```
 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
```