## **Functions:**

\*All functions are self-sufficient and do not require any non-standard library helpers to complete their tasks\*

- birdPicker():
  - Function to allow the user to pick which bird they want to play with (Changes color of circle drawn to represent bird in the actual drawing)
  - o Returns user input in form of integer
- planetPicker():
  - o Function to allow the user to pick which planet they want to play on
  - o Returns user input in form of integer
- birdsPlot(trajectory x values, trajectory y values, target location, bird type, location of impact, yes/no hit):
  - o Function that plots the trajectory of the bird, the pig, and if the bird hit the pig
- getGuesses():
  - o Function to get the users guesses as to the angle of launch, and the initial velocity
  - o Returns tuple of user input in form of (initial velocity, angle of launch)
- hit(trajectory x values, trajectory y values, target location) :
  - o Function to determine if the pig has been hit
  - o Returns tuple of (location of impact/final position, hit/not hit)
- trajectory(gravity value, initial velocity guess, angle of launch guess):
  - o Function that computes the trajectory of the bird
  - o Returns tuple of (trajectory x values, trajectory y values)

## Variables:

- hitZone: The point at which the pig was determined to be hit at
- impact: Boolean holding the value of whether the pig has been hit

