**Flower Maker**

Ask the user for a stem color, background color, petal color, and number of petals they would like. The program should output a flower using the turtle library with those attributes.

**AI Guessing Game**

A program where the computer tries to guess a secret number that the user enters.

**Mad Libs**

A program that asks the user for verbs, adjectives, nouns, ect.. and prints out a funny story using them.

**Math Game**

A 2-player game where users try to solve randomly generated math problems for points.

**Password Generator**

A function that generates a randomly generated password containing:

- minimum 6 characters long

- upper case letter(s)

- lower case letter(s)

- special character(s) {!@#$%^&\*}

- number(s)

**Password Validator**

A function that checks if your password (a string) is valid. It checks if it contains the following:

- minimum 6 characters long

- upper case letter(s)

- lower case letter(s)

- special character(s) {!@#$%^&\*}

- number(s)

**Password Encryption**

A function that takes in a password (a string) and encrypts it to a string of characters.

Example:

PassWord123 -> “j5059400Z4uTIAN785Mq5DJ7908”

C0der$ch0ol ->“80nkbB8440L99634MOO0K00g8476”

lk#Nc@n3r9X4 ->“2588754Fcv50ik4699875370u80P”

**Password Cracker**

A program that can crack a 4-letter password (a string).

**Quiz**

Create a quiz on any topic you wish and have the user take the quiz and answer the questions. Should have a least 10 questions and should display their grade once finished.

**Christmas Tree**

Create a Christmas tree using the turtle library. The trunk can be a rectangle and the leaves/branches triangles descending in size. Bonus points if you put a star at the top. Extra bonus if you decorate it with ornaments

**Shape Maker**

Uses the turtle library and asks the user the type of shape the would like to make (square, triangle, octagon, hexagon, ect..) and the coordinates of where to place it. Puts it there and asks the user again if they would like another shape and so on.

**Hangman Game [HARD]**

AI hangman game. You enter a word, and the computer tries to guess it.

**Connect 4**

Create a 2 player connect 4 game.

**Bouncing Ball**

Using the processing library in python. Create a bouncing ball simulation. The ball should bounce up and down as if there is gravity in the game.

**Star Drawer**

Create a program where anywhere the user clicks on the screen, a yellow star is draw at that location. You can use the turtle or processing library to do this.

**Pizza Order**

A program that asks the user for a pizza they would like to order. They can pick a crust type, sauce type, toppings, and drink. At the end, the receipt with the items and total should be displayed.

**Pixel Art Gif**

Create pixel art but as a gif using a 3-dimensional list.

**Buildings**

Create 3 houses and a road using the turtle library.

**Prime Number Validator**

Checks to see if a number entered is a prime number.

**English to Pig Latin Translator**

A program where the user enters a sentence and English and displays the sentence in Pig Latin. Check out Wikipedia for the rules: https://en.wikipedia.org/wiki/Pig\_Latin

**Dice Game**

You can implement this as a 2-player game or a 1 player game where they are playing against the AI. The player rolls a 6-sided dice (random number generator). However, many times they would like. Their goal is to get as close to 100 as possible. If they go over, they automatically loose. Then it is the opponent’s turn. If they go over, they lose, otherwise who ever got closes to 100 wins!

**Rock Paper Scissors Game**

Create a 2 player rock paper scissors game.