Team Marvin

Assignment 6

4/27/2022

**Task 2**

The sensor capable of measuring distance is the **Analog Sensor** as it outputs its raw data as a range of values. The equation for the conversion can be found in the graph below.

**Task 3**

Pseudocode:

* Calibrate the IMU
* Print initial heading on the LCD
* Wait for button to be pushed
* Once pushed begin main loop

Main loop:

* Get IMU data and current distance from analog sensor
* Display all data (Heading on line 1, Distance on line 2)
* If the distance is less than 3 inches, STOP and beep.
  + Turn Left 90 degrees
  + Check if there is something immediately after turning 90 degrees.
    - If there is something less than three inches after turning, turn Right -90 degrees and beep
    - Drive forward for 5 seconds and turn back to center
  + If there is not something after turning, move forward for 1 second
  + Turn back to center
  + Break loop and repeat

Picture of Robot setup with Analog sensor mounted on the front (Note the digital sensor is attached in this picture but was removed for the demonstration):

