Circuits Final Project fall 2022- Stage II: Implementation and Proof of Concept

1. **Iterate and finalize design**
    - Good designs continue to undergo revision until they "work well." You are strongly encouraged to iterate on your design: build, test, analyze, modify. Lather, rinse, repeat.

2. **Quantify circuit behavior**
    - YMMV depending on the specific nature of your project, but the general idea is to determine your circuit system's behavior in response to a known range of input conditions.
    - These measurements should be compared to theory
    - In practical lay terms, this means, for example:
        - Sweep through frequencies and measure the input-output response of LC resonator, an RC filter and/or amplifier. This allows you to plot the magnitude response $G(f)$ (dB) vs. $log_{10} f$
        - If you are solar panel tracking, test a set of controlled light conditions and measure the output of your circuit(s).
        - If you have an accelerometer, get out a protractor and measure the actual roll and pitch angle vs. what your system reads. Plot the protractor angle vs the one your accelerometer reported.
        - Trying to catch muons? You may need to take a literal hike to change your altitude in hopes of varying the muon flux rate. Or find youself a lovely piece of old radioactive material (might be some in the old labs downstairs). Quantify your muon count vs. distance.
        - Final output should be a beautiful plot comparing experiment vs theory.

3. **Proof of concept:**
    - This is the grand finale! Take your design for a test-drive. Make sensible test demonstration(s) showing your circuits working in a practical setting.
    - These are often best captured in living color; make a photo montage, as needed.
    - ***The final output should be a (maximum) 2 minute video short.*** Be sure to narrate and/or annotate your video so that the general populace can understand what the purpose of your circuit is, the high level design (big picture, not weedy details), and best of all see it actually working!