Project Description: Jerry's Great Climb is a video game with the objective of avoiding the bottom of screen by climbing stacked objects as they appear from the top of the screen. Your score is determined by what elevation is achieved each turn.

Competitive Analysis:

- There is one game online called Tetris'D on www.stickpage.com/tetrisdgameplay.shtml which is very similar to the idea I plan to implement. It is similar to my idea in that it has a falling object mechanic with a similar objective of climbing and rolling onto these falling objects. This game also specific screens for achievements, credits, and instructions. My game will be distinguishable because it will feature power-ups as described below as well as an option two player feature where the second player can control where and tetris pieces will fall.

Structural Plan:

- Objects:
    - Player
    - Piece
        - Rectangular pieces
        - Square pieces
    - Power-ups
        - Speed power up: increase sprint speed and jump height for a limited amount of time.
        - Second chance power up: allows the player to respawn at the same altitude they died at.
        - Slow down power up: slows down the rate at which the pieces fall from the top of the screen for a limited amount of time
    - App
    - Display Screen:
        - Home screen
        - Play screen
        - Instruction screen
        - Scoreboard screen
        - Credits screen
- Textures:
    - Player texture and sprite
    - Multiple piece textures (varied in color by type)
    - Power-up textures (varies depending on the power ups)

Algorithmic Plan:

- Trickiest parts of the project:

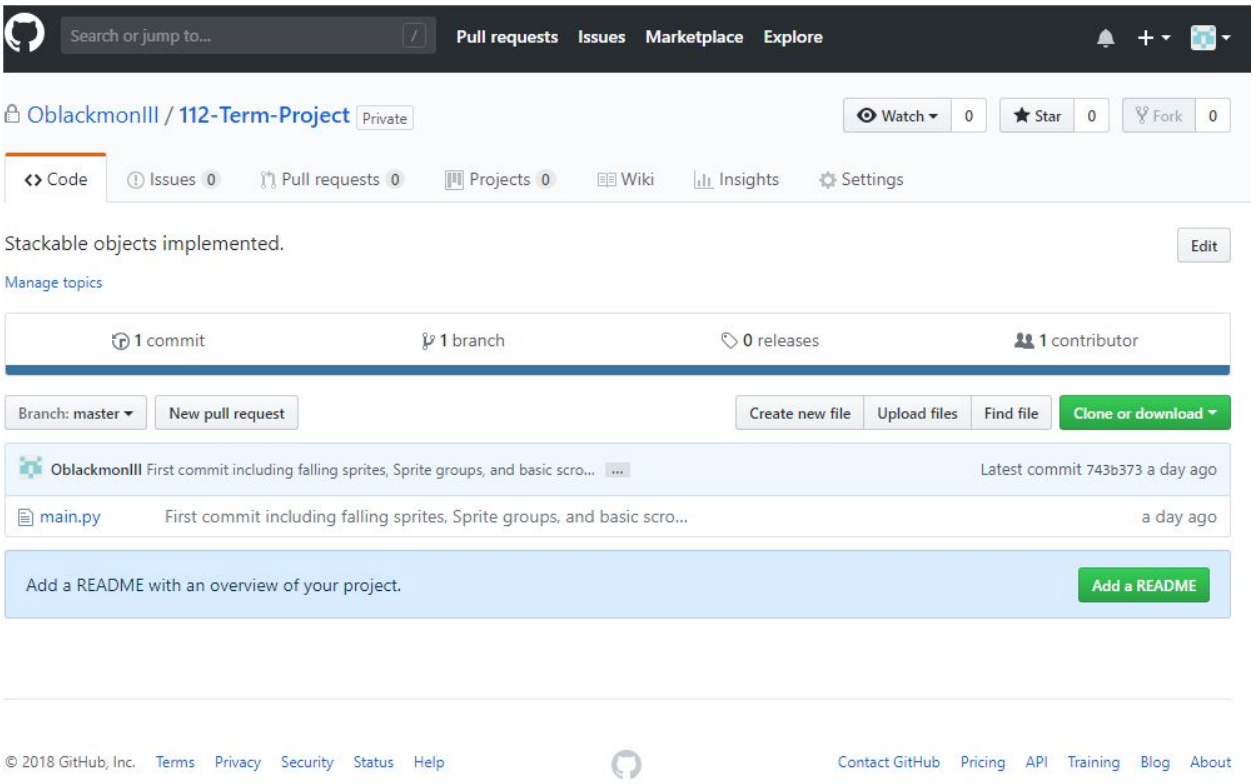
    - Climbing mechanic: The approach I am thinking about doing is making climbing automatic as long as the player presses side arrow and shift at the same time while next to the wall of a falling piece. For this I can program a simple animation to control the climbing.
    - Vertical scrolling: For vertical scrolling I am considering of having the viewport for the window be vertically centered on the players current position and then adjust as the player moves upward.

Timeline Plan:

- TP1:
    - Moving playable character with climbing capabilities and jumping
    - Falling stackable objects
    - Proper vertical scrolling according to the players position
    - Start Screen
- TP2:
    - Implemented 2 power ups.
    - Created Home screen, Play screen, and Instruction screen.
    - Implemented Scoring System
    - Added textures for the falling pieces, character, and background
- TP3
    - Implemented the last power up.
    - Created Scoreboard Screen and Credits Screen,
    - Added textures to the currently available screens
    - Added 2 player feature

Version Control Plan:

- I am using a private Github repository to backup my code.



Module List:

- Pygame

TP2 Update:

- Instead of having a scoreboard screen, I will display the highest score on the end game screen.