CART360
Etude Two: Perceptron-P
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PART ONE: Perceptron-P (Built-Circuit)
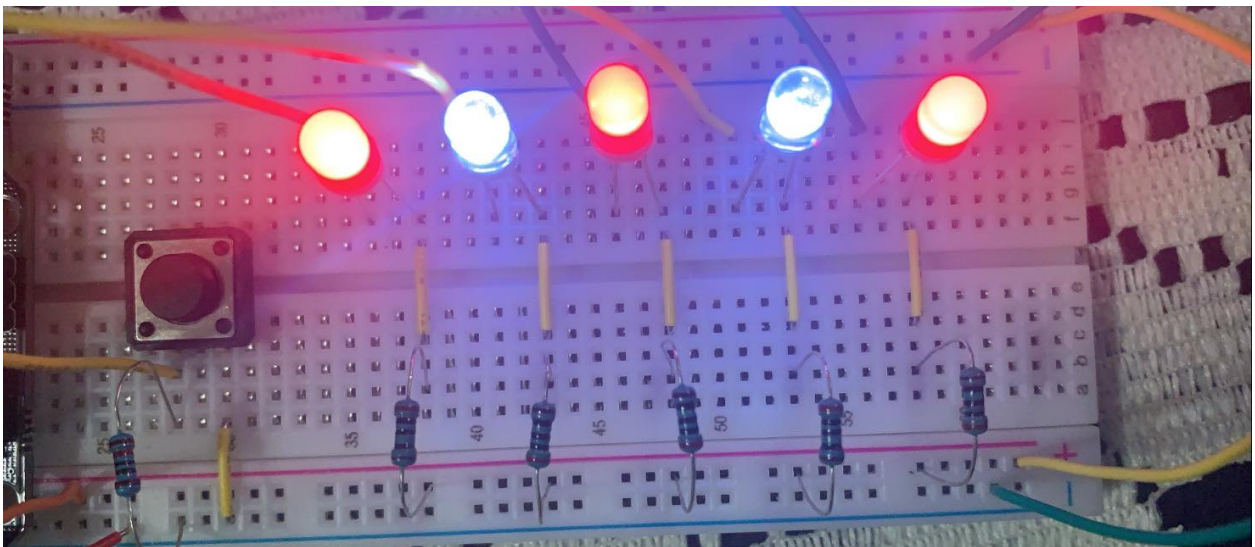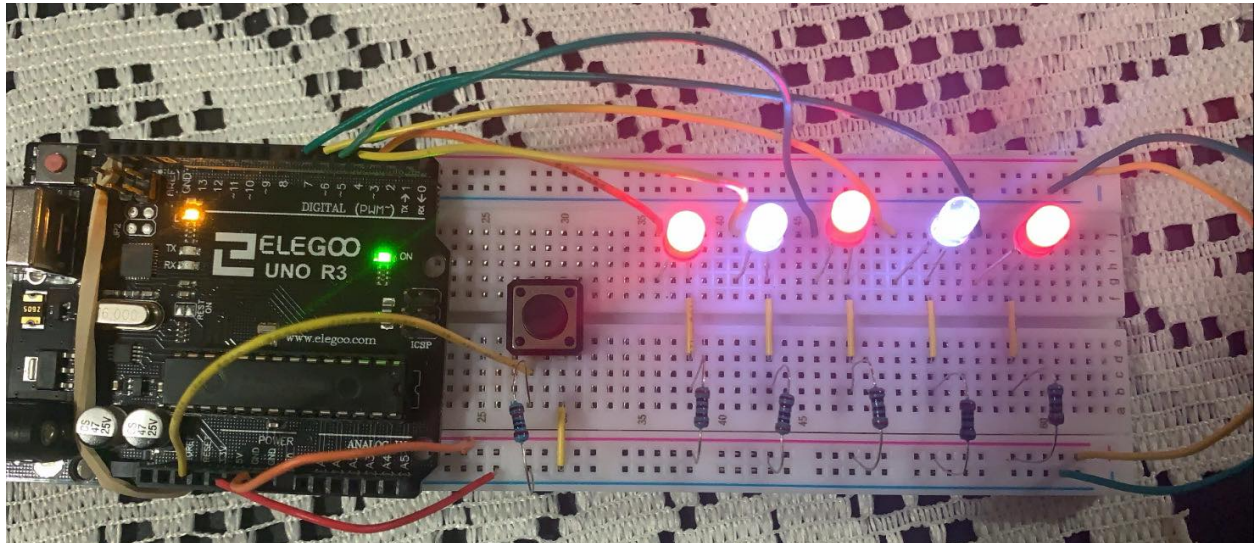
PART TWO: Perceptron-P (Alternate Circuit)
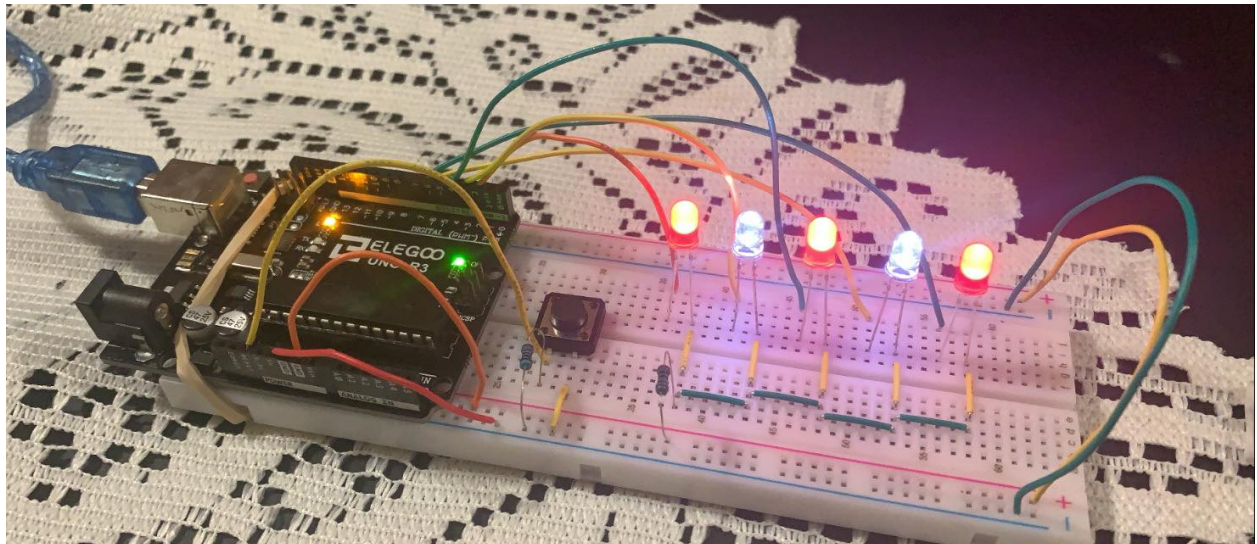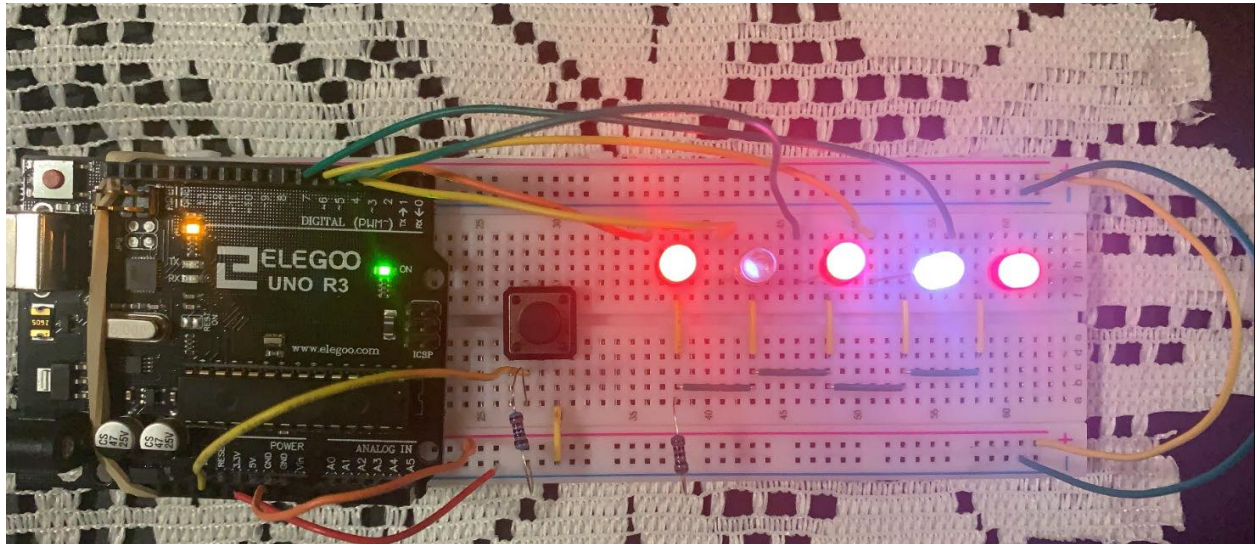
Determine the feature(s) that distinguish these two circuits – what makes them different? Why? Which of the circuits presented would be more reliable circuit – Why? What is occurring with the V/ I / R in the area(s) that you have discerned as important?

The feature that distinguinshes both circuits is the kind of circuit it is. The built circuit is a parallel circuit while the alternate circuit is a series circuit. To build both circuits, I had used 200Ω resistors for the LED lights while using 10Ω resistor for the button.

In comparing both circuits, the parallel circuit would be a more reliable circuit because all the LED lights have their own resistor. Therefore, the current is equally distributed to each LED. While in the series circuit, there is only one resistor distributing current for the five LEDs. In this case, I find that a series circuit it less practical because it creates unnecessary complications and extra pathways. In a parallel circuit, it is easy to fix if an LED does not light up without it affecting the others. For example, if one puts the wrong resistor. While in the series circuit, all lights can be affected due to a minor mistake. When also working on a much larger project, a parallel circuit would be a better option.

PART THREE: Perceptron-P

The purpose of the highlighted area contained within the red rectangle:

The button is like the reset button on the Arduino but the only difference is that it is independant. In other words, it resets the LED lights without resetting the whole Arduino program. As the reset button is hooked to the reset port and voltage, it is resetting the current of the LED lights when pressed and there is a delay due to the resistor.

PART FOUR: Perceptron-P in Action

For Perceptrop P, I chose my text to be "EMERGENCY SOS". I tried a combination of white and red LED lights and another version with only white LED lights. The first confusion I had was how to view the letters. Then, the next challenge was to figure out how to move the breadboard to make the letters visible. After a few experimentations, I was able to figure out a good pace and was able to distinguish a few letters from my message. I found out that the letters were more visible in the red and white version compared to the only white LED lights. I have included a regular video as well as a slow motion version of each in the folder videos/ photos folder.