LAB #7
Functions and Lists/Arrays

Practice Functions and Loops:
Write a function with a nested loop that displays x rows of '#' with y '#'s on each row.

(5 pts) Finish this turtle exercise from lab #6 to contain a main function, as well as functions for each one of these shapes drawn by the turtle. **Now, prompt the user for which shape they want to draw and then draw only that shape.**

Ask the user if they want to continue, and if they do, then clear the screen and ask them which shape they want to draw again. Continue this until the user doesn't want to draw anymore shapes!

1. An equilateral triangle
2. A square
3. A hexagon (six sides)
4. An octagon (eight sides)

Make sure you handle when the user doesn't enter a good input for continuing and/or a specific shape they can choose to draw.

(5 pts) Get N numbers from the user and find the largest
Your job is to design and implement a program that gets N numbers from the user, finds the largest number, and prints the largest number and the list/array of numbers back to the user.

- You must have functions and nothing in the global space, except the call to main!
- Example functions include: get_numbers(), find_largest_number(), print_info()

Modify your program to randomly generate these numbers, generate_random(), and search to see if a specific number is in a list, search_numbers(), in addition to printing the largest number and list/array of numbers?

```
import random
random.randint(num1, num2)  #generate random numbers in range inclusive
```

If you have time:
You will get two strings from the user and find out if any part of the second string is contained within the first string by comparing the two strings. You need to **calculate the number of matching characters, along with the percentage,** between the two strings. **For example**, Jennifer and Jen match on 37.5% of the characters.

Your program must have a **main()** function, and you must have these functions: **get_user_input()**, **percent_matching(),** and **num_matching_chars().**