Bugs in the System

Due: Monday, October 1st

Objective: To develop the critical thinking skills necessary to determine the source of software bugs, what is causing them, and implementing debugging solutions to remove them.

Background: In the development of more complex programs, the possibility of creating a bug in your code increases. In short, a software bug is an error encountered in a computer program or system that may cause it to produce an incorrect or unexpected result, or even behave in unintended ways. The most often encountered software bug is one that will cause your program to crash. The process of removing these software bugs is known as debugging.

Problem: I have written a program that is full of bugs. Your task is to locate them, understand why they are causing the errors, and then remove them by adding and/or removing code.

Notes: Although you will be working on a Python program that I have written, ensure to rename your instance of the bug-free program as "firstname_lastname_debugging.py".

Expected Output:

```
Welcome to th-
Oh no! There appears to be a bug in the system!!
Please help us out!

Please enter your name: Gustavo

The random number is: 9
The random number is: 18
The random number is: 18
The random number is: 9
The random number is: 5

Please enter an integer: 3
num_add: 4
num_sub: 2
num_mult: 6
num_div: 0.60

num1: 1
num2: 2
num3: 3

We are in loop 1!

Congrats! You've helped us in debugging this program!

Press enter to exit the program.
```