LAB 1

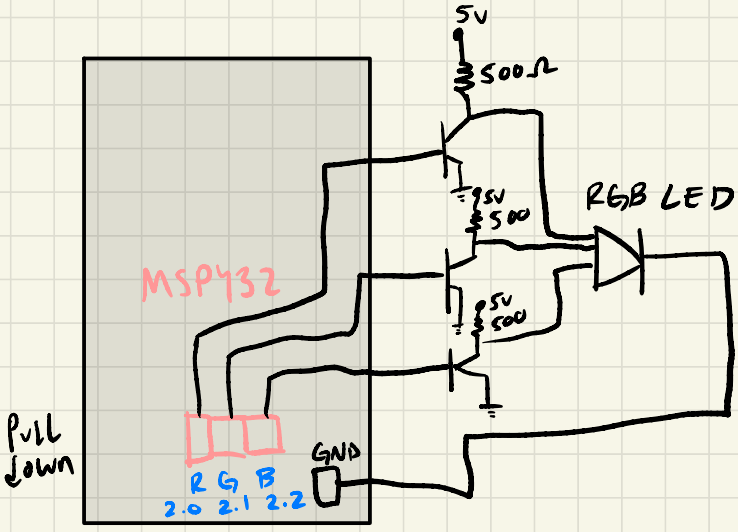
Objectives

1) Develop a program for the msp432 that interfaces with the pushbutton switches to control the sequencing of color lighting using a RGB LED

2) Use the Systick timer to generate percise time intervals for controlling duration of LED Illumination

3) Implment a Debouncer

4) Develop a program that uses multiple pushbuttons to carry out a function.



$V = IR$

$I = \frac{V}{R}$

$10mA = \frac{5}{R}$

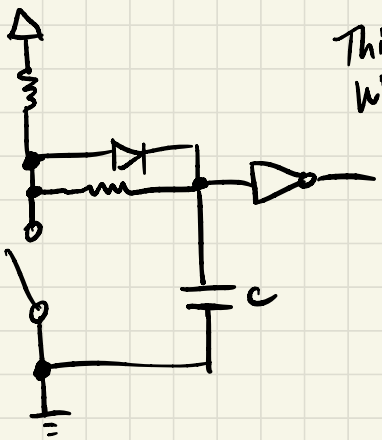
$0.01R = 5$

$R = 500\Omega$

Debance Article Summary

The overall thing that I learned from the article that Swith/button debancing is extreemly inconsistant. It may take 500μs to reach a stable reading or 1μs on the next press. This shows that delay debouncing is bad in Software because the nature of having a fixed delay time simpialy is inneficent. With Software, it is best to have a dynamic wait time that will wait until there is a stable reading on the Rising edge. I also learned that there is debouncing circuits that remove the inconsistantcy of Analog Components.

Hardware Solution



This Solution will fully discharge 5V when the Switch/button is pressed but in the incansistant state.

Solution I will Implment

I plan on Implmenting the Software Solution as I am a Computer engineer and I want to have libaries of code throughout the Semester that I can Implment into Any project.