

Chapter 24.5, 24.7, and 24.8. Make a demo video for 24.8 for the Demonstration assignment.

## 24.5

Turn in a MATLAB plot showing `pid_plot.m` is communicating with your PIC32 code.

for `pic32DIP`, using the python program to do this.

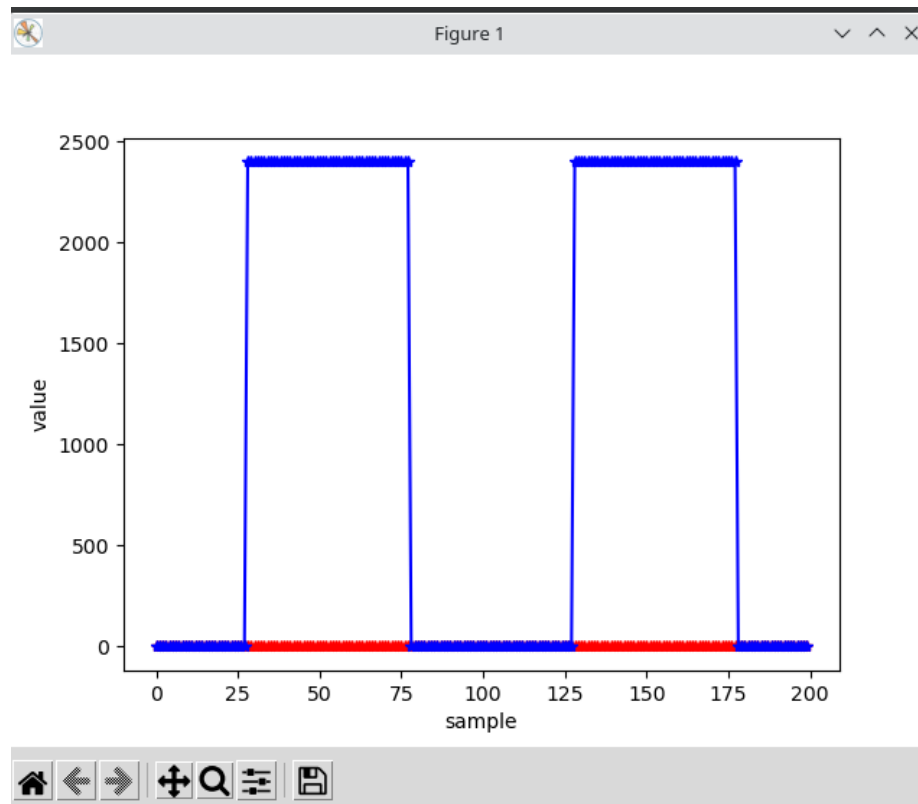


Figure 1: Alt text

## 24.7

Read the ADC value in your ISR, just before the `if (StoringData)` line of code. The value should be called `adcval`, so it will be stored in `ADCArray`. Turn in a MATLAB plot showing the measured `ADCArray` and the `REFArray`. You may wish to use manual sampling and automatic conversion to read the ADC.

The python program output with ADC doing reading

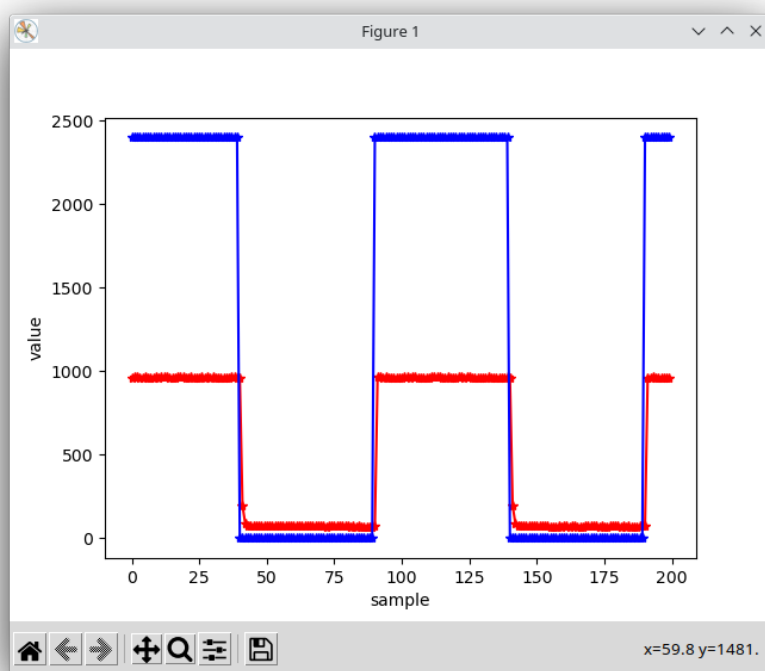


Figure 2: Alt text

## 24.8

With  $K_P=0.11$   $K_I=0.03$ , I got a decent tracking with some small initial overshoot.

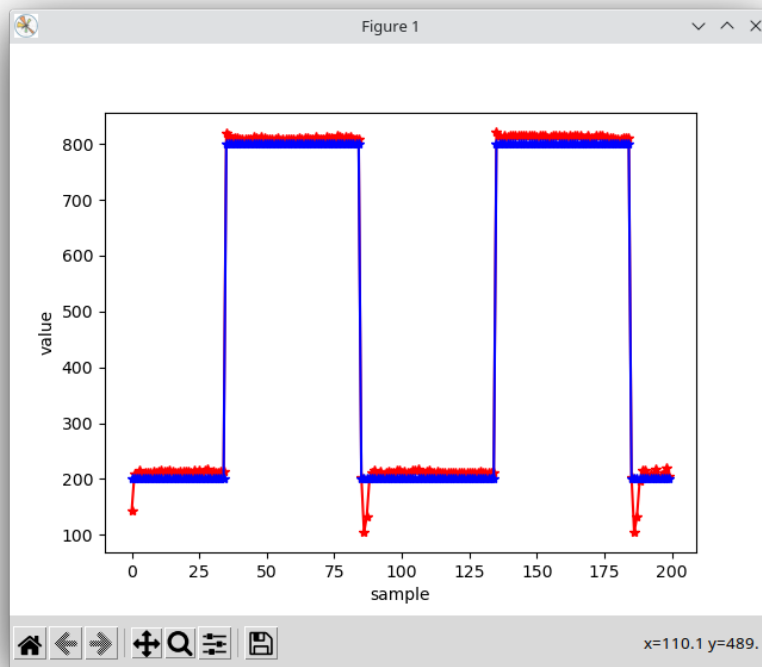


Figure 3: Alt text

See `main.c` for code, and `PIcontrol.mp4` for the demo video.