

stop_go_asm.asm

```
1; Stop Go C/ASM Mix Example
2; Jason Losh
3
4; -----
5; Hardware Target
6; -----
7
8; Target Platform: EK-TM4C123GXL Evaluation Board
9; Target uC:      TM4C123GH6PM
10; System Clock:   40 MHz
11
12; Hardware configuration:
13; Red LED:
14;   PF1 drives an NPN transistor that powers the red LED
15; Green LED:
16;   PF3 drives an NPN transistor that powers the green LED
17; Pushbutton:
18;   SW1 pulls pin PF4 low (internal pull-up is used)
19
20; -----
21; Device includes, defines, and assembler directives
22; -----
23
24   .def wai tPbPress
25; -----
26; Register values and large immediate values
27; -----
28
29.thumb
30..text
31GPIO_PORTF_DATA_R      .field    0x400253FC
32
33; -----
34; Subroutines
35; -----
36
37; Blocking function that returns only when SW1 is pressed
38wai tPbPress:
39           LDR    R0, GPIO_PORTF_DATA_R    ; get pointer to port F
40           LDR    R0, [R0]                  ; read port F
41           AND    R0, #0x10                 ; mask off all but bit 4
42           CBNZ   R0, retry                  ; 0 if bit set test (note: only support 0-126
           branches)
43           BX     R14                        ; return from subroutine
44retry:      B      wai tPbPress
45
46..endm
47
```