

Java Programming Final Project Report

Project Name:

The Tetris Game

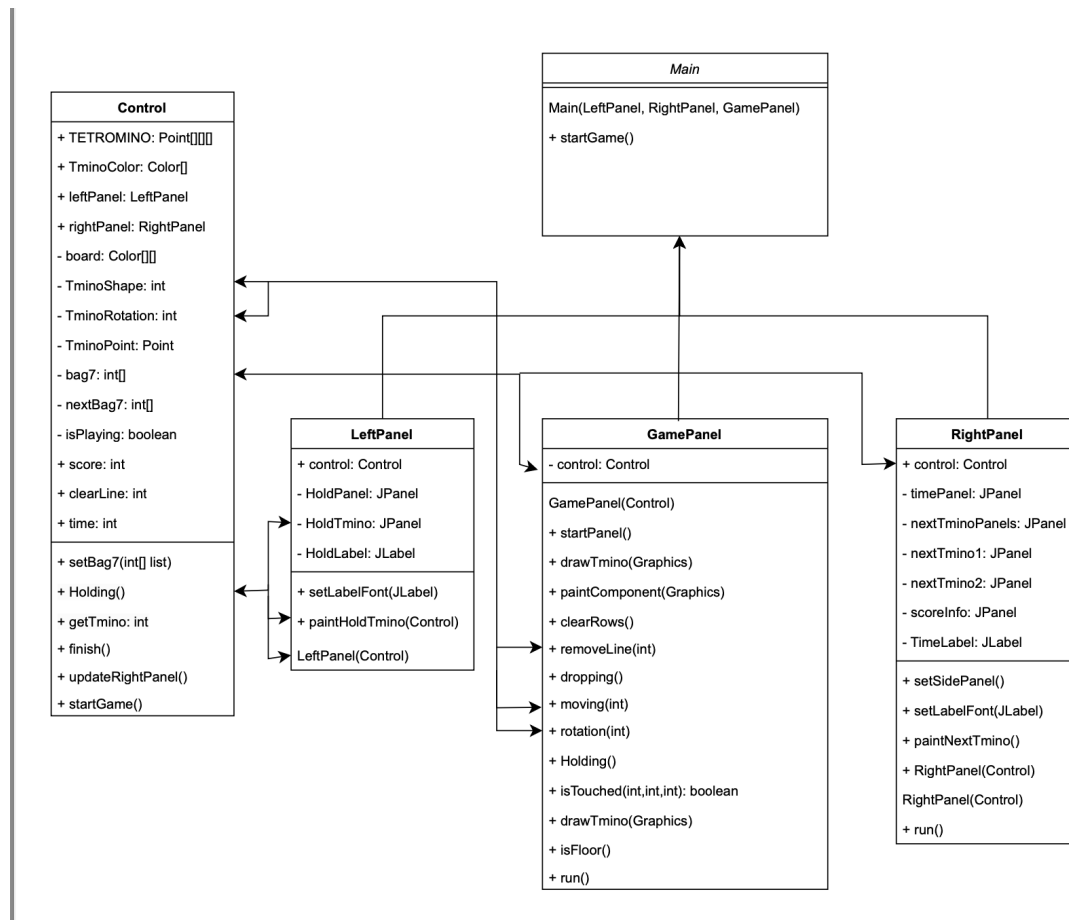
Project Members:

22300649 전경호

Project Description:

As is widely known, Tetris is a game that stacks and removes blocks. I designed this game using Java swing. This program has most of the features of Tetris. It includes the ability to move, stack, and rotate blocks, preview the next block, randomize the block arrangement, score, and time, all of which are visible to the user through the GUI. When creating the project, I focused on implementing the functional elements as much as possible, and referenced the Tetr.io site for instructions and features. There are seven blocks: I, O, T, J, L, S, and Z. Each block has a specific color and shape and is arranged randomly. There are seven blocks: I, O, T, J, L, S, and Z. Each block has a specific color and shape and is arranged randomly.

UML Diagram:



The UML diagram above shows representative methods in the class and a simple interaction between each method with arrows. There is no hierarchy between the classes. The Control class contains the basic information of the Tetris game, such as the user's score, time, and block shape, and the GamePanel class is in charge of the main board of the screen, which receives the block information from the Control class and outputs the screen. The LeftPanel is in charge of displaying the Hold block and Level, and the RightPanel is in charge of displaying the next block, time, score, and other information. The above panels are combined into one through the main class, and the main receives the user's key through the keyListener and changes the information in the Control class.

User's Guide:

The program works much like the Tetris game.

The following keys are taken from the Tetr.io site.

Left and right keys: Move the block

Up arrow key: clockwise rotation

Down key: lower the block

Space bar: lower blocks at once (extra points)

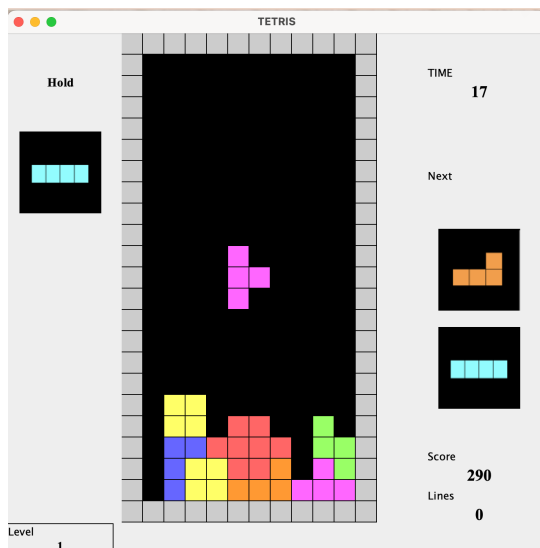
C: Hold (save block)

Z: Rotate counterclockwise

A : Rotate 180 degrees

You can use the keys above to play the game, and in keeping with the rules of Tetris, you'll need to keep the blocks from reaching the end by utilizing the fact that blocks disappear when they fill a row.

Screenshots



Project self-assessment:

While working on the project, I had a lot of difficulties in gathering information and mastering the grammars that I did not know such as Swing, Keylistener, etc. In addition, I regretted that I focused on the features and didn't pay attention to the design elements. I solved most of the errors, but I think it would be good to add several elements, such as shortening the time to recognize keyholds, displaying block shadows, and adding a wait time in isFloor to perform T-spin.