Assignment 4 - Math 448

Assignment 4: Due 2/7 by email

There is a notebook file to get you started on Assignment 4 on Blackboard. The goal of this assignment is to further build on your skills with functions and list, and develop your skills with the Graphics environment.

For this assignment, you will be using a data set on numerical ratings of members of congress. The data file is from the voteview.org website, specifically at the DW-NOMINATE webpage (http://voteview.org/dwnominate.asp). Each legislator has a number of attributes, but key attributes are party, state, name, district, and 1st and 2nd dimension coordinates.

1. Create a function that takes a legislator and outputs a Point with the coordinates for that legislator. Plot a few legislators using this function and the Graphics command.
2. Create a function that takes in a legislator and outputs a point with color red or blue depending on the party of the legislator. Plot a few legislators using this function and the Graphics command. Figure out a way to deal with early congresses where they were not just republicans and democrats.
3. Create a function that creates a triangle for a legislator colored red or blue if the legislator is from a certain state and outputs just a point if the legislator is not from a certain state. Plot a few legislators using this function and the Graphics command.
4. Modify your above work with Tooltip so that the legislators name and state appear when you mouseover the point or triangle.
5. Create code that allows you to choose a legislator and plot their points for their entire career in congress.
6. Use the Dynamic environment to plot all legislators from a user selected congress, and have the members of a user selected state delegation be highlighted with a triangle.