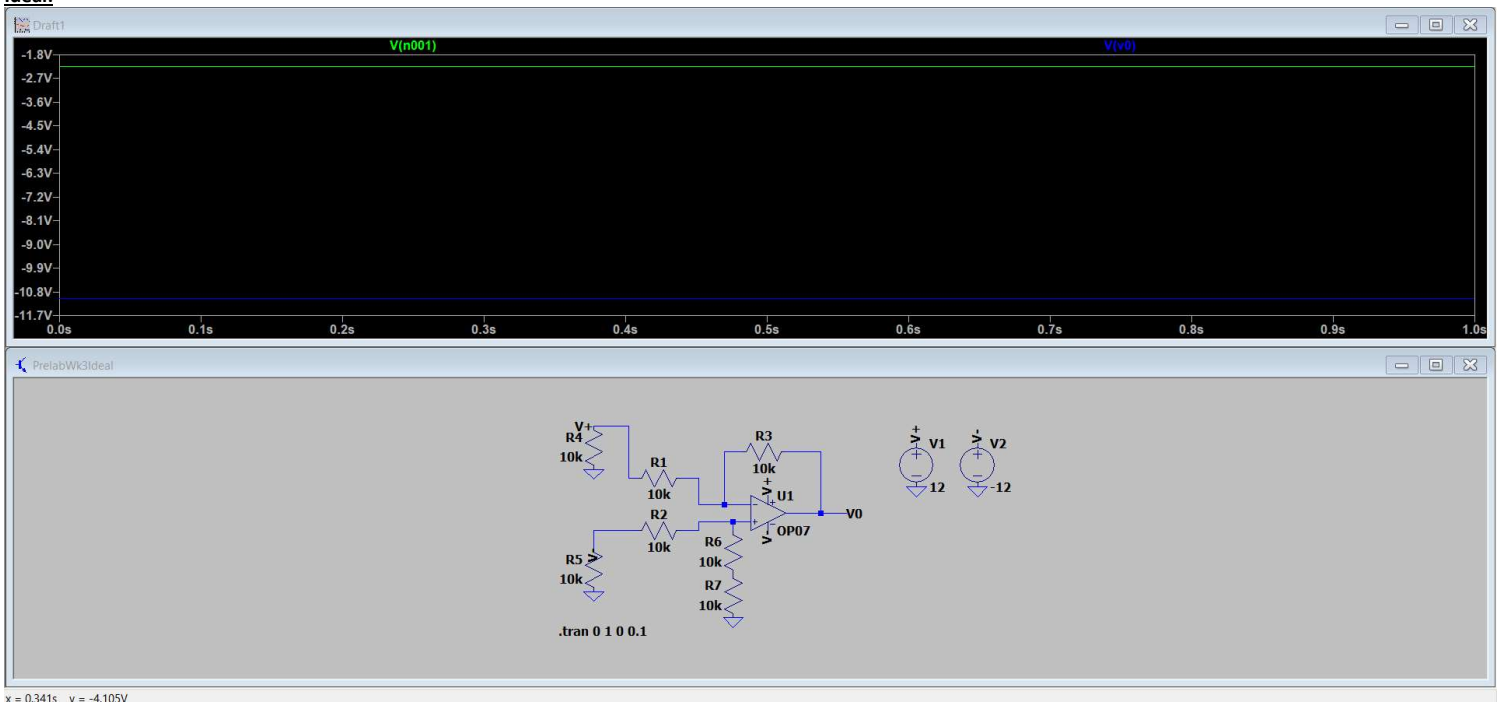
Pre Lab

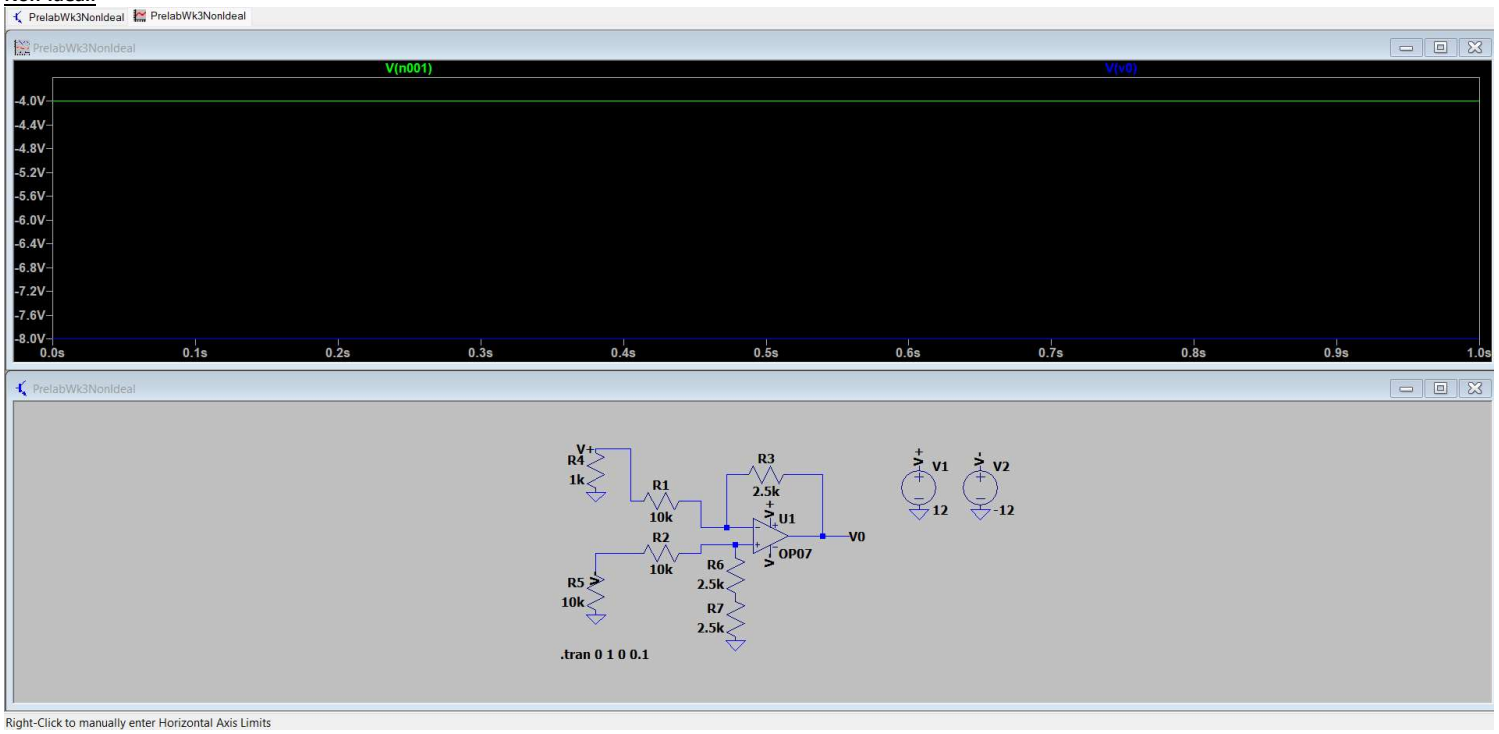
Monday, February 6, 2023 9:31 AM

Lillian Tucker

Ideal:

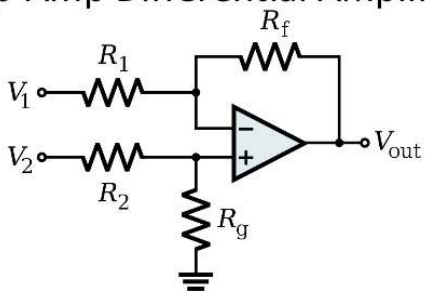


Non-Ideal:



I chose to change the value of R3, R6 and R7 from 10k ohms to 2.5k ohms. This figure resembles the format of a differential op amp. The gain of a differential op amp follows the equation in the figure below. With this in mind, our purpose for this amplifier s to create a difference between vin and vout. By the changes I made, the gain is smaller and vin and vout have less noticeable voltage changes.

Op-Amp Differential Amplifier



$$V_{\text{out}} = \frac{(R_\text{f} + R_1)\,R_\text{g}}{(R_\text{g} + R_2)\,R_1} V_2 - \frac{R_\text{f}}{R_1} V_1$$

If $R_1 = R_2$ and $R_f = R_g$: $$V_{\text{out}} = \frac{R_\text{f}}{R_1}(V_2 - V_1)$$