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**Prelab 6**

1. Selection

I will select the temperature test.

1. Design:
   1. Lab 4 Algorithm Modified to while Loop

Button\_pressed = analog()

Avg\_temp = []

while Button\_pressed == False:

x= temperature\_senseor()

Avg\_temp.append(v)

* 1. Function Specification

From the input received until the button is pressed all the values of temperature will be stored in the list Avg\_temp. We will use a function to calculate the average from the values of Avg\_temp. For those same values of Avg\_temp we will count them. The outputs would be the average of the temperature values from the list and the number of values in the list.

* 1. Graph Practice using Logger Pro

Chart

Description automatically generated

1. Test:
   1. Design Pt. 1
      1. Press the button in 10 seconds. I expected that the reading of the temperature sensor stops.
      2. I will press the button after 40 seconds. I expect to see a significant value in the number of samples taken. I will also expect that the reading of the temperature sensor stops.
      3. I will press the button after 3 seconds. I except the number of samples taken to be small. I will also expect that the reading of the temperature sensor stops.
   2. Design Pt. 2

\*To change the reading of the temperature sensor I will use an ice pack and my hands.

* + 1. I will place the ice pack near the temperature sensor until it records a temperature lower than 10 degrees. Then I will press the button. Although I expect to see a high value of number of samples, I will also expect the average to be smaller than the next test.
    2. For the next test I will use my hands to warm it up. I will leave the button unpressed for 30 seconds. I expect a high number of samples as well as a high average.
    3. For the next test I will lower the temperature to be in between 10 to 20 degrees. I expect a high number of samples and I expect an average that is in between the averages of test 1 and test 2.