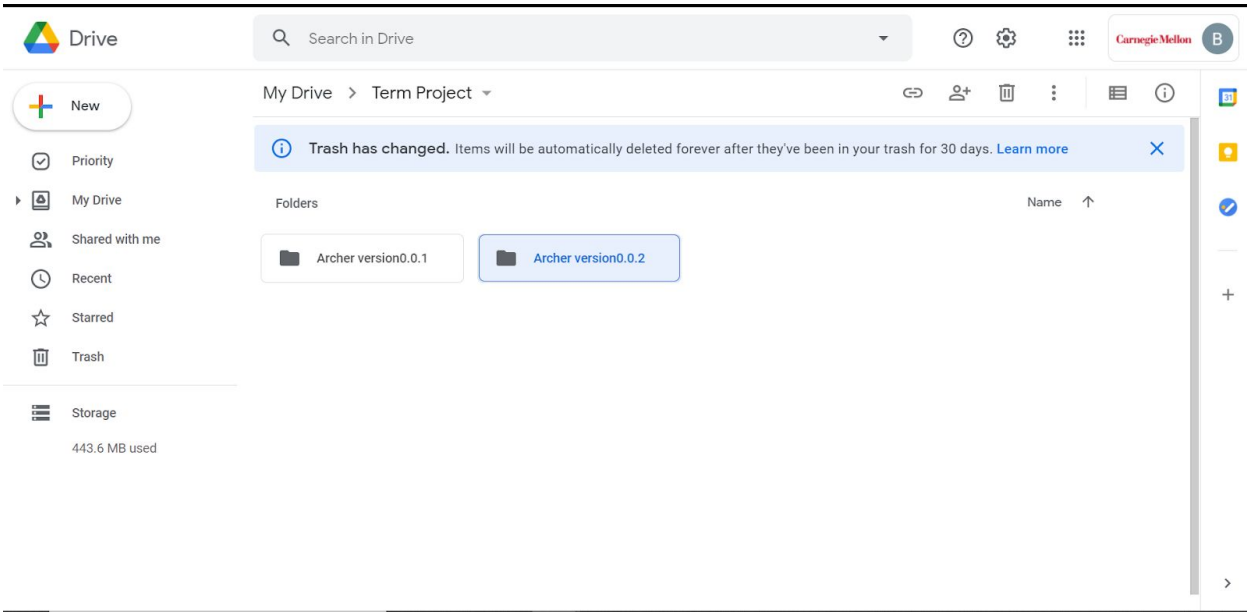
- Project Description:
    - Name: The Archer
    - Description: A dungeon-style game where the player has to clear out levels by killing all the monsters in it, and then beat a boss at the end
- Competitive Analysis:
    - One game that I am trying to model this off of is Archero, where you are an archer trying to clear out rooms, and you gain power ups as you go along. Some of the similarities between my project and Archero is that I will use different enemies that have different abilities to attack the player. However, my game will be a sidescroller as opposed to the vertical scrolling on Archero. I also want to use the random map generation from the game in my project
- Structural Plan:
    - I will have an overarching folder with all the files inside. I will have one folder for all the images and sprites that I will use. I will make separate files for each object, so there will be a weapon, player, and enemy class. Within the enemy class, I will have many subclasses that inherit the enemy since I am using different monsters
    - The Player class will operate the movement as well as the attack functions of the player. It will also handle any attacks from other enemies
    - The Weapon class will do the collision detection with enemies and move the weapon in the direction of the enemies
    - The Enemy class will operate the movement of the enemies and the attacks against the player. They will also display the health of the enemies and handle their death
        - A specific subclass of the enemy will be the Boss. This is the final level, and the boss will have different strategies towards beating the player
    - The Map class will generate each level and place the obstacles in the coordinates. When the level loads, it will use the data from the map class to place the obstacles.
    - For each level, there will be a modal app. Within this app, it will make the level, specifically the map features and generate all the enemies on the canvas. The modal app will monitor the movements of all the objects and transition to the next modal app when the level has finished. Each level will also display the player's health and score at the top.
- Algorithmic Plan:
    - Enemy AI
        - One algorithm that I will use to help the AI find the player and move to the best position will be a depth first search algorithm with recursive backtracking. I will separate the map into a row column grid and connect each node on the grid with the adjacent ones. The AI will start at the node it is currently at and run a DFS algorithm to the node the player is on to find the best way to get to the player
    - Level Generation
        - The idea behind the level generation is to place obstacles, which will be squares, in random locations and once all the objects have been placed,

check if there is a way for the player to move from the start of the level all the way to the end of the level using recursive backtracking and depth first search. As the levels increase, more and more obstacles will be added.

- Timeline Plan:
    - Creation of Players, Weapons, and Enemies, Collision logic, scrolling, and transition between Apps: 11/30/2020
    - Advanced Enemy AI: 12/3/2020
    - Level Generation: 12/5/2020
- Version Control Plan:
    - I will use google drive folders and title the folder I submit with a version number at the end
    - 

- Module List: None
- TP2 Update
    - Name: I changed the name of the game to “The Trials”
    - I won’t be using DFS for the enemy algorithm
    - I have one file that contains each level, which have similar methods, but different variables in them. I will use a modal app to control all the levels and transition between them
- TP3 Update
    - In terms of organization, I made a modal app for the whole game and I have one file with all the screens, one file with the level information, one file with the player information, and one file with the enemy information
    - I made it so that the user can input however many levels they want, and it will generate that many levels
    - I have implemented highscores
    - I will not have a boss level

- I have three types of enemies, one is a melee ghost, the other is a ranged attacker and the final one is a mortar