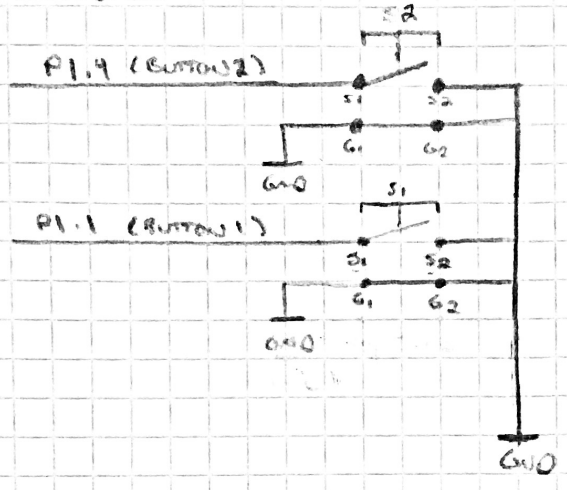
ANDREW ZUNDEL — LAB 1 - DIGITAL PADLOCK — DUE — FRI, JAN 20, 2017

PART A

1

a)

BUTTONS



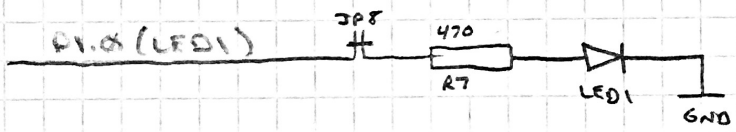
b)

ACTIVE LOW BUTTONS

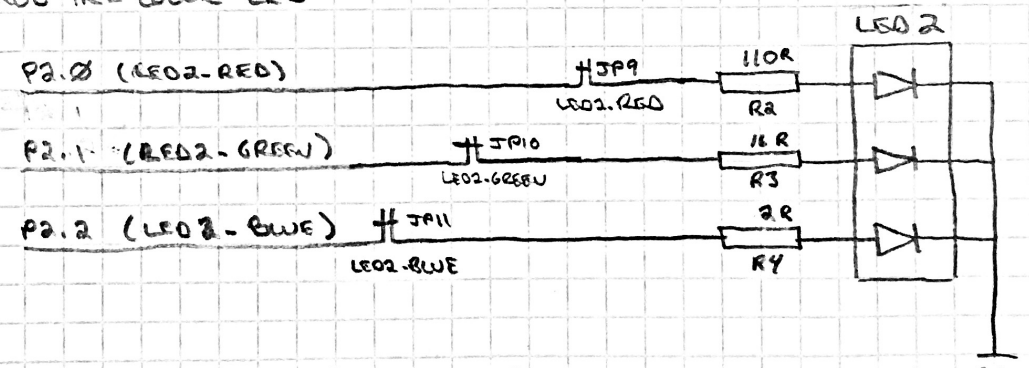
BUTTON PRESS COMPLETES CIRCUIT.

A SOURCE VOLTAGE (VDD) IS MISSING IN THIS DIAGRAM AND ALSO A RESISTOR

RED LED



RGB TRI-COLOR LED



c) THE SPECIFIC JUMPERS JP8, JP9, JP10, AND JP11 CAN BE USED W/ AN EXTERNAL PROBE AND TO CIRCUMVENT HARDWIRED VALUES OF DEVELOPMENT BOARD

(2)

a)

PORT 2

PINS	NAME	REG. ADDRESS		b) INTERFACED TO
P2IN	PORT 2 INPUT	0x4000 - 4C01		
P2OUT	PORT 2 OUTPUT	0x4000 - 4C03		
P2DIR	PORT 2 DIRECTION	0x4000 - 4C05	✓	(0 INPUT / 1 OUTPUT)
P2REN	PORT 2 RESISTOR ENABLE	0x4000 - 4C07	✓	1
P2DS	PORT 2 DRIVE STRENGTH	0x4000 - 4C09	✓	(0 REGULAR / 1 HIGH)
P2SEL0	PORT 2 SELECT 0	0x4000 - 4C0B	✓	0 } P2.0 (GENERAL PURPOSE)
P2SEL1	PORT 2 SELECT 1	0x4000 - 4C0D	✓	0 }
P2SELC	PORT 2 COMPLEMENT SELECT	0x4000 - 4C17		
P2IES	PORT 2 INTERRUPT EDG. SELECT	0x4000 - 4C19		
P2IE	PORT 2 INTERRUPT ENABLE	0x4000 - 4C1B		
P2IFG	PORT 2 INTERRUPT FLAG	0x4000 - 4C1D		
P2IV	PORT 2 INTERRUPT VECTOR	0x4000 - 4C1E		
P2MAP0	PORT MAP P2.0	0x4000 - 5010		
P2MAP1	PORT MAP P2.1	0x4000 - 5011		
P2MAP2	PORT MAP P2.2	0x4000 - 5012		
P2MAP3	PORT MAP P2.3	0x4000 - 5013		
P2MAP4	PORT MAP P2.4	0x4000 - 5014		
P2MAP5	PORT MAP P2.5	0x4000 - 5015		
P2MAP6	PORT MAP P2.6	0x4000 - 5016		
P2MAP7	PORT MAP P2.7	0x4000 - 5017		

ART B) PSEUDO CODE

rite pseudo code for this program. You may use any syntax you wish, but the gorithm should be clear.

```
while (true){
        light = blue; steady

    if ( buttonPressed(B1) AND buttonPressed(B2)) { // Buttons
            light = green;

    else if ( ! buttonPressed(B1) AND ! buttonPressed(B2){   // No Buttons
            light = blue;

    else {  // only one Button
        light = red;

    }

}
```