CS4499
Project 1 - Graphical times tables
Due Sept 9, 5:00 pm

Overview

For this assignment you will be rendering the times tables! But in a very cool way – see images above.

The purposes of this assignment are threefold:
1. Get familiar with the basics of WebGL
2. Get familiar with JavaScript
3. Review and solidify trigonometry concepts

Instructions

1. To start, watch this video: https://www.youtube.com/watch?v=qhbuKbxJsK8
2. Using code we wrote in class as a template, render a circle.
3. Add code to render the “times tables” as described in the YouTube video. We will use the term “modulus value” for the value the video starts out as 10. In other words, you will have “modulus value” points around the circle. We will use the term “multiplier” for the value of the times table. The video starts with a multiplier of 2, which yields a cardioid given a high enough modulus value.
4. Add code to handle keystrokes. When the user presses the up/down arrows, increment/decrement the modulus value. When the user presses the right/left arrows, increment/decrement the multiplier.
5. Add one or more cool things to your program. Some ideas are coloring the lines, a GUI for the modulus and multiplier values, new mathematical ideas in the line rendering, skewing the image (like using an ellipse instead of a circle), etc. Let your imagination go wild. This will account for the 10% creativity points.
6. Submit your work on Moodle.

Scoring

1. 30% - Render a circle.
2. 30% - Render the “times table” lines for a single pair of multiplier/modulus values.
3. 20% - Update the mult/mod values using arrow keys.
4. 10% - Creative additions.
5. 10% - Coding quality and style.

Notes

1. You can submit your work as frequently as you like – only the most recent submission will be retained. Suggestion: submit first thing to get familiar with how it works and submit occasionally during development. This way there won’t be any surprises when you’re up against the deadline.