Regular Computer Science 1	Lab 13A 1-Day Minor Python Assignment
The "Array Average" Program	100 Point Versions Only

Assignment Purpose:

This program requires basic knowledge of array manipulation.

Write a program that will compute the average of a list of random numbers stored in an array. Remember, the *average* or *mean* is computed by adding up the all of the numbers and then dividing the *sum* by the quantity of the numbers - which would be the same as the size or length of the array.

Lab 13A Student Version	Do not copy this file, which is provided.

```
 1 # Lab13Ast.py
 2 # "Array Average"
 3 # This is the student, starting version of Lab 13A.
 4 # Students need to write the <computeAverage> function.
 5 # NOTE: This lab is meant for students in REGULAR CS1.
 6 #       Students in CS1-HONORS will do Lab 13B.
 7
 8
 9 from random import *
10
11
12 sum = "shadowed"
13 # prevents the use of this built-in function
14
15
16 def heading():
17     print()
18     print("************************************")
19     print("Lab 13A, Array Average")
20     print("100 Point Version")
21     print("By: JOHN SMITH") # Substitute your own name here.
22     print("************************************")
23     print("\n")
24
25
26 def buildArray():
27     # Specifying a seed creates "pseudo random" numbers
28     # that are the same with every program execution.
29     seed(100)
30     for k in range(amount):
31         numbers.append(randint(10,99))
```

```
32
33
34 def displayArray():
35     print()
36     print(numbers)
37     print()
38
39
40
41 ##########
42 #  MAIN  #
43 ##########
44
45 heading()
46 numbers = []
47 amount = eval(input("How many numbers do you want to generate?  -->  "))
48 buildArray()
49 displayArray()
50 #print("Average:  ",computeAverage())
```

100-Point Version Specifics and Output

For this assignment, you are provided with a starting file that creates an array of random numbers. Even though the numbers are random, they will always be the same random numbers. How this works is not your concern. You are concerned with computing the average of all of the numbers in the array. When you run the program, enter **15** to generate an array of 15 random integers.

```
 ----jGRASP exec: python Lab13Av100.py

**********************************
Lab 13A, Array Average
100 Point Version
By: JOHN SMITH
**********************************


How many numbers do you want to generate?  -->  15

[28, 68, 68, 32, 60, 54, 65, 74, 24, 78, 25, 20, 68, 43, 16]

Average:   48.2

 ----jGRASP: operation complete.
```