CCPS310 Lab 6 – AVR III

Preamble

In this lab, you'll make beautiful music using PWM with Arduino and a passive buzzer.

Lab Description

Using the frequency/duration format we saw in the lecture material this week, create a song. If your code works and plays a tune that isn't just random and arbitrary values for frequency and duration, you'll get full marks. I feel like I've worked you all hard enough in this course, so let's finish on something fun and easy.

I will give honorable mentions to my favorite songs, and to those who clearly put in a lot of thought and work.

You don't have to create your own song from scratch. This would require more musical theory than I can reasonably expect. There are online resources for this you can discover. Here is a website with many examples:

https://dragaosemchama.com/en/2019/02/songs-for-arduino/

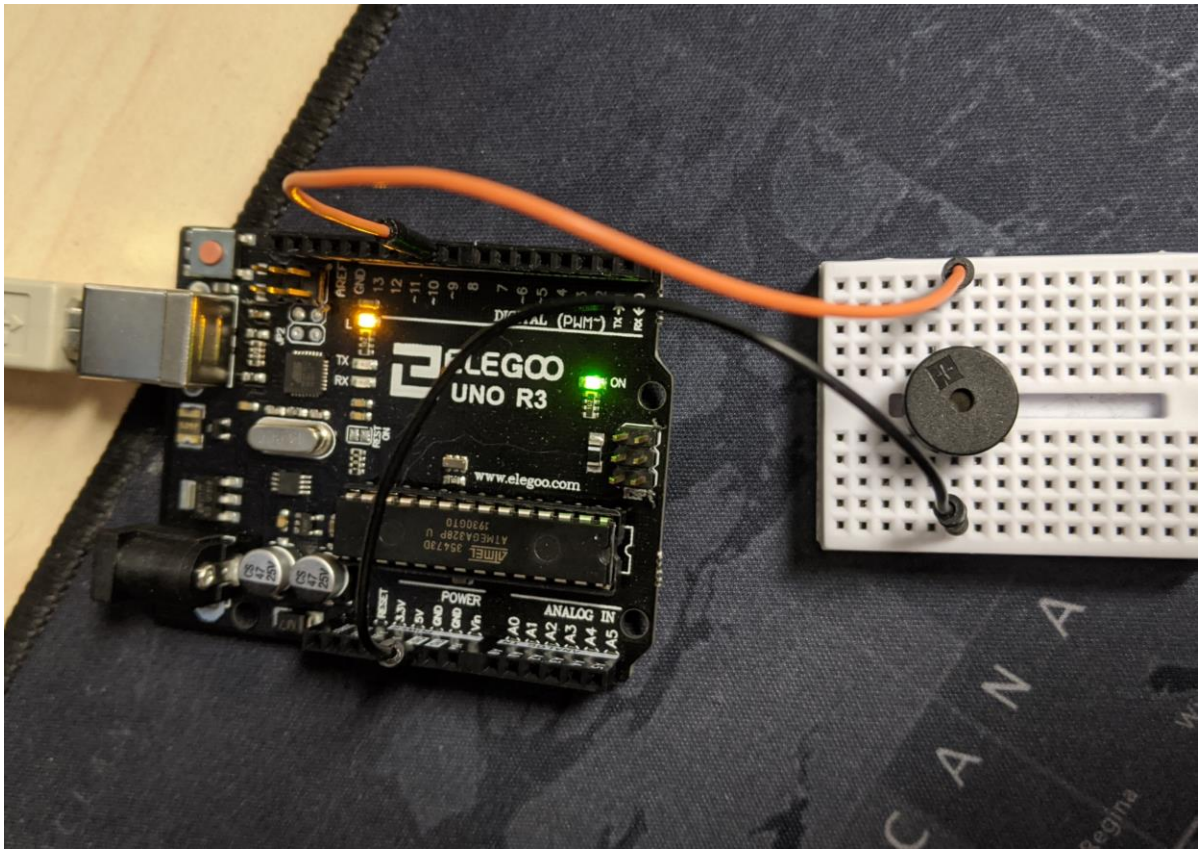
The code used here is far more sophisticated than what we saw in class, but the frequencies and durations are there for you to adapt to your own code.

Requirements

- Your song should be at least 5 seconds in duration and repeat after one second of silence. Feel free to make it as long and elaborate as you like.
- The output PWM signal should be on Arduino Pin9, just like we saw in the slides. I will test your program on the very simple buzzer setup from the slides as well (pictured below).
- Beyond this, that's it. Implement an example you find online, or, if you're musically inclined, translate your own favorite bit of sheet music into a buzzer tune.

Submission

Labs are to be submitted ***in groups of 1-3***! If working in a group, only <u>one</u> person should submit. Clearly indicate in the submission the names of all group members. Submit a single source code file under Lab #6 on D2L. I will supply my own **`pitches.h`** file. You don't need to submit a picture of your circuit.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