LAB 1 WORKSHEET

Title: Introduction to MSP432 GPIO and KEIL MICROVISION
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Course Name: CMPE 460 - Interface & Digital Electronic
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Instructor's Name: Ketout Hussin

Description of Lab

This lab focused on learning the basics of GPIO operations using the MSP432 microcontroller and KEIL MICROVISION. It involved programming the MSP432 to control LEDs using push-button switches. Refer to Table 1 for the pin configuration of LEDs and switches.

Description of GPIO Commands

- P1->SEL0, P1->SEL1: These registers configure the function of the GPIO pins. Setting both to 0 enables the pin for standard digital I/O.
- P1->DIR: This register sets the direction of the pin, where '1' is for output and '0' is for input.
- P1->DS: This register sets the drive strength of the pin, used to configure the pin for higher current output.
- P1->OUT: This register controls the output of the pin, where writing '1' sets the pin high and '0' sets it low.
- P1->REN: This register enables internal pull-up or pull-down resistors, which are set to the desired state using the P1->OUT register. It can only be configured when the port is used as input as depicted in Figure 1.

Table 1: Table Recording Ports & Pins for LEDs/Switches.

	Port	Pin	Name
LED1	1	0	BIT0
LED2- Red	2	0	BIT0
LED2 -Green	2	1	BIT1
LED2 – Blue	2	2	BIT2
Switch 1	1	4	BIT4
Switch 2	1	1	BIT1

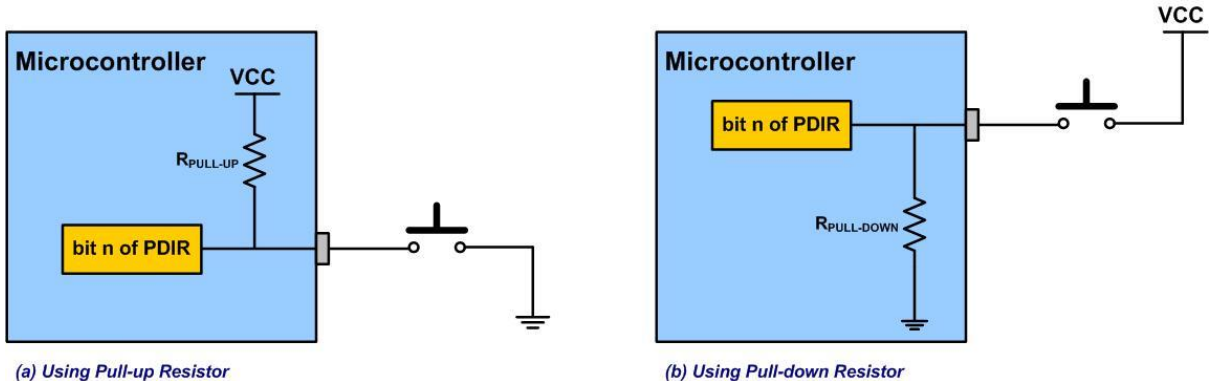

Figure 1: Connecting Switches to MSP432

Exercise 1: Intro to MSP432 GPIO and Keil MicroVision

Student's Name:_____ Section:_____

Demo		Point Value	Points Earned	Date
Demo	Port & Pin Table	10	10	↑ BA 1-14
	LED1 with SW1	20	20	
	LED2 Cycle with SW2	30	30	

To receive any grading credit students must earn points for both the demonstration and the report.

Exercise 1: Intro to MSP432 GPIO and Keil MicroVision

Worksheet		Point Value	Points Earned	Comments
Worksheet	Lab Description	20		
	Question	20		
Total for prelab, demo, and report		100		