SimpleCalculatorByCode-Info.plist

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyList-1.0.dtd">
<plist version="1.0">
<dict>
    <key>CFBundleDevelopmentRegion</key>
    <string>en</string>
    <key>CFBundleExecutable</key>
    <string>${EXECUTABLE_NAME}</string>
    <key>CFBundleIconFile</key>
    <string></string>
    <key>CFBundleIdentifier</key>
    <string>com.waybu.${PRODUCT_NAME:rfc1034identifier}</string>
    <key>CFBundleInfoDictionaryVersion</key>
    <string>6.0</string>
    <key>CFBundleName</key>
    <string>${PRODUCT_NAME}</string>
    <key>CFBundlePackageType</key>
    <string>APPL</string>
    <key>CFBundleShortVersionString</key>
    <string>1.0</string>
    <key>CFBundleSignature</key>
    <string>????</string>
    <key>CFBundleVersion</key>
    <string>1</string>
    <key>LSMinimumSystemVersion</key>
    <string>${MACOSX_DEPLOYMENT_TARGET}</string>
    <key>NSHumanReadableCopyright</key>
    <string>Copyright Â© 2011 __MyCompanyName__. All rights reserved.</string>
    <key>NSMainNibFile</key>
    <string>MainMenu</string>
    <key>NSPrincipalClass</key>
    <string>NSApplication</string>
</dict>
</plist>
```

SimpleCalculatorByCode-Prefix.pch

```
//
// Prefix header for all source files of the ’SimpleCalculatorByCode’ target in the ’SimpleCalculatorByCode’ project
//

#ifdef __OBJC__
    #import <Cocoa/Cocoa.h>
#endif
```

SimpleCalculatorByCodeAppDelegate.h

```
#import <Cocoa/Cocoa.h>

@interface SimpleCalculatorByCodeAppDelegate : NSObject <NSApplicationDelegate> {
    NSWindow *_window;
    NSTextField *_display;
    double operandOne;
    double operandTwo;
    BOOL   operationPressed;
    NSString * operator;
}

@property (strong) IBOutlet NSWindow *window;
@property (retain, readwrite) IBOutlet NSTextField *display;

- (IBAction)clear:(id)sender;
- (IBAction)digitPressed:(id)sender;
- (IBAction)operationPressed:(id)sender;
- (double)performOperation;
- (void)generateButtons:(NSView *)newView withButtonWidth:(int)buttonWidth andbuttonHeight:(int)buttonHeight andWhiteSpace:(int)whiteSpace andYPos:(int)yPos withAdder:(int)adder;
- (void)generateButtons:(NSView *)newView withButtonWidth:(int)buttonWidth andbuttonHeight:(int)buttonHeight andWhiteSpace:(int)whiteSpace withXPos:(int)xPos andYPos:(int)yPos withAdder:(int)adder andValue:(NSString *)stringVal;
@end
```

```
#import "SimpleCalculatorByCodeAppDelegate.h"

@implementation SimpleCalculatorByCodeAppDelegate

@synthesize window = _window;
@synthesize display = _display;

- (void)applicationDidFinishLaunching:(NSNotification *)aNotification
{

    NSView *newView = [[[NSView alloc] initWithFrame:NSRectFromCGRect(CGRectMake(0, 0, 500, 500 ))]autorelease];
    [self.window setContentView:newView];

    // Create the calculator
    int whiteSpace = 50;
    int yPos = 100;
    int buttonWidth = 49;
    int buttonHeight = 37;
    int loopAdder = 0;
    NSArray *buttonTitles = [[[NSArray alloc] initWithObjects:@"=",@"-",@"+",nil]autorelease];
    for (int i = 0; i < 3; i++) {
        [self generateButtons:newView
              withButtonWidth:buttonWidth
              andbuttonHeight:buttonHeight
                andWhiteSpace:whiteSpace
                      andYPos:yPos withAdder:loopAdder];

        [self generateButtons:newView
              withButtonWidth:buttonWidth
              andbuttonHeight:buttonHeight
                andWhiteSpace:whiteSpace
                     withXPos:300
                      andYPos:yPos
                    withAdder:0
                     andValue:[buttonTitles objectAtIndex:i]];
        yPos = yPos+50;
        loopAdder = loopAdder+3;
    }

    self.display = [[[NSTextField alloc] initWithFrame:NSRectFromCGRect(CGRectMake(20, self.window.frame.size.height-120, self.window.frame.size.width-40, 80))]autorelease];
    [self.display setStringValue:@"0"];
    [self.display.cell setFont:[NSFont fontWithName:@"Arial" size:47]];
    [self.display.cell setAlignment:NSRightTextAlignment];
    [newView addSubview:self.display];
}

- (void)generateButtons:(NSView *)newView withButtonWidth:(int)buttonWidth andbuttonHeight:(int)buttonHeight andWhiteSpace:(int)whiteSpace andYPos:(int)yPos withAdder:(int)adder
{
    NSButton *button = [[[NSButton alloc] initWithFrame:NSRectFromCGRect(CGRectMake(buttonWidth + whiteSpace, 50 , buttonWidth, buttonHeight)) ]autorelease];
    [button setTitle:@"0"];
    [newView addSubview:button];
    [button setAction:@selector(digitPressed:)];

    NSButton *decButton = [[[NSButton alloc] initWithFrame:NSRectFromCGRect(CGRectMake((buttonWidth *2)+(20 + whiteSpace), 50 , buttonWidth, buttonHeight)) ]autorelease];
    [decButton setTitle:@"."];
    [newView addSubview:decButton];
    [decButton setAction:@selector(digitPressed:)];

    for (int i = 1; i < 4; i++) {
        if (i == 1) {
            NSButton *button = [[[NSButton alloc] initWithFrame:NSRectFromCGRect(CGRectMake(buttonWidth + whiteSpace, yPos , buttonWidth, buttonHeight)) ]autorelease];
            [button setTitle:[[[NSString alloc] initWithFormat:@"%i",i + adder]autorelease]];
            [newView addSubview:button];
            [button setAction:@selector(digitPressed:)];
        }else if ( i == 2 ){
            NSButton *button = [[[NSButton alloc] initWithFrame:NSRectFromCGRect(CGRectMake((buttonWidth *2)+(20 + whiteSpace), yPos , buttonWidth, buttonHeight)) ]autorelease];
            [button setTitle:[[[NSString alloc] initWithFormat:@"%i",i+ adder]autorelease]];
            [newView addSubview:button];
            [button setAction:@selector(digitPressed:)];
        }else if ( i == 3 ){
            NSButton *button = [[[NSButton alloc] initWithFrame:NSRectFromCGRect(CGRectMake((buttonWidth *3)+(40 + whiteSpace), yPos , buttonWidth, buttonHeight)) ]autorelease];
            [button setTitle:[[[NSString alloc] initWithFormat:@"%i",i+ adder]autorelease]];
            [newView addSubview:button];
            [button setAction:@selector(digitPressed:)];
        }
    }
}

- (void)generateButtons:(NSView *)newView withButtonWidth:(int)buttonWidth andbuttonHeight:(int)buttonHeight andWhiteSpace:(int)whiteSpace withXPos:(int)xPos andYPos:(int)yPos withAdder:(int)adder andValue:(NSString *)stringVal
{
    NSButton *button = [[[NSButton alloc] initWithFrame:NSRectFromCGRect(CGRectMake(xPos, yPos , buttonWidth, buttonHeight)) ]autorelease];
    [button setTitle:stringVal];
    [newView addSubview:button];
    [button setAction:@selector(operationPressed:)];
}

- (IBAction)clear:(id)sender
{
    operationPressed = NO;
    operandOne = 0;
    operandTwo = 0;
    operator = nil;
    [self.display setStringValue:@"0"];

}

- (IBAction)digitPressed:(id)sender
{
    if (!operationPressed) {
        operandOne = [[[[NSString alloc] initWithFormat:@"%@",[sender title]]autorelease ]doubleValue];
        [self.display setStringValue:[[[NSString alloc] initWithFormat:@"%g",operandOne]autorelease]];

    }else{
        operandTwo = [[[NSString alloc] initWithFormat:@"%@",[sender title]]doubleValue];
        [self.display setStringValue:[[[NSString alloc] initWithFormat:@"%g",operand
Two  ]autorelease]];
    }
}

- (IBAction)operationPressed:(id)sender
{
    operationPressed = YES;

    if ([[sender title] isEqualToString:@"="] ) {
        [self.display setStringValue:[[[NSString alloc] initWithFormat:@"%g",[self performOperation]]autorelease]];
    }else{
        operator = [sender title];
    }
}

- (double)performOperation
{
    double result;

    if ([operator isEqualToString:@"+"]) {
        result = operandOne + operandTwo;
    }else if  ([operator isEqualToString:@"-"]) {
        result = operandOne - operandTwo;
    }
    return result;
}

-(void)dealloc
{

    [super dealloc];
}
@end
```

main.m

```
//
//  main.m
//  SimpleCalculatorByCode
//
//  Created by Wayne Buchner on 15/11/11.
//  Copyright 2011 __MyCompanyName__. All rights reserved.
//

#import <Cocoa/Cocoa.h>

int main(int argc, char *argv[])
{
    return NSApplicationMain(argc, (const char **)argv);
}
```