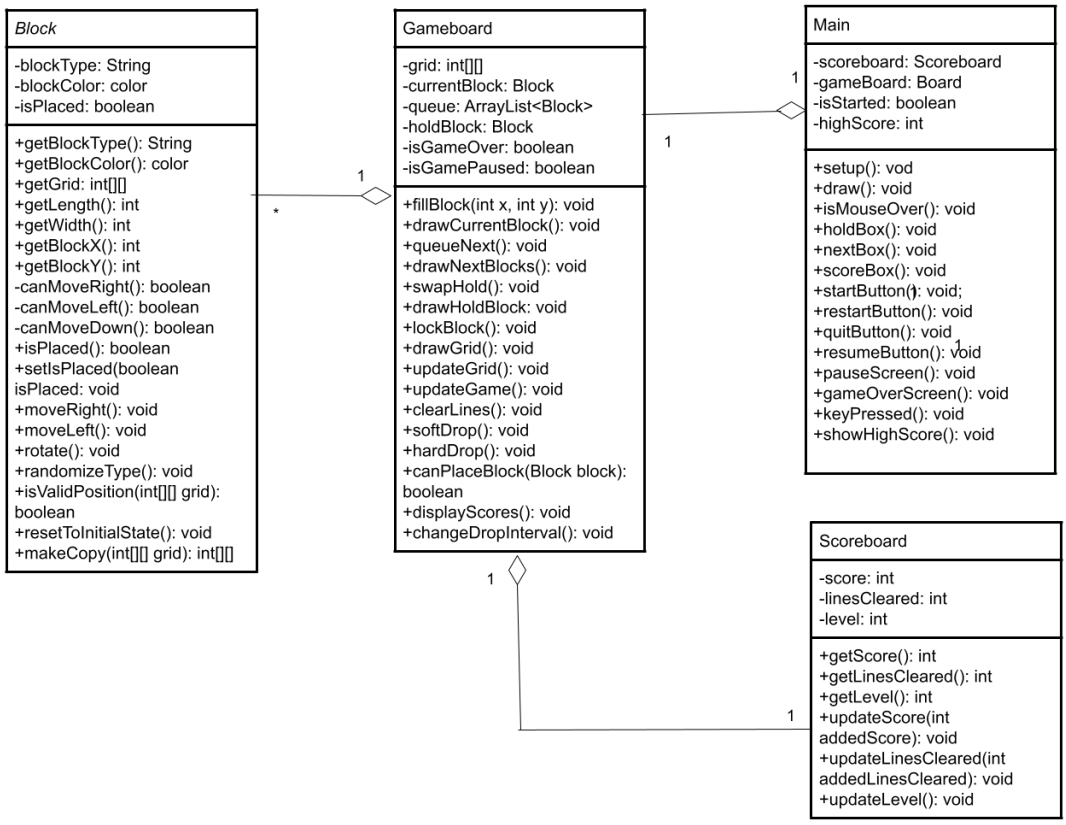
I. Intro

Period: 6
Group Members: Amelia Ng, Colyi Chen
Group Name: cheese chunks
Project Title: Tetris

II. Description

Our project is a recreation of the popular game Tetris, a game in which blocks are continuously stacked and destroyed. The objective of the game is to keep going for as long as possible and score the highest amount of points. We will need a start screen and a gameboard. During the game, players will need to be able to rotate blocks (which have seven different shape variations) and place them (either “hard drop” or “soft drop”).

III. UML Diagram



IV. How does it work?

The user will first press start to play. Upon start, the board, which is arranged as a grid, is clear. Random pieces that each take up four blocks drop from the top, coming down over time. Clearing rows of blocks by filling the row earns the player points. As the game goes on, the blocks will progressively start coming down faster. User controls include using the arrow keys to rotate and move the blocks, control to hold, the space key for hard drop, and the down arrow key for soft drop. The user can also press tab for a pause screen, which will show options to restart, resume, or quit the game. Quit and restart options are also shown on the "Game Over" screen when the user loses, as well as a high score display. On the sides of the gameboard, there is a hold box to store held blocks (option to swap a block out for another), a next box that stores the next blocks in the queue, and a score box that displays the user's score, level, and number of lines that they have cleared.

V.

VI. Log

<u>Main</u>:
setup(): Amelia and Colyi
draw(): Amelia and Colyi
isMouseOver(): Amelia
holdBox(): Colyi
nextBox(): Colyi
scoreBox(): Colyi
startButton(): Colyi
restartButton(): Amelia
resumeButton(): Amelia
quitButton(): Amelia
pauseScreen(): Amelia
gameOverScreen(): Amelia
keyPressed(): Amelia
showHighScore(): Amelia

<u>Block:</u>
getBlockType(): Colyi
getBlockColor(): Colyi
getGrid: Colyi
getLength(): Colyi
getWidth(): Colyi
getBlockX(): Colyi

getBlockY(): Colyi
canMoveRight(): Amelia
canMoveLeft(): Amelia
canMoveDown(): Amelia
isPlaced(): Amelia and Colyi
setIsPlaced(boolean isPlaced): Amelia and Colyi
moveRight(): Amelia
moveLeft(): Amelia
rotate(): Amelia
randomizeType(): Colyi
isValidPosition(int[][] grid): Amelia

Gameboard:
fillBlock(int x, int y): Colyi
drawCurrentBlock(): Colyi
queueNext(): Amelia
drawNextBlocks(): Amelia
swapHold(): Amelia
drawHoldBlock: Amelia
lockBlock(): Colyi
drawGrid(): Colyi
updateGame(): Amelia
clearLines(): Amelia
softDrop(): Amelia
hardDrop(): Amelia
checkBelow(): Colyi
changeDropInterval(): Amelia

Scoreboard:
getScore(): Amelia
getLinesCleared(): Amelia
getLevel(): Amelia
updateScore(int addedScore): Amelia
updateLinesCleared(int addedLinesCleared): Amelia
updateLevel(): Amelia