Tetris Program.

*How to run our program ?*

All instructions to run our program are stated in the readme.txt file which is included in our zip file.

*How to control our game?*

1. Right: D
2. Left: A
3. Down: S
4. Rotate clockwise: E
5. Rotate counter-clockwise: Q

*What is our program ?*

Our program is a fully functional Tetris that is connected to our local server. You can have up to 4 players per session. You can connect to other players rooms by sharing the URL of the room you are on. The room number is identified as the hash code which appears after the # in the URL. You can customize these rooms names by changing that code and refreshing the page, allowing for custom room names. When a player minimizes or has their browser in the background the Tetris game pauses. If a player would like to reset they can refresh the page they are on and they will start over with a fresh new board.

*How did we represent our data ?*

We represented our empty board with a matrix that is full of zeros. This means that any spot with a zero is “empty” and nothing is drawn on the canvas. We assigned unique numbers to specific colors to color code our pieces. Then to represent our pieces we created smaller matrices with different patterns to denote the specific shapes of Tetris such as the ‘Z’ piece or the ‘’T’ piece and so on. Each matrix with certain shape is assigned to its corresponding letter.We created a canvas to draw on. Every time a player places a piece, or a piece moves, we alter the boards matrix. As such,wherever there were 0’s are now other numbers, in the shape and position of the piece the player is using. If two non zeros collide then the piece can no longer move. When the piece drops and collides during the drop, the player’s piece is placed on the board (and the boards matrix changes to represent this), and a new piece is generated. Hence being able to stack the pieces, if the piece is colliding with zero it will continue to drop down at a steady rate. When the piece stops moving we use the built in randomize function to choose a letter from a specified number of characters which is the instantiated at the top of the screen.

*Session interaction:*

Each session is allowed a max of four players. Players connect to a session based on the hash in the URI. Everytime a piece moves, the score changes, the state of the board changes, or a client connects/leaves a session our server receives this information. The server then sends this information out to all the players in the same session as the piece it received said information from, and each player in the session sees this updated information accordingly.