```
 1    //inclusion of headers
 2    #include "_threadsCore.h"
 3    #include "_kernelCore.h"
 4    #include "osDefs.h"
 5
 6    //inclusion of libraries
 7    #include <LPC17xx.h>
 8    #include "stdio.h"
 9    #include "uart.h"
10    #include "LED.h"
11
12    //global variables
13    int thread1Call = 0;
14    int thread2Call = 0;
15    int thread3Call = 0;
16    extern threadStruct threadCollection[MAX_THREADS];
17    extern int threadCurr;
18
19    //thread functions
20    void thread1(){
21      while(1){
22        thread1Call++;
23        printf("Running thread 1. Call count: %d\n", thread1Call);
24
25        osYield();
26      }
27    }
28
29    void thread2(){
30      while(1){
31        thread2Call++;
32        printf("Running thread 2. Call count: %d\n", thread2Call);
33
34        //osYield(); //case 1&3
35        osSleep(50); //case 2
36      }
37    }
38
39    void thread3(){
40      while(1){
41        thread3Call++;
42        printf("Running thread 3. Call count: %d\n", thread2Call);
43
44        //osYield();
45      }
46    }
47
48    int main( void )
49    {
50      SystemInit();
51      printf("\nRunning L-OS-S...\r\n");
52
53
54      //Initialize the kernel
55      kernelInit();
56
57      //Initialize each thread
58      //CASE 1
59      /*
60      osThreadNew(thread1, 200, 4); //~256 Hz
61      osThreadNew(thread2, 200, 10); //~100 Hz
62      osThreadNew(thread3, 200, 83); //~12 Hz
63      */
64
65      //CASE 2
66
67      osThreadNew(thread1, 50, 0); //yields
68      osThreadNew(thread2, 50, 0); //sleeps
69      osThreadNew(thread3, 50, 4); //~250Hz
70
71
72      //CASE 3
```

```c
73      /*
74      osThreadNew(thread1, 200, 2000); //sleeps
75      osThreadNew(thread2, 200, 3000); //sleeps
76      */
77
78      osThreadNew(idleThread, DEADLINE_IDLE, 0); //always initialize last
79
80      //Initialize frequency of SysTick_Handler
81      SysTick_Config(SystemCoreClock/1000);
82
83
84      //Start running the threads
85      osKernelStart();
86
87      printf("L-OS-S is lost (done)");
88      while(1);
89  }
90
```