CS200 - Programming Assignment 4
Due: Monday, Oct. 16. Must be uploaded to Canvas before the beginning of class.

Please read the sections of the syllabus on programming assignments and honor code before starting this homework.

1. **[30 Points]** When a proof by cases involves many cases, a computer can sometimes be very helpful. We often call a proof with many cases where we just check all of the cases “Proof by Exhaustion” or “Proof by Exhaustive Search.” Write a program to prove that \( n^2 + n + 41 \) is prime for all positive integers \( n \) such that \( n < 40 \). (Please write your own code to test if a number is prime.)

   Put a multi-line comment at the beginning of your program. It should contain:

   - Your name
   - Programming Assignment 1
   - The name of anyone you worked with
   - The number of hours you spent on this assignment