REQUIREMENTS NOT MET

- **Requirement 1:** The final Breadboard implementation was not met due to a missing $0.1\mu F$ capacitor. A $0.01\mu F$ capacitor was used instead to demonstrate ability.

PROBLEMS ENCOUNTERED

- **Problem 1:** Missing capacitor mentioned above...

INTRODUCTION

Now we start our introduction to our write up For your write up, write a brief introduction to what you are doing in the in lab. two to four sentences. Omit this section for the prelab.

DISCUSSION

9.5 Pre-Lab Requirements:

9.5.1 LTSpice Simulations:

1. Review AC Analysis in LTSpice
2. Build a simple lowpass filter, Figure 9.2a, but set R = 10 k Ohm and C = 0.001 μF. Set the voltage source to an AC amplitude of 1 and run an AC analysis with the following settings: Decade, 100, 1, 1Meg. Save an image of the circuit, a plot of the output, and table the 3 dB frequency for submission.

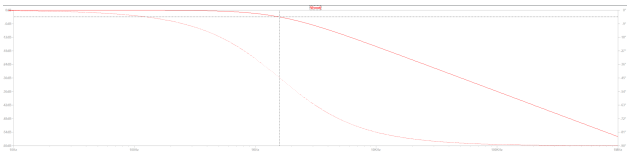

Figure 1: Plot of Low Pass Filter

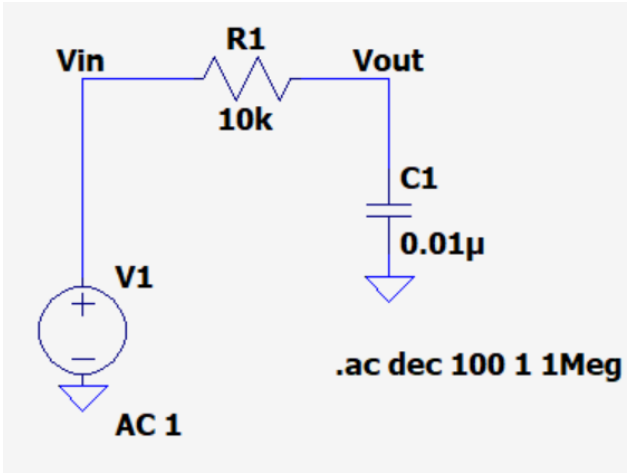

Figure 2: Circuit of Low Pass Filter

LOW-PASS	1.6 kHz	45 deg

3. High Pass Filter

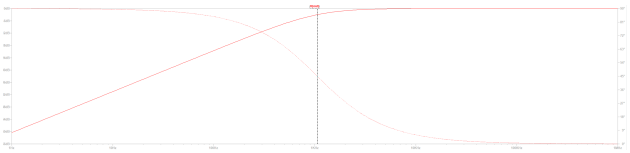

Figure 3: Plot of High Pass Filter

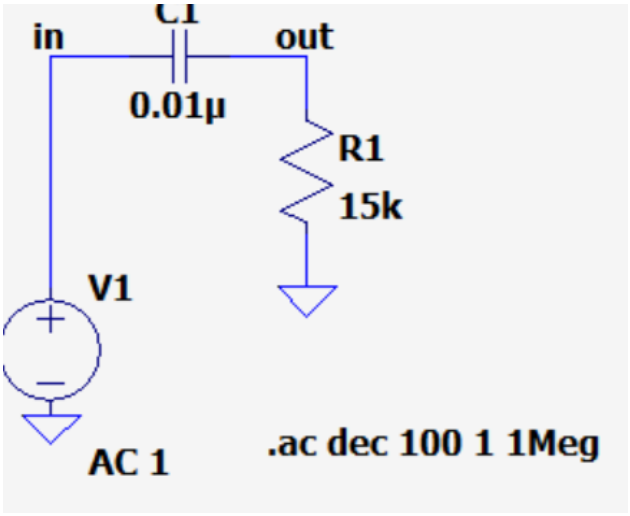

Figure 4: Circuit of High Pass Filter

HIGH-PASS	1.063 kHz	45 deg

4. Active Low Pass Filter with $R = 1k\Omega$ and $C = 0.1\mu F$

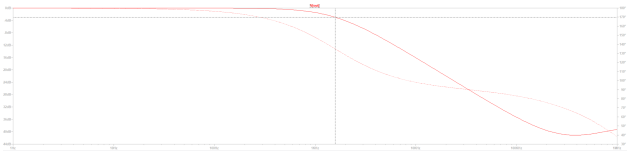

Figure 5: Plot of Active Low Pass Filter

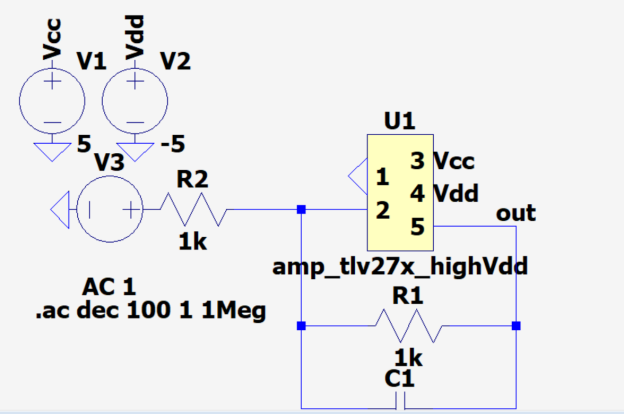

Figure 6: Circuit of Active Low Pass Filter

ACTIVE LOW-PASS	1.59 kHz	45 deg

5. Active High Pass Filter with $R_1 = 3.3k\Omega, R_2 = 33k\Omega$ and $C = 0.1\mu F$

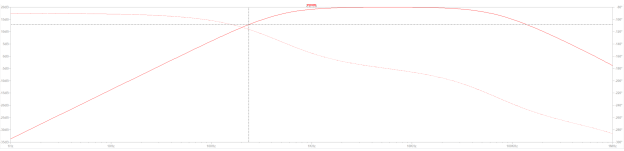

Figure 7: Plot of Active High Pass Filter

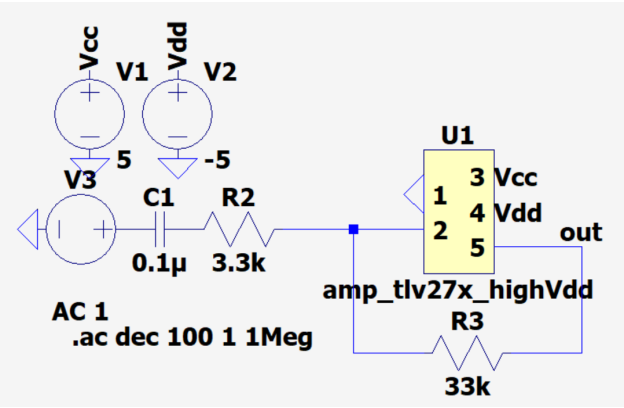

Figure 8: Circuit of Active High Pass Filter

ACTIVE HIGH-PASS	482.3 Hz	45 deg

9.5.2 Breadboard Implementation:

1. Review Network Analyzer tool in Digilent Waveforms.
2. Build Active Low Pass Filter with $R = 1k\Omega$ and $C = 0.1\mu F$.
3. Network Analysis of Circuit

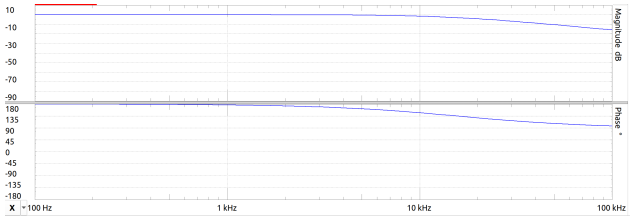

Figure 9: Plot of Active Low Pass Filter

CONCLUSION

This is where I start to answer the questions in the lab. We only need to do this for the write up.