```
/*****************************************************************************
 * Name:    clocks.c
 * Description: STM32 system clock initialization and functions
 * Version: V1.00
 * Author: Ammar Alvi & Shannon D'Souza
 *
 * This software is supplied "AS IS" without warranties of any kind.
 *
 *
 *****************************************************************************/
 #include "stm32f10x.h"


// CLOCK AND TIMING FUNCTIONS

/*
* Name:         void sys_clockInit()
* Paramaters:   none
* Description: This function will initialize the device system
               clock to 24 Mhz
*/
void sys_clockInit(void)
{
    uint32_t temp = 0x00;
    //If you hover over the RCC you can go to the definition and then
    //see it is a structure of all the RCC registers.  Then you can
    //simply assign a value.
    RCC->CFGR = 0x00050002;     // Output PLL/2 as MCO,
                                // PLLMUL X3, PREDIV1 is PLL input

    RCC->CR =  0x01000081;      // Turn on PLL, HSE, HSI

    while (temp != 0x02000000)  // Wait for the PLL to stabilize
    {
        temp = RCC->CR & 0x02000000; //Check to see if the PLL lock bit is set
    }

}



/*
* Name:         void GPIO_clockInit()
* Paramaters:   none
* Description: This function will enable the GPIO port A, B, C
               clock
*/

void GPIO_clockInit(void)
{


    //Enable peripheral clocks for various ports and subsystems
    //Bit 4: Port C Bit3: Port B Bit 2: Port A
    RCC->APB2ENR |=  RCC_APB2ENR_IOPAEN | RCC_APB2ENR_IOPBEN | RCC_APB2ENR_IOPCEN;
    //Enable peripheral clocks for various ports and subsystems



}


/*
* Name:         void AFIO_clockInit()
* Paramaters:   none
* Description: This function will enable the AFIO clock

*/

void AFIO_clockInit(void)
{

```

```
 73
 74      //Enable peripheral clocks for various ports and subsystems
 75      //Bit 4: Port C Bit3: Port B Bit 2: Port A
 76      RCC->APB2ENR |=  RCC_APB2ENR_AFIOEN;
 77      //Enable peripheral clocks for various ports and subsystems
 78
 79
 80  }
 81
 82  /*
 83  * Name:         void TIM1_clockInit()
 84  * Paramaters:   none
 85  * Description: This function will enable the TIM1 clock
 86
 87  */
 88  void TIM1_clockInit(void)
 89  {
 90
 91
 92    //Enabling TIM1 clock
 93      RCC->APB2ENR |=  RCC_APB2ENR_TIM1EN;
 94
 95
 96  }
 97
 98
 99  /*
100  * Name:         void USART3_clockInit()
101  * Paramaters:   none
102  * Description: This function will enable the USART3 clock
103
104  */
105
106  void USART3_clockInit(void)
107  {
108
109
110    //Enabling USART3 clock
111      RCC->APB1ENR |=  RCC_APB1ENR_USART3EN;
112
113
114  }
115
116
```