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Academic Showcase Proposal

For our project, the METAL data aspect will study Tarjan's Bridge Detection algorithm. This algorithm detects the edges in a graph that serve as the only path to some subset of points within a graph. The application of this algorithm in reality could be in the field of emergency preparedness/response. In the anticipation of a big storm, utility/first responders may be curious what roads should be of the most concern in their city. In this context, bridges will be of the most concern because if that road were to wash out or have a tree fall, some percentage of residents will be left isolated from the rest of the city. We will apply Tarjan's Bridge Detection algorithm to a graph consisting of roads and intersections to various storm-prone cities. The second piece of our project will be a code based implementation of the game show Wheel of Fortune. This code will randomly select a phrase from a text file, produce a random number as the each player's 'spin', and track money totals for each player until the phrase is completed. This code will utilize brute force string search methods to see if a player's letter guess or phrase guess is correct.