HW 6

Lance Go

ME 333

**24.1.2) Choose R**

R = 10k ohms. Tried to get a lower value resistor but nothing was working as well as the 10k so I kept it.

**24.2.1) PWM calculation**

20 kHz, PBCLK = 80MHz, prescale = 1

1/20000 = (1 + PR3) \* 1 \* 12.5 ns

PR3 = 3999

**24.2.2) PWM program**

I do not have an nScope so here is an actual oscilloscope that I took pictures of.

**A screen shot of a computer

Description automatically generated with low confidence**

*Oscilloscope reading of the OC1 waveform*

*A screenshot of a computer

Description automatically generated with medium confidence*

*Oscilloscope reading for Vout*

*A screenshot of a computer

Description automatically generated with medium confidence*

*Oscilloscope reading for Vout without the capacitor. The difference is that the signal is significantly noisier without the cap acting as a filter.*

**24.3.1) Oscilloscope**

**A screenshot of a computer

Description automatically generated with medium confidence**

*Oscilloscope reading for Vout with the flashing LED*

**24.3.2) See code attached. I already completed the entire project so all of the other code is there, but it still works for this part.**