ECE 476/676 - Homework #6

Matrix Operations, Edge & Timer Interrupts - Due Monday, October 14th

Metronome

Build a metronome with your Pi-Pico.   Output a 10ms beep evern N ms

- On startup, N = 1000ms (60 beats per minute)
- Increase N by 1% each time you press GP15
- Decrese N by 1% each time you press GP14
- Display beets per minute on the graphics display

1) Write a Python program which outputs a 10ms pulse every 1000ms using Timer interrupts

- Test your program
- (100ms pulse should read 0.33V, 200ms pulse should read 0.66V, *ticks_us()* should read 1000000 micro-seconds between beeps)

2) Write a Python program which uses edge interrupts to

- Increase a number by 1% each time you press GP15
- Decrese a number by 1% each time you press GP14

Test your code with N starting at 1000

3) Write a Python program which uses timer and edge interrupts to build a metronome

- Test your program

4) Demo your metronome

- In-person on with a video