

Using a scheduler, program the board to do the following:

- Read in the value of the onboard potentiometer AD0.0.
- The board should have three modes of operation, selectable by moving the joystick:
- 1. The potentiometer value is displayed as a dot using all sixteen of the PCA9532 LEDs. So a voltage of 0 will show no lit LEDs, and a voltage of 3.3 will have LED 15 lit and no others.
- 2. The potentiometer value changes the blink frequency of the LEDs.
- 3. The potentiometer value changes the duty cycle of the LEDs.
- The current mode of operation should be displayed on the RGB LED (red for mode 1, blue for mode 2, green for mode 3).
- **Note - for modes 2 and 3, either all the LEDs can be illuminated, or just the LED which is displaying the current voltage. Same marks for either solution!**
- **Code should be uploaded by 09:00 on Monday the 26th of February, and I will talk to you about it during the lab classes that week.**

https://youtu.be/_VzuqWE75-I