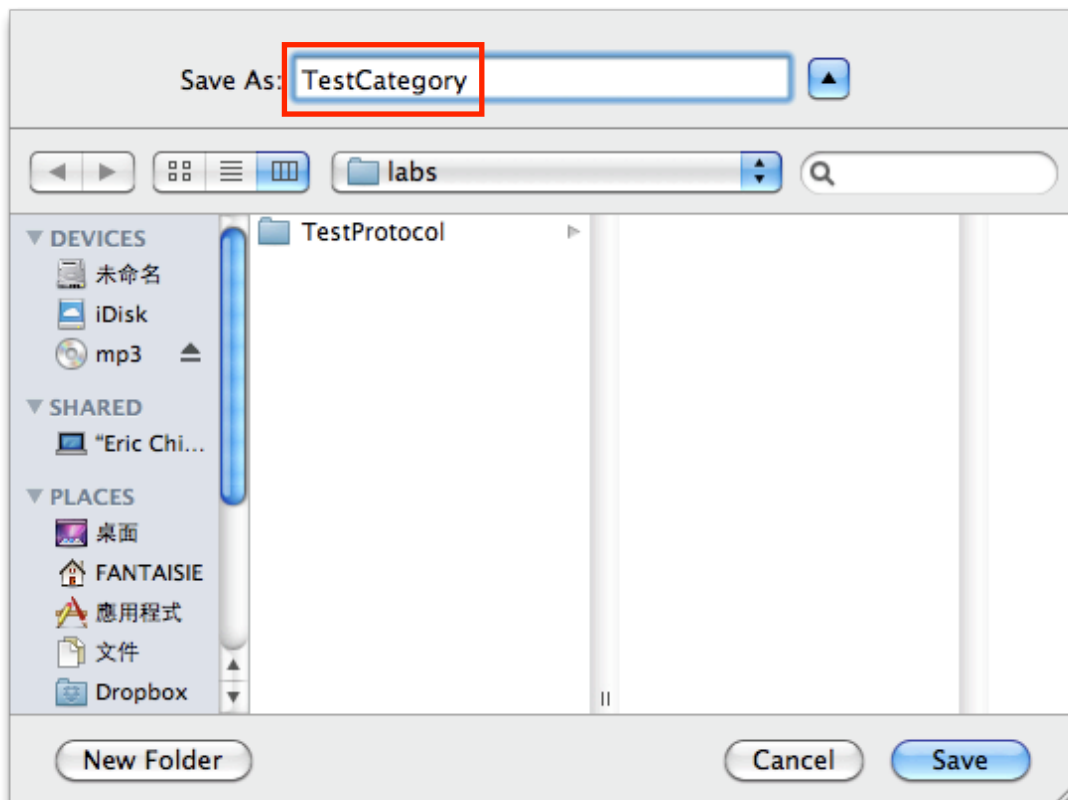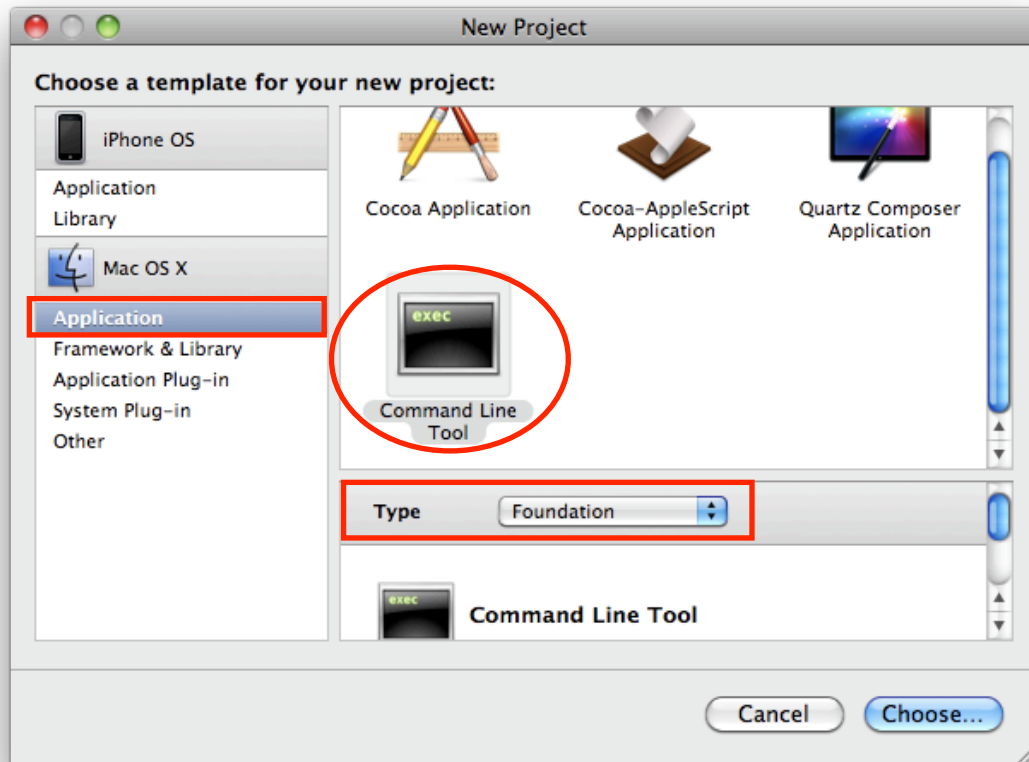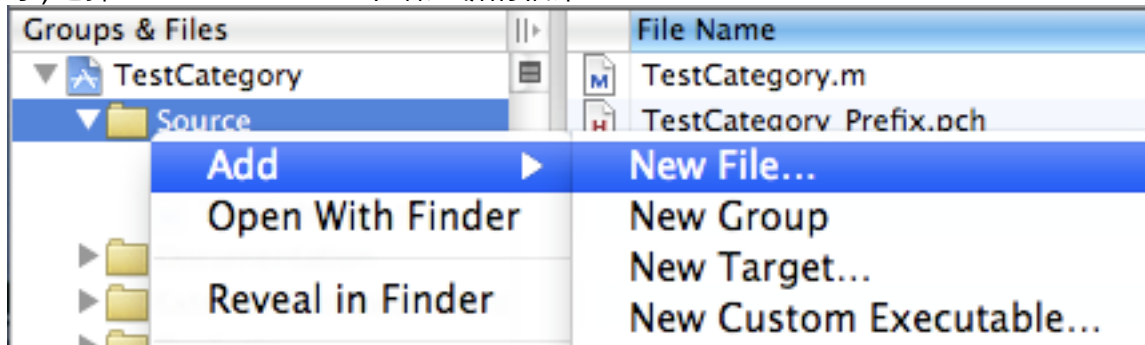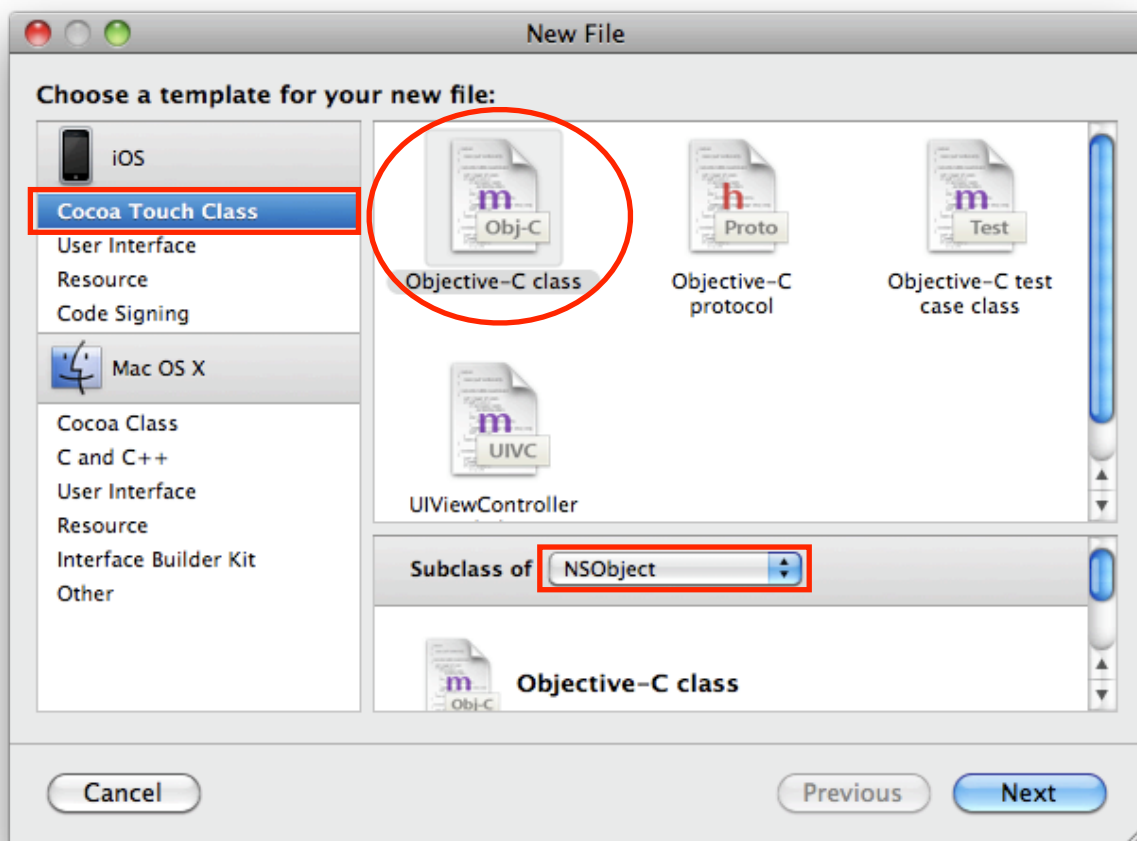# Lab TestCategory

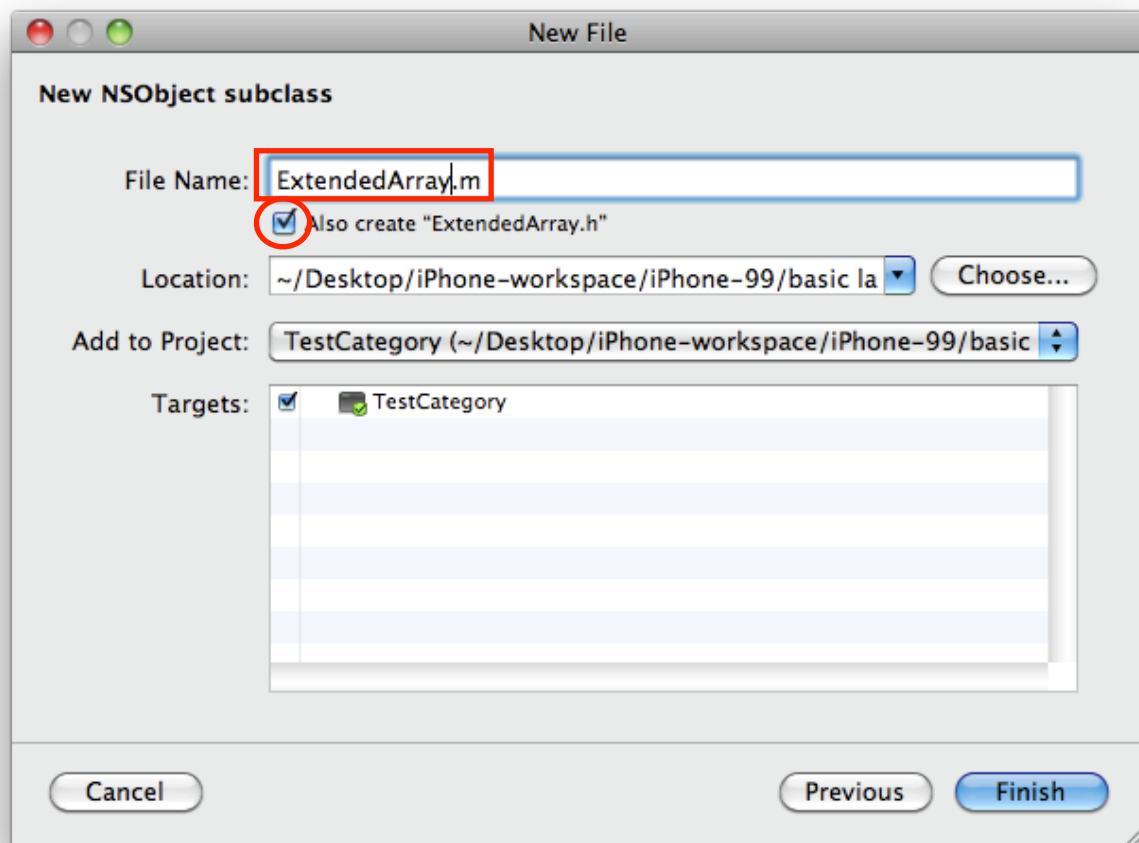Step1. 在File開啓一個新的project, 選擇 MAC OS X的Command line Tool, Type選擇 Foundation, 將project命名為 TestCategory

Step2. 在Xcode左邊Groups & Files 視窗中, 在Source這個路徑下點右鍵(若無滑鼠ctrl+點擊)選擇Add > New File...來增加新的檔案

Step3. 選擇iOS裡的Coca Touch Class裡的, 並選擇Subclass of **NSObject**下方有敘述這個Objective-C有includes <Foundation/Foundation.h> 這個標頭檔

Step4. 將新增的File命名為ExtendedArray.m, 記得勾選Also create "ExtendedArray.h"

Step5. 在Xcode左邊Groups & Files 視窗中,開啓Source > ExtendedArray.h
將裡面原本繼承NSObject的ExtendedArray這個class的宣告改成下面延伸NSMutableArray
這個class的功能的Category,裡面有一個新增的method叫做arrayToDictionary
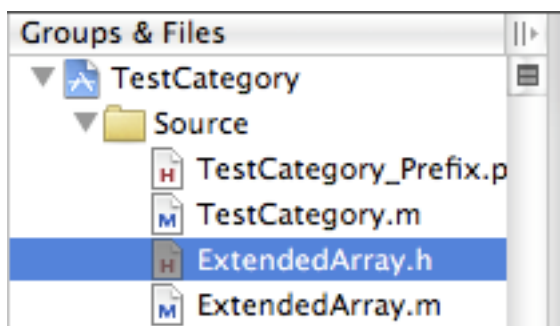

```objc
#import <Foundation/Foundation.h>


@interface NSMutableArray (ExtendedArray)
-(NSMutableDictionary *) arrayToDictionary;
@end
```

Step6. 開啟ExtendedArray.m, 將原本ExtendedArray這個class的實作改成對
NSMutableArray延伸功能的實作 - 實作新增的arrayToDictionary這個method, 主要是把
NSMutableArray轉成使用index變成key的NSMutableDictionary

```objc
#import "ExtendedArray.h"


@implementation NSMutableArray (ExtendedArray)
-(NSMutableDictionary *) arrayToDictionary{
    NSMutableDictionary *dictionary = [NSMutableDictionary new];
    for(int i=0 ; i<self.count; i++){
            [dictionary setObject:[self objectAtIndex:i] forKey:[NSString
stringWithFormat:@"%d", i]];
    }
    return dictionary;
}
@end
```

Step7. 開啟TestCategory.m, 先 #import "ExtendedArray.h" ,並將印出Hello, World!這
行Mark掉, 並加入以下的程式,把新增的NSMutableArray轉成使用index變成key的
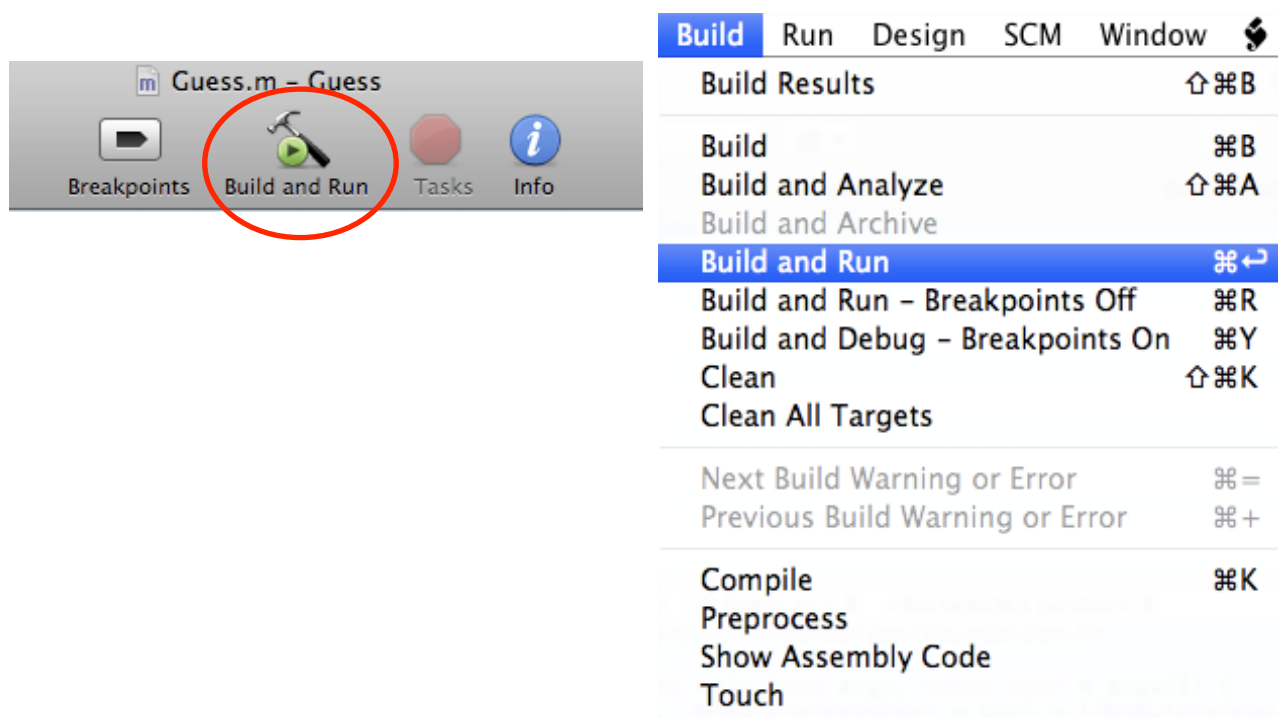NSMutableDictionary後列印出來

```objc
#import <Foundation/Foundation.h>
#import "ExtendedArray.h"

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

    // insert code here...
    //NSLog(@"Hello, World!");
    NSMutableArray *array = [NSMutableArray arrayWithObjects:@"first",
@"second", @"third", nil];
    NSMutableDictionary *dictionary = [array arrayToDictionary];
    NSLog(@"%@", dictionary);
    [pool drain];
    return 0;
}
```
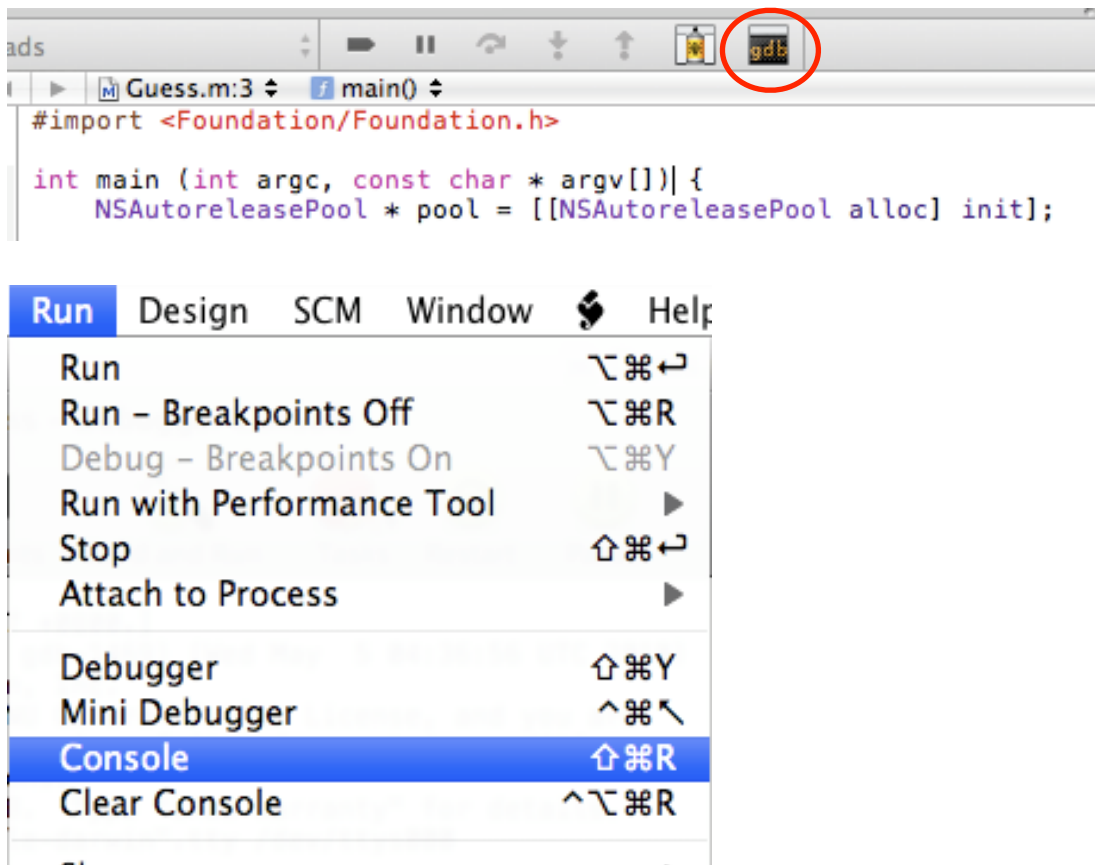
Step8. Build and Run (Command + enter)
在Xcode主頁上按下Build and Run, 或是在Build > Build and Run, 即開始Build code並執行.

可在瀏覽程式視窗上方的 gdb 按下來開啓console, 或是在Run > Console來開啓.

在Console中顯示新增的NSMutableArray已轉成使用index變成key的NSMutableDictionary
並列印出來了

```
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
Loading program into debugger…
Program loaded.
run
[Switching to process 376]
Running…
2011-02-08 11:39:49.636 TestCategory[376:a0f] {
    0 = first;
    1 = second;
    2 = third;
}

Debugger stopped.
Program exited with status value:0.
```