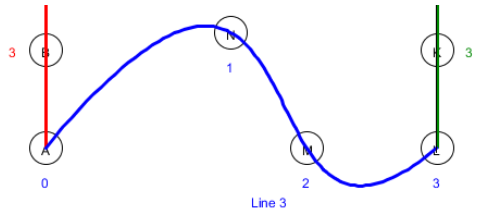
CS3451-Fall 2014, P03 REPORT

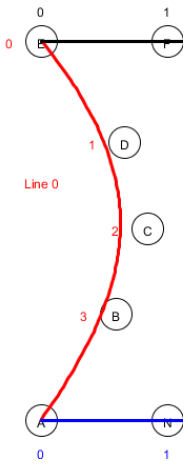
The title: CS3451 Fall 2014, Project 5 Coon Patch and Neville Interpolation

The project is mainly using coon to draw Neville curves and Bezier curves.

Neville curve is a curve that touches all the points:



While the Bezier curve does not touch the points in between the beginning and the end:



The curves are constructed using the LERP function, with A and B as points, and time t.

Pt newPoint = A + t(AB).

When there are more than 2 points, the LERP is repeated:

For example points ABC, it is done as LERP(A, B), LERP(B, C), then LERP the results of the two points.

Neville is similar, but instead of having t(AB), it is now (t-a)/(b-a) (AB) with a and b the time for A, B respectively.

The final curve appearing in the middle is calculated by the LERP of left and right + LERP of top and bottom, minus the LERP of the corners.