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// ************************************** led.c ***********************************
// Project: Keil Labs and Project
// File: led.c
// Class: ENEL 351 Lab Works
// Programmer: Amandip Padda
// SID: 200455829
// Description: The project is based on the STM32F103RB that is being used in ENEL 351 Labs.
// It will also be used in the Project related to input and output of various sensors.

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// ********************************** Header Files ********************************
#include "stm32f10x.h"
#include "header.h"

// ********************** Function defination to run all LED Sequences ************************
void led_sequence_all(void)
{
        while(1)
        {
                if((GPIOC -> IDR & GPIO_IDR_IDR0) == 0x1)
                {
                        led_sequence1();
                }
                if((GPIOC -> IDR & GPIO_IDR_IDR1) == 0x2)
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```
		{
			led_sequence2();
		}
		if((GPIOC -> IDR & GPIO_IDR_IDR2) == 0x4)
		{
			led_sequence3();
		}
		if((GPIOC -> IDR & GPIO_IDR_IDR3) == 0x8)
		{
			led_sequence4();
		}
	}
}

// ************************** Function defination to run 1st Sequence **********************
void led_sequence1(void)
{
	GPIOA->ODR |= GPIO_ODR_ODR7;
	delay(80000);
	GPIOA->ODR &= ~GPIO_ODR_ODR7;
	delay(80000);
	GPIOA->ODR |= GPIO_ODR_ODR8;
	delay(80000);
	GPIOA->ODR &= ~GPIO_ODR_ODR8;
	delay(80000);
	GPIOA->ODR |= GPIO_ODR_ODR9;
	delay(80000);
	GPIOA->ODR &= ~GPIO_ODR_ODR9;
	delay(80000);
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	GPIOA->ODR |= GPIO_ODR_ODR10;
	delay(80000);
	GPIOA->ODR &= ~GPIO_ODR_ODR10;
	delay(80000);
}

// ************************** Function defination to run 2nd Sequence **********************
void led_sequence2(void)
{
	delay(80000);
	GPIOA->ODR &= ~GPIO_ODR_ODR10;
	delay(80000);
	GPIOA->ODR |= GPIO_ODR_ODR9;
	delay(80000);
	GPIOA->ODR &= ~GPIO_ODR_ODR9;
	delay(80000);
	GPIOA->ODR |= GPIO_ODR_ODR8;
	delay(80000);
	GPIOA->ODR &= ~GPIO_ODR_ODR8;
	delay(80000);
	GPIOA->ODR |= GPIO_ODR_ODR7;
	delay(80000);
	GPIOA->ODR &= ~GPIO_ODR_ODR7;
	delay(80000);
}

// ************************** Function defination to run 3rd Sequence **********************
void led_sequence3(void)
{
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	GPIOA->ODR |= GPIO_ODR_ODR7;
	delay(80000);
	GPIOA->ODR &= ~GPIO_ODR_ODR7;
	delay(80000);
	GPIOA->ODR |= GPIO_ODR_ODR9;
	delay(80000);
	GPIOA->ODR &= ~GPIO_ODR_ODR9;
	delay(80000);
}

// ***************************** Function defination to run 4th Sequence ********************
void led_sequence4(void)
{
	GPIOA->ODR |= GPIO_ODR_ODR10;
	delay(80000);
	GPIOA->ODR &= ~GPIO_ODR_ODR10;
	delay(80000);
	GPIOA->ODR |= GPIO_ODR_ODR8;
	delay(80000);
	GPIOA->ODR &= ~GPIO_ODR_ODR8;
	delay(80000);
}

// ***************************** Function defination to run USER LED **********************
void ledTest(void)
{
	GPIOA->ODR |= GPIO_ODR_ODR5;
	delay(1000);
	GPIOA->ODR &= ~GPIO_ODR_ODR5;
```

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	delay(1000);
}

// ****************************** Function defination to stop USER LED **********************
void stopLedTest(void)
{
	GPIOA->ODR &= ~GPIO_ODR_ODR5;
}

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