Python:

“Bang”

This program is a virtual recreation card game “BANG!”.

I have designed a simple GUI to interact with on your turn and have been working on a bias-based AI that learns from prior actions in the game.

“BangBiasStore”

A program that prompts a user (who understands the game well) to rank three random cards in the deck relative to each other. It assigns a 1,2, or 3 to the card dependent on the position that it was selected. It also records the amount of occurrences per card. From that data, a percentage is calculated and the values out of 100 are added into the game as the base biases for each card.

“Combat game”:

A text-based game where you choose a weapon (with assigned speed and damage values) to then fight one of four monsters, with a method to use the speed value to determine how many turn the player gets compared to the monster.

“Dungeon Crawl”:

A maze game that uses a common maze generator algorithm to construct the maze. I got to practice using different modules to accept instant keyboard input into the terminal.

Use WASD to navigate the maze (using arrow keys will crash the game).

MATLAB

“BinaryInsertionSort”

Runs the binary insertion sort algorithm.

“fixpoint”

Uses the fixed point iteration method for finding a root of an equation.

“golden”

Uses the golden ratio to find a root of an equation.

“jacobi”

Runs the jacobi method for solving linear equations.

“polyfit”

Returns the values of a second degree polynomial that approximates the curve of a given function.

“Richardson22”

Uses the Richardson extrapolation method to solve for the roots of the derivative of a given function.

“sorting”

A selection sort algorithm.

HTML/JavaScript

“AnnaMaeTray”

Used in a talent show to take free sound files from websites online to provide sound effects for a performance.

“OrgoResonanceGame”

A game that uses on-screen buttons to cycle between images to navigate the resonant structures of a molecule.

TEST