```c
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    osThreadNew(thread1, 200, 4); //~256 Hz
60    osThreadNew(thread2, 200, 10); //~100 Hz
61    osThreadNew(thread3, 200, 83); //~12 Hz
62
63    //CASE 2
64    /*osThreadNew(thread1, 200, 0); //yields
65    osThreadNew(thread2, 200, 0); //sleeps
66    osThreadNew(thread3, 200, 4); //~250Hz */
67
68    //CASE 3
69    /*osThreadNew(thread1, 200, 2000); //sleeps
70    osThreadNew(thread2, 200, 3000); //sleeps*/
71
72    osThreadNew(idleThread, DEADLINE_IDLE, 0); //always initialize last
```

```
73
74        //Initialize frequency of SysTick_Handler
75        SysTick_Config(SystemCoreClock/1000);
76
77
78        //Start running the threads
79        osKernelStart();
80
81        printf("L-OS-S is lost (done)");
82        while(1);
83    }
84
```