**English To Morse**

Read in a text file containing English and convert it to Morse code. Write the resulting Morse code into a new text file.

**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).

**Unit Converter**

Create functions to convert common conversions such as km to miles, kg to lbs., Celsius to Fahrenheit and more. Implement as many as you can. Click this [link](https://www.unitconverters.net/) for ideas.

**Quiz**

Create a quiz on any topic that you would like 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. Then decorate it with circles for the ornaments. Bonus points if you put a star at the top.

**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**

Create an interactive hangman game where the user tried to guess a word and every wrong letter draw the man.

**Advanced Calculator**

Functions that perform math calculations. Will have functions to add two numbers, subtract two numbers, multiply two numbers, divide two numbers, get the factorial of a number, and return the result of a number by a power (exponent).

**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 in the form of 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.

**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!

**String to Shape**

Code that converts a string to ascii and uses that ascii code (the integers) to create a cool shape unique to that string.