Input

1. Simple Greetings

   a) Write a program that will greet you by your first name when it is run. For instance, my program would output: “Hello, Sandra!”

   b) We would like the program to be more universal. Write another program that asks the user of the program “What is your name?”, waits for the user to enter their name and then greets the user, using their name.

2. Input and Strings

   a) Extend the program above so that after greeting the user. It asks the user what state they live in and the produces a response. For instance, if the user entered ‘New York’, the program would display:

       Sandra, New York is a great state to live in!

   b) What does the full output of your program look like?
3. An Average Program – Let’s write a program that computes the average of four numbers entered by the user. If the numbers the user enters are 6, 3, 17, 11 the output should look like this:

The average of 6, 3, 17 and 11 is 9.25.

a) **Computational Thinking**: Before we program. What do we need?

b) **Program**: What tools can we use?

c) **Test**: Does the program work?

d) **Check**: Is your program user friendly?

e) Is there any way the average program you wrote could generate an error if the code is correct?
4. Hour Conversion – Write a program that converts the hour represented in 24-hour form to the hour represented in 12-hour form.

Swap papers with a neighbor.

a) Look at the code above that you have just been handed. Does the program work? Why or why not? Discuss any changes with the program’s author.

b) Is the program user friendly? Why or why not?
Debugging

5. Testing and Debugging – Stay length program

   a) Write a program that asks for a starting day number (0-Sunday, 1-Monday, etc.),
      asks for the number of nights the user will be away and calculates and displays
      the number of the day of the week the user will return on.

   b) **Test:** What kinds of test cases do we need to test this program in order to
       ensure the program works correctly?
6. Avoiding Debugging – Compound interest program

   a) Write a program that computes the total amount in an account after a user entered number of years.