**Be Charmed with Python; Slither your way to Coding**

An introduction to programming in Python

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**Project Summary:**

What will they leave with?

* A flash drive with all of their work on it
* Printouts of the project description
* Notes explaining concepts

Learning Objectives:

Integers, Strings, Variables, Print statement, Loops, If/Else Statements, Random function, Input/Output, List, Concatenation, Boolean logic, Characters

* Project 1: Dice Rolling Simulator
  + Random function
  + Integer
  + Print
  + While Loops
* Project 2: Guess the Number
  + Random function
  + Variables
  + Integers
  + Input/Output
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  + While Loops
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* Project 3: Mad Libs Generator
  + Strings
  + Variables
  + Concatenation
  + Printout
* Project 4: Text Adventure Game
  + Strings
  + Variables
  + Input/Output
  + If/Else Statements
  + Print
  + List
  + Integers
* Project 5: Hangman
  + Random function
  + Variables
  + Boolean logic
  + Input/Output
  + Integers
  + Characters
  + Strings
  + Length
  + Print statement

**Technical Plan:**

There will be instruction beforehand on the idea of the project as well as an explanation of the concepts that will be used. Visual aids will be used and notes will be available for reference throughout the class. Students will be allowed to work in groups.

Project 1: Dice Rolling Simulator

The goal of this project is to simulate a rolling dice. When running the program, it will choose a number between 1 and 6 (or other boundaries if the student chooses), and the program will print what number it chose. Then it will prompt the user to roll again or exit the program.

Project 2: Guess the Number

Similar to the Dice Rolling Simulator, this project uses the random function implemented into Python. The program will pick a random number for the user to guess. If the user is wrong, there will be an indication as to how wrong (i.e. too high or too low). If the user is right, a positive message will be displayed and it again will prompt the user to guess again or exit the program.

Project 3: Mad Libs Generator

Instead of filling out a Mad Libs on paper, this program will prompt the user for a series of inputs (i.e. a singular noun, an adjective, a verb, etc.) and place the inputted data into a pre-made story template and print it out.

Project 4: Text Adventure Game

This project is a text game that allows the user to move through rooms based on user input and get descriptions of each room.

Project 5: Guess the Word

Synonymous to Hangman, this program will allow users to guess a word that the program chooses from a pre-made list.

**Materials/Budget:**

Computers for Programming- we already have

Flash drives - ~$6 each for 8 GB (I will try to look for 4 GB ones)

**Schedule:**

Age Group: 9+ yrs.

Days: Saturdays

Class length: ~3 hrs depending on the project

Sessions: ?