Arduino Workshop Directions

1. Install The Arduino IDE if you don't already have it from here:
   https://www.arduino.cc/en/main/software

2. Download the examples and header files from here:
   https://github.com/zacharyneveu/Arduino-Workshop

3. Copy the Synth folder to the Arduino Libraries system folder. On Windows this is located at C:\Program Files (x86)\Arduino\libraries. For PC help, feel free to ask me (Zach). For Mac help, ask Victoria.

4. Plug your Arduino into your computer and open one of the .ino files in the examples folder (try Melody.ino or song.ino first). Click the download icon which looks like this.

   If there are errors, feel free to come and ask about them, you may have to change the board to Arduino Uno under the tools menu, or change the serial port to the one your Arduino is plugged into.

5. Once your Arduino is up and running, it's time to build the circuit! Get the components you need from the front and build the circuit shown in Fig. 1. The orange and yellow wires go to the headphone jack (it doesn't matter which one goes where). The white wire goes to a ground pin on the Arduino (labeled GND). The black wire goes to pin 11 on the Arduino.
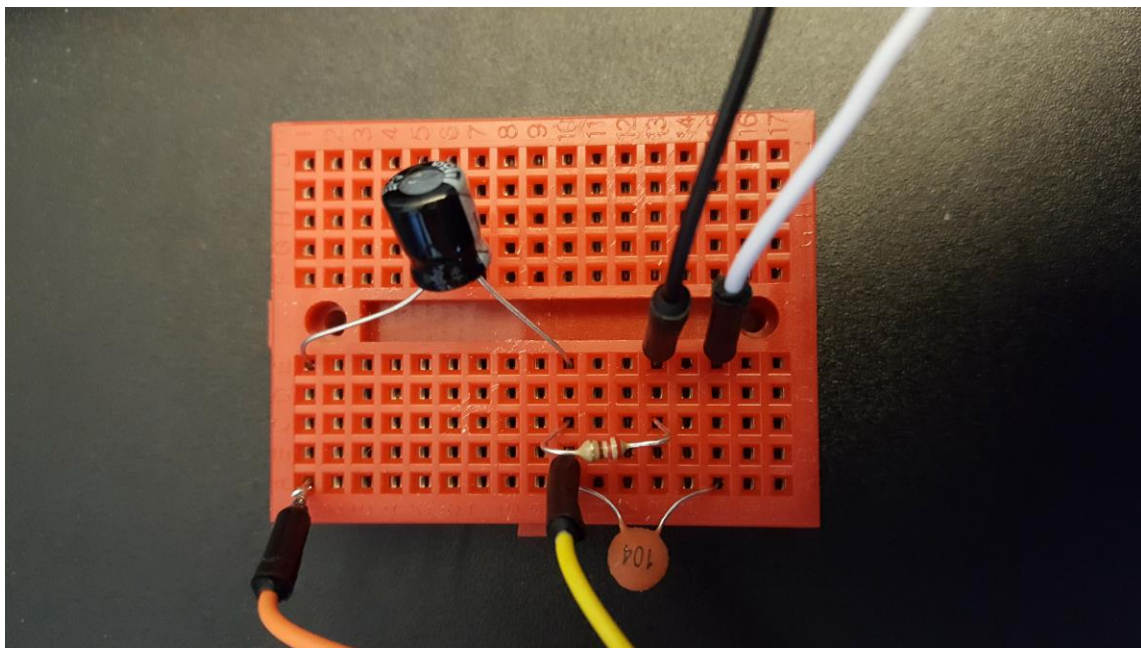
Figure 1- Breadboard Layout of Circuit

6. With if you have attached everything correctly, when you hit the download icon in the Arduino software, your Arduino should start to run the program. Come plug it in at the front and it should be playing music!
7. If you have time, you can try downloading the other exmples, and begin editing them to make your own sounds.

Hint: If you want to change the notes of the song (either Melody.ino or song.ino), go into the corresponding file song.h. The top half of this file is the note names for the notes of the song, and the bottom half is the note durations written out in the form 2=half note, 4=quarter note etc. Change the note names and note durations to change the song.