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// ***** port.c *****

// Project: Keil Labs and Project

// File: port.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"


// ***** Enable Ports *****

void portEnable(void)
{
// ***** IO Ports *****

    RCC -> APB2ENR |= RCC_APB2ENR_IOPAEN;

    RCC -> APB2ENR |= RCC_APB2ENR_IOPBEN;

    RCC -> APB2ENR |= RCC_APB2ENR_IOPCEN;

    //RCC -> APB2ENR |= RCC_APB2ENR_IOPDEN;


// ***** AFIO Ports *****

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RCC -> APB2ENR |= RCC_APB2ENR_AFIOEN;

// ***** ADC Ports *****

RCC -> APB2ENR |= RCC_APB2ENR_ADC1EN;
ADC1 -> CR2 = 0x00000001;
RCC -> APB2ENR |= RCC_APB2ENR_ADC2EN;
ADC2 -> CR2 = 0x00000001;

// ***** Timer *****

RCC -> APB1ENR |= RCC_APB1ENR_TIM2EN;
RCC -> APB1ENR |= RCC_APB1ENR_TIM3EN;

// ***** Interrupt *****

AFIO -> EXTICR[1] |= AFIO_EXTICR2_EXTI5_PB; // Sets to trigger Line 5 External Interrupt
EXTI -> IMR |= (1 << 5); // Enable Interrupt on Line 5
EXTI -> RTSR |= (1 << 5); // Rising Edge Trigger on Line 5
EXTI -> FTSR &= ~(1 << 5); // Falling Edge Trigger on Line 5

AFIO -> EXTICR[1] |= AFIO_EXTICR2_EXTI6_PB; // Sets to trigger Line 6 External Interrupt
EXTI -> IMR |= (1 << 6); // Enable Interrupt on Line 6
EXTI -> RTSR |= (1 << 6); // Rising Edge Trigger on Line 5
EXTI -> FTSR &= ~(1 << 6); // Falling Edge Trigger on Line 5
NVIC_SetPriority(EXTI9_5_IRQn, 0x00); // Priority High
NVIC_EnableIRQ(EXTI9_5_IRQn); // Enable
}

// =====
// *****IMPORTANT*****
//
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// =====
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