CSE 150 Homework Assignment 1

Part 6 Report

**Problem 1:**

Description of problem 1: Find a prime path from one number(argument #1) to another(argument #2). The path must only contain prime numbers. Adjacent numbers can only differ by one digit, anywhere in the number. Find the shortest path possible using breadth-first search. Don't visit the same node twice.

Description of algorithm used: Take each digit of the first argument, and find all the primes that can be generated by altering just that one digit. Do the same for all the digits. This is the first layer. Then, take each of the newly generated primes (pop them off the queue), and expand them again by generating all the primes that can be generated by changing one digit at a time. Keep traversing all the layers until the goal node is reached.