```c
1    #ifndef  __KERNELCORE_H
2
3    #include <stdint.h>
4    #include <stdio.h>
5    #include <LPC17xx.h>
6    #include <stdbool.h>
7
8    #define SHPR3 *(uint32_t*)0xE000ED20 //location of the PendSV priority register
9    #define ICSR *(uint32_t*)0xE000ED04 //location of the ISCR
10
11   void kernelInit(void); //initialize memory structures and interrupts necessary to run the kernel
12
13   bool osKernelStart(); //start running the kernel, i.e. the OS
14
15   void osLoadFirst(); //called by the kernel to start running the very first thread, before getting into
     context switching
16
17   void osYield(void); //called by the kernel to schedule the next thread to run and call the context
     switcher
18
19   void SysTick_Handler(void); //called when thread's timeslice is up, calls scheduler to decide which
     thread to run next
20
21   void scheduler(void); //decides which thread to run next, based off round-robin logic
22
23   int task_switch(void); //called by the PendSV interrupt to set PSP to the next thread scheduled to run
24
25   #endif
```