PYTHON MINI-PROJECT LIST

1. Dice Rolling Simulator

The Goal: Like the title suggests, this project involves writing a program that simulates rolling dice. When the program runs, it will randomly choose a number between 1 and 6. (Or whatever other integer you prefer — the number of sides on the die is up to you.) The program will print what that number is. It should then ask you if you'd like to roll again. For this project, you'll need to set the min and max number that your dice can produce. For the average die, that means a minimum of 1 and a maximum of 6. You'll also want a function that randomly grabs a number within that range and prints it.

Concepts to keep in mind:
- Random
- Integer
- Print
- While Loops

2. Guess the Number

The Goal: Similar to the first project, this project also uses the random module in Python. The program will first randomly generate a number unknown to the user. The user needs to guess what that number is. (In other words, the user needs to be able to *input* information.) If the user's guess is wrong, the program should return some sort of indication as to how wrong (e.g. The number is too high or too low). If the user guesses correctly, a positive indication should appear. You'll need functions to check if the user input is an actual number, to see the difference between the inputted number and the randomly generated numbers, and to then compare the numbers.

Concepts to keep in mind:
- Random function
- Variables
- Integers
- Input/Output
- Print
- While loops
- If/Else statements

3. TextBased Adventure Game

The Goal: Remember *Adventure*? Well, we're going to build a more basic version of that. A complete text game, the program will let users move through rooms based on user input and get descriptions of each room. To create this, you'll need to establish the directions in which the user can move, a way to track how far the user has moved (and therefore which room he/she is in), and to print out a description. You'll also need to set limits for how far the user can move. In other words, create "walls" around the rooms that tell the user, "You can't move further in this direction."

Concepts to keep in mind:
- Strings
- Variables
- Input/Output
- If/Else Statements
- Print
- List
- Integers

4. Hangman

The Goal: Despite the name, the actual "hangman" part isn't necessary. The main goal here is to create a sort of "guess the word" game. The user needs to be able to input letter guesses. A limit should also be set on how many guesses they can use. This means you'll need a way to grab a word to use for guessing. (This can be grabbed from a pre-made list. No need to get too fancy.) You will also need functions to check if the user has actually inputted a single letter, to check if the inputted letter is in the hidden word (and if it is, how many times it appears), to print letters, and a counter variable to limit guesses.

Concepts to keep in mind:
- Random
- Variables
- Boolean
- Input and Output
- Integer
- Char
- String
- Length
- Print