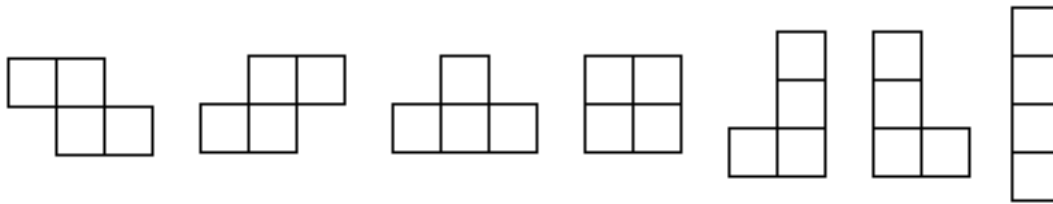# Tetris

Due Date: Midnight, September 20, 2019

Assignment

Your assignment is to begin to write the CSE 2102 version of the incredibly addictive game of Tetris. If you are not a Tetris addict, you should find and run a Tetris demo as soon as possible in order to see how the game works. There are many renegade versions of Tetris out there, with slight differences among them; we will try to follow the Tetris Guideline whenever possible. The visible playfield is 10 blocks wide and 20 blocks tall. For this deliverable, you will simply display one instance of each of the seven types of Tetriminos on the playfield.

The seven basic Tetris pieces: each is an arrangement of four connected squares.

Note: According to the Tetris Guideline, the type of Tetrimino determines its color. You should follow the following standard:

- Cyan I

- Yellow O

- Purple T

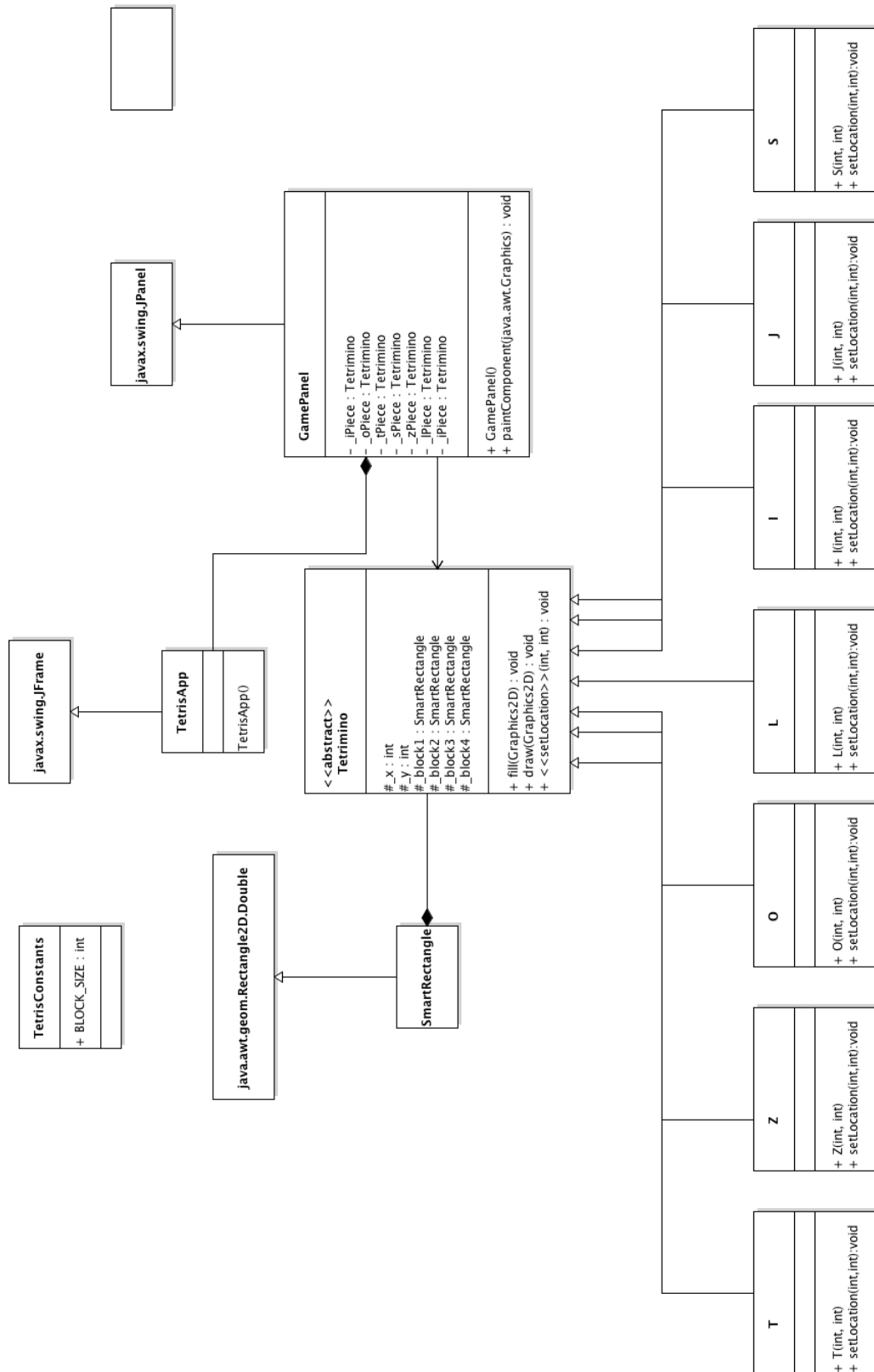- Green S

- Red Z

- Blue J

- Orange L

Figure 1: UML Class Diagram for Tetris Deliverable 1

Requirements

Your solution should satisfy the following requirements

1. Your solution should follow accepted OO design principles and follow the included UML Class diagram in Figure 1

2. The dimensions and location of all components should be relative to the BLOCK_SIZE constant defined in the TetrisConstants class. One should be able to change that one constant value and produce the game at different scales as shown in Figure 2.

3. The program window should also be relative to the block size constant. The window should be large enough to display the playfield which has a size of 10 blocks wide and 20 blocks tall.

4. The program window should not be re-sizeable. The title bar of the program window should display the text "Tetris"

5. Each Tetrimino should be composed of four SmartRectangle objects. You should use the SmartRectangle version of the SmartEllipse class provided in Lab 1.

6. Each Tetrimino subclass must implement its own setLocation method and use relative positioning to arrange its component SmartRectangles.

7. The component blocks of each Tetrimino should be colored according to the Tetris Guidebook as outlined above. Each component block should have a white border.

8. Your deliverable must display one instance of each of the seven types of Tetrimino and each must be fully visible within the dimensions of the playfield within the program window. You may position the Tetriminos on the screen wherever you like. However, no Tetrimino should be positioned at a location in which the component blocks of two Tetriminos overlap.

9. You must use the Git repository created on the UConn GitHub server by your instructor. All code must be shared via that repository. If you do not have access to the Git repository for your team:Log in to the UConn GitHub Server with your NetID and password to get an account set up. This must be done before you can be added to a project. Then, contact your instructor by email to be added to the appropriate repository as a collaborator.

10. **Include a text file in your repository which includes the list of tasks you used to divide the work, who was assigned to complete that task, and who worked on each task (you can specify a percentage of the task per person if more than one team member worked on a task).**

11. Once the project is complete, you must submit a copy of the Peer Assessment sheet and include everyone in your group for this project.
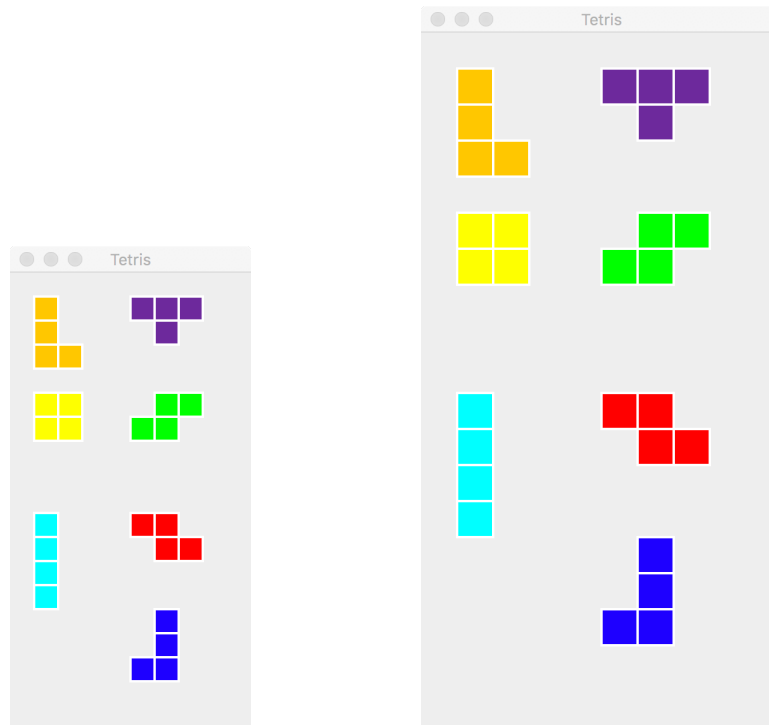
Figure 2: Tetris Deliverable 1 at two different scales. Blocks are shown at 20 and 30 px.

Note: My version of this lab averages about 40 lines of code per class. This includes opening and closing parentheses. If you find yourself writing a lot of code, stop and see if you can find an easier way.