import java.util.*; // necessary to use Scanner

public class Prime {
    public static void main(String[] args) {
        // Scanner gives us easy access to the numbers (and other input) that
        // the user types.
        Scanner in = new Scanner(System.in);

        // System.out.println shows some text to the user and then goes to
        // the next line. (With just System.out.print, it doesn’t go to the
        // next line.
        System.out.println("Hello, and welcome to the prime checker.");

        // Here, I use just plain print because I want the user to be able
        // to type their number on the same line as this prompt.
        System.out.print("What number do you want to check? ");

        // Read in the number using Scanner’s nextInt() method. This reads
        // characters typed by the user until it encounters the first
        // non-digit, and then converts those characters into an int. Crashes
        // if the user doesn’t enter something starting with digits.
        // Later, you’ll learn how to write this in a way that will never
        // crash.
        int numToTest = in.nextInt();

        if(numToTest < 2) // We can’t test these numbers for primality
            { System.out.println("I can’t test " + numToTest + " for primality.");
            System.out.println("Please enter a number >= 2.");
            return; // This line immediately ends the method.
        }

        // Now, we use a loop to test every possible divisor between 2 and
        // the square root of numToTest; if none of these divide evenly into
        // numToTest, then we know it’s prime. (Why do we have to check
        // only up to the square root?)
        boolean isPrime = true; // start by assuming the # is prime
        for(int divisor = 2; divisor * divisor <= numToTest; divisor++)
            { // The % operator computes the remainder after division.
                // If the remainder after division is 0, then we’ve found a
                // factor.
                if(numToTest % divisor == 0)
                    { isPrime = false;
                    }
            }

        // Now that we’ve determined the primality of the number, inform
        // the user.
        if(isPrime)
            { System.out.println(numToTest + " is prime.");
            }
        else
            { System.out.println(numToTest + " is not prime.");
            }
    }
}