

```

1 /*****
2 * SysTick_Handler
3 * Interrupt Service Routine for system tick counter
4 * The name of this function cannot be changed - it establishes the linkage
5 *****/
6 .syntax unified
7 .text
8 .thumb
9 .thumb_func
10 .align 4
11 .globl SysTick_Handler
12 .type SysTick_Handler, %function
13 SysTick_Handler:
14     push {r4-r11, lr}
15     ldr r6,=SystemTick // r6 is address of SystemTick
16     ldr r7,[r6] // r7 is current tick
17     add r7,r7,#1 // increment tick
18     str r7,[r6] // save new tick
19     //keep this below
20     ldr r4,=CurrentTask // r4 is address of current task
21     ldr r5,[r4] // r5 is current task
22     str sp,[r5,#0] // stack pointer is first thing in TCB
23     bl scheduler
24     str r0,[r4] // save new CurrentTask
25     ldr sp,[r0,#0] // get sp from new current task
26     pop {r4-r11, pc}
27
28 .thumb_func
29 .align 4
30 .globl SVC_Handler
31 .type SVC_Handler, %function
32 SVC_Handler:
33     push {r4-r11, lr}
34     ldr r4,=CurrentTask // r4 is address of current task
35     ldr r5,[r4] // r5 is current task
36     str sp,[r5,#0] // stack pointer is first thing in TCB
37     bl scheduler
38     str r0,[r4] // save new CurrentTask
39     ldr sp,[r0,#0] // get sp from new current task
40     pop {r4-r11, pc}
41
42 .thumb_func
43 .align 4
44 .globl Yield
45 .type Yield, %function
46 Yield:
47     svc #0 // raise SVC interrupt
48     bx lr // return from subroutine
49
50 .end
51

```