Introduction to Programming II Project Log

Project title:	Music Visualisation
Topic:	Week 16 Improvement to Spectrum Extension & Improvement to Ridge Plot Extension

What progress have you made this topic?

- I have created a ring by blending the bars of the spectrum extension, with the lowest frequency be at the 0 degree and the highest frequency be at the 359 degrees.

- I have created a formula to calculate the position of the spectrum bars. However it became a shape like flames from a gas stove instead.

- Alternatively, I figured from the p5js library that rotation and translation would better fit my needs, while further simplify the expression of the positions of spectrum bars.

- On the previous issue of sliders of the ridge plot extension, I have successfully implemented a solution by introducing a boolean variable at setup, which indicates the on/off of sliders, and calling a layer of checking before switching to other visualisation. If the new visualisation is not ridge plot but the slider boolean is indicating to show sliders, then I would "turn off" the slider before switching to another extension. This seemingly straightforward solution took me attempting to create extra workarounds before understanding so. Also it re-enforced my understanding on functions in javascript by creating methods that could be called in another function, and also understanding the sequence of the call stack that the visualisation follows.

What problems have you faced and were you able to solve them?

- Positioning the bars can be difficult at first so I drafted them in pen and paper and applied coordinates to help orient myself.

- The rotation method was not functioning correctly at first. Further investigation revealed that the default was "Radians" mode. It has to be turned to "Degrees" mode and turned back so other visualisation would not display incorrectly.

What are you planning to do over the next few weeks?

- I plan on working on another new visualisation in the next few weeks.

Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?

- The progress is on track and a legacy bug from last weeks have been solved.

$$x = \text{centre} + h + r \cos (\text{degree})$$
$$y = \text{centre} - r \sin (\text{degree})$$

degree

r sin

r cos(degree)