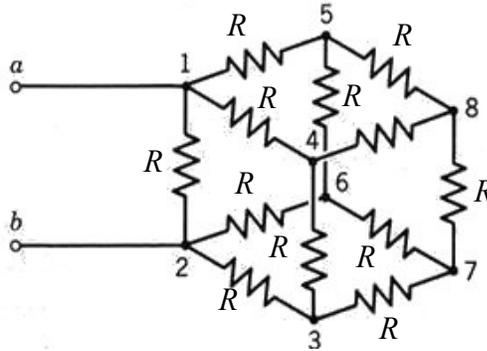


Lab 1: Soldering Practice

Perform the following soldering exercises and have an instructor initial completion.

1. **Hook-up Wire Soldered 2" Square:** Prepare four pieces of solid hook-up wire each of length 2". Strip each end to expose about 0.25" of wire. Solder the pieces together at right angles. Twisting the wires together before soldering is **not allowed**. You need to flow solder around the right angle junction of each wire pair. **Tip:** Cut the wire to 2" then strip about 1/2" off of just one end. Center the insulation from end-to-end so that about 1/4" of wire extends from each end.
2. **Hook-up Wire Soldered 1"/side Octagon:** Repeat problem 1, except now you form an octagon using eight 1" pieces of hook-up wire.
3. **Resistor Cube:** In this exercise you will be constructing a resistor cube as shown below. You may not twist the wire ends together. Like making a toothpick cube.



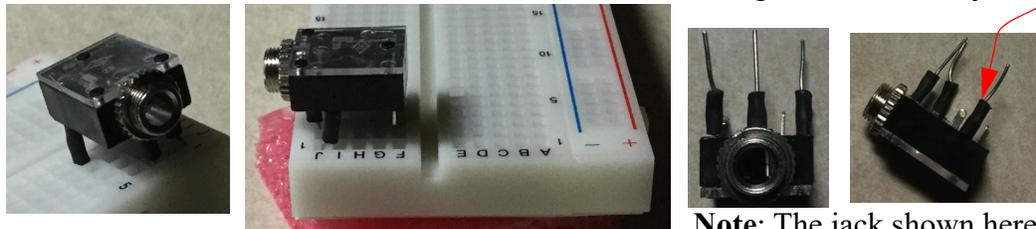
All 12 resistors = R
Trim resistors to a length of 1".

Note: The value of R is TBD at lab time

An LTspice model will be constructed in a homework Set and in Lab 2 you will take measurements on this circuit. Stay-tuned!

4. **3.5mm Stereo Audio Jack Extension Wires:** In this final soldering exercise you will be soldering short extension wires onto the bottom of a 3.5mm audio jack similar to what you see in the photographs below:

Small amount of *heat shrink* tubing over the solder joint



Note: The jack shown here has two extra, unused, terminals

Three wires are required: left channel, right channel, and a ground wire. Each wire should be no more than 0.5" in length, but long enough to be plugged into a solder-less breadboard. This will allow you to interface stereo earbuds to an audio amplifier you will be building later.