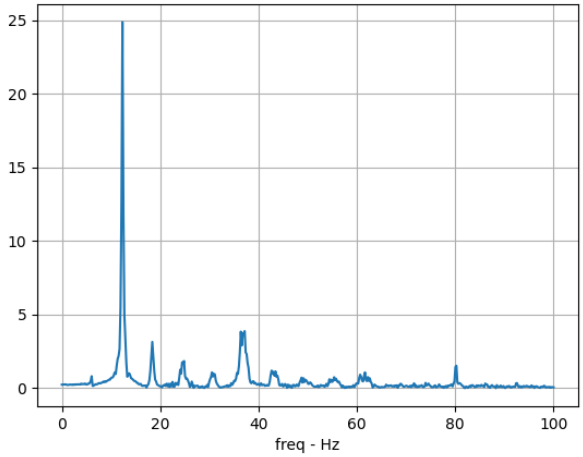
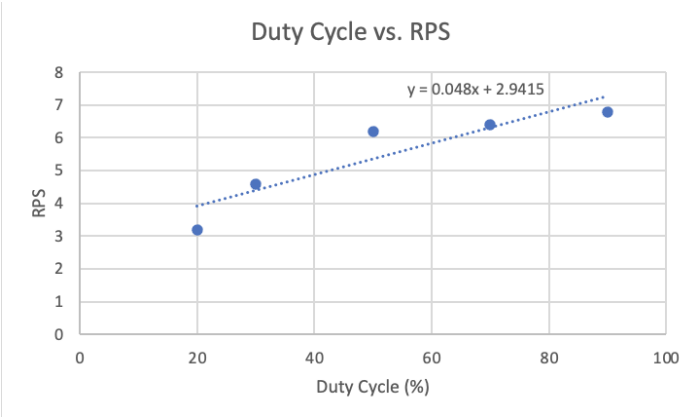
20%: About 3.2 rps on average
Using code from module 7, we found the rps to be about 3.26
50%: About 6.2 rps on average
Using code from module 7, we found the rps to be about 6.1
90%: About 7.1 rps on average
Using code from module 7, we found the rps to be about 7.08

FFT for 50%:



The largest peak is at about 12 hz
There are 2 cycles per rotation, so the speed is about 6 rps according to this graph, which matches what we found using our module8a.py program

Best fit relationship between PWM duty cycle to RPS:



Best Fit Equation: $RPS = 0.048(Duty\ Cycle) + 2.9415$