NSAutoreleasePool * pool = [[NSAutoreleasePool alloc] init];

    // insert code here...
    //NSLog(@"Hello, World!");
    __block int var1 = 10;
    int var2 = 20;

    int (^myBlock) (int a) = ^(int a){
        var1 = 5;
        return var1+var2+a;
    };

    var1 = 7;
    NSLog(@"var1 = %d\n\n", var1);

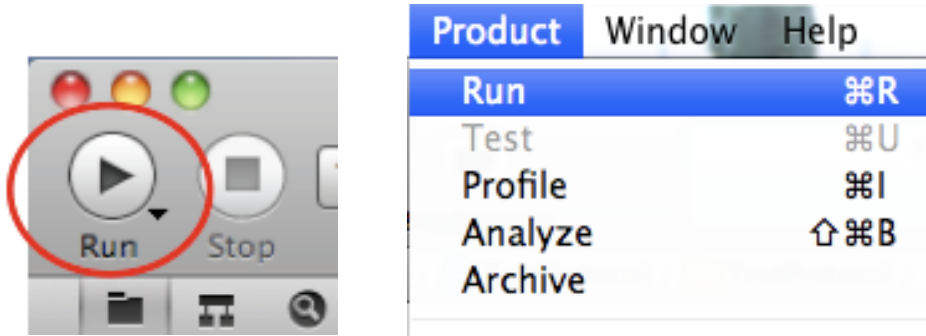
    int result1 = myBlock(6);
    NSLog(@"var1 = %d", var1);
    NSLog(@"var2 = %d", var2);
    NSLog(@"result = %d\n\n", result1);

    var2 = 15;
    NSLog(@"var2 = %d\n\n", var2);

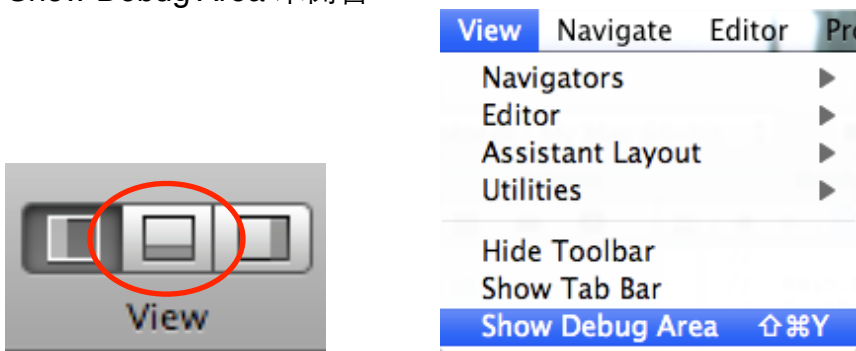
    int result2 = myBlock(6);
    NSLog(@"var1 = %d", var1);
    NSLog(@"var2 = %d", var2);
    NSLog(@"result = %d", result2);
    [pool drain];
    return 0;
}
```

### Step 3. Run (⌘+R)

在Xcode主頁左上角按下Run, 或是在Product > Run, 即開始Build code並執行



之後會自動開啓console, 沒開啓的話在右上角View點擊中間的Button, 或是選擇View > Show Debug Area 來開啓



在Console中顯示

我們將var1改成7時, 印出為7.

執行過myBlock(6)後, var1變為5, var2仍為20, 回傳為31

之後我們將var2改成15, 印出為15.

執行過myBlock(6)後, var1維持為5, var2仍為15, 但回傳仍為31

意思是在Block中非Block變數的變數是使用copy, 在外部更改後Block裡變數的值仍維持不變

```
All Output ⌵ Clear [ ] [ ] [ ]
GNU gdb 6.3.50-20050815 (Apple version gdb-1518) (Sat Feb 12 02:52:12 UTC 2011)
Copyright 2004 Free Software Foundation, Inc.
GDB is free software, covered by the GNU General Public License, and you are
welcome to change it and/or distribute copies of it under certain conditions.
Type "show copying" to see the conditions.
There is absolutely no warranty for GDB. Type "show warranty" for details.
This GDB was configured as "x86_64-apple-darwin".tty /dev/ttys000
[Switching to process 2308 thread 0x0]
2011-04-02 21:57:31.838 TestBlock[2308:903] var1 = 7

2011-04-02 21:57:31.842 TestBlock[2308:903] var1 = 5
2011-04-02 21:57:31.842 TestBlock[2308:903] var2 = 20
2011-04-02 21:57:31.843 TestBlock[2308:903] result = 31

2011-04-02 21:57:31.844 TestBlock[2308:903] var2 = 15

2011-04-02 21:57:31.845 TestBlock[2308:903] var1 = 5
2011-04-02 21:57:31.846 TestBlock[2308:903] var2 = 15
2011-04-02 21:57:31.846 TestBlock[2308:903] result = 31
Program ended with exit code: 0
```