FINAL PROJECT

The Tetris Game

NAME

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Class

Java Programming
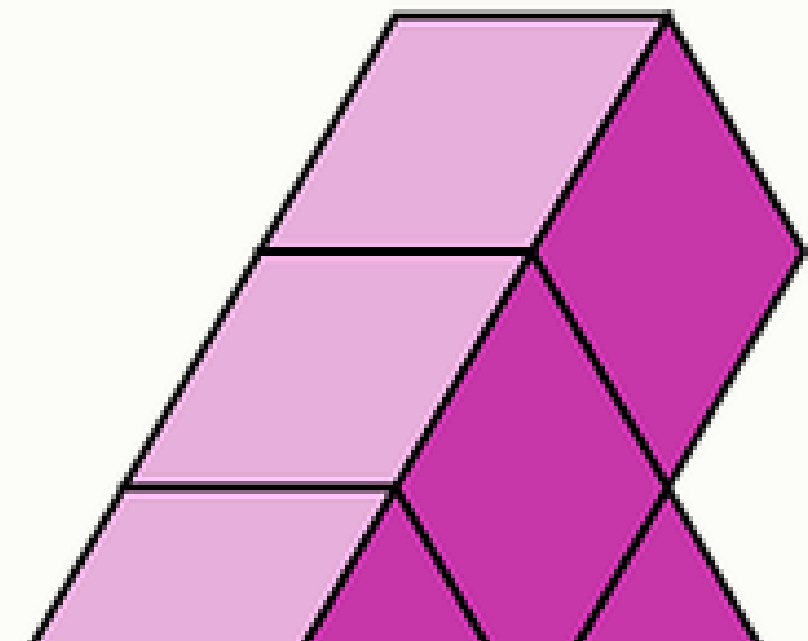
Date

2024.06.13

Contents
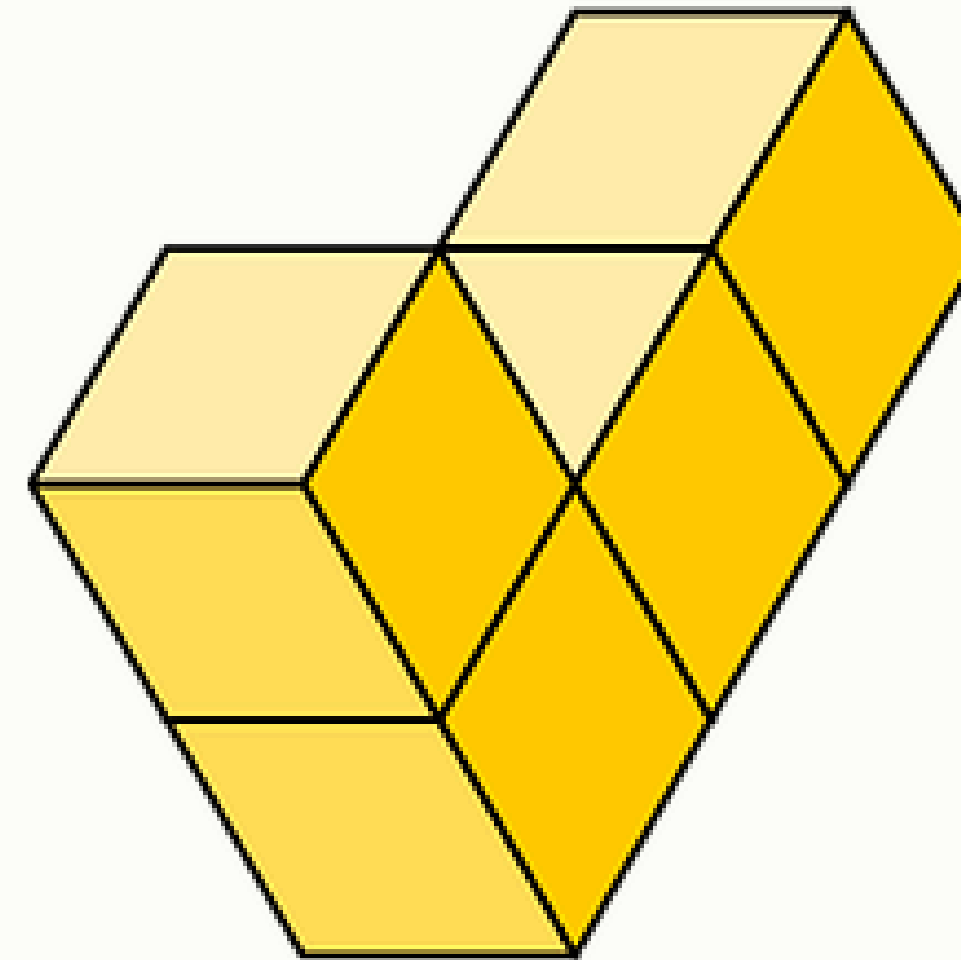
Tetris?

Tetris

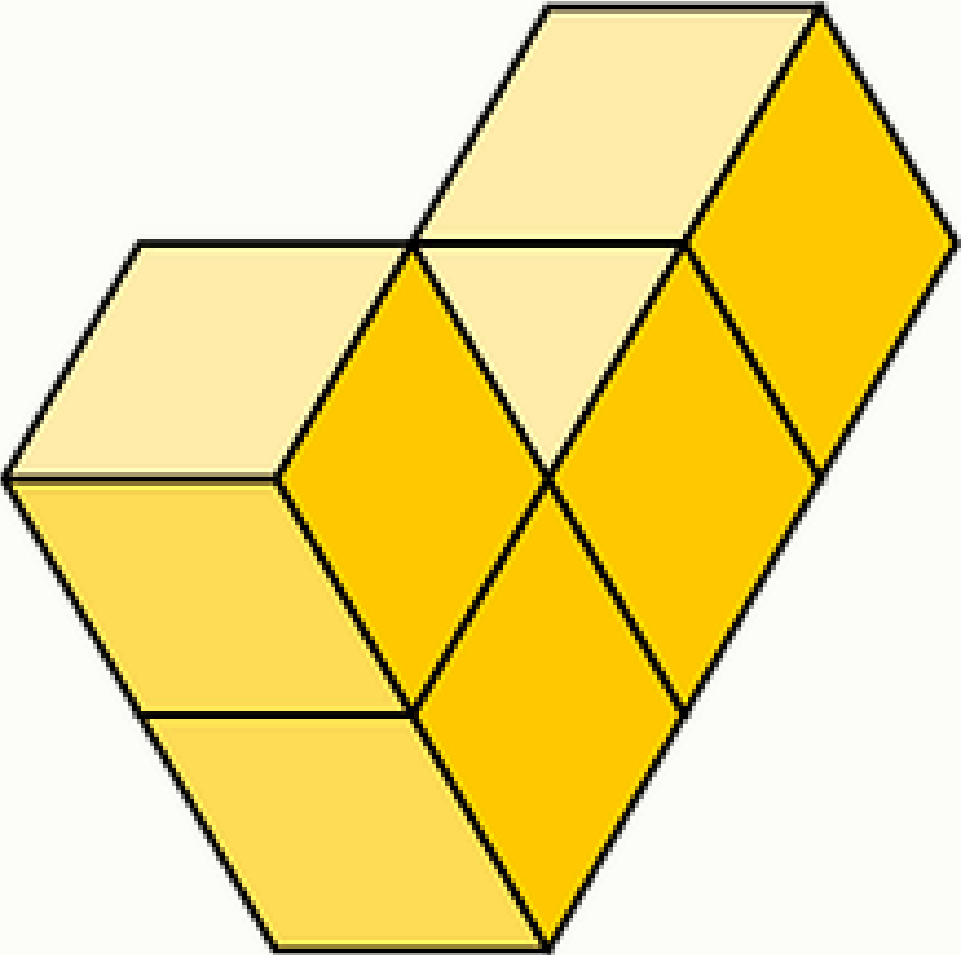Tetris is a puzzle video game created in 1985 by Alexey Pajitnov, a Soviet software engineer.

In Tetris, players complete lines by moving differently shaped pieces, which descend onto the playing field.

Step ★★★★★

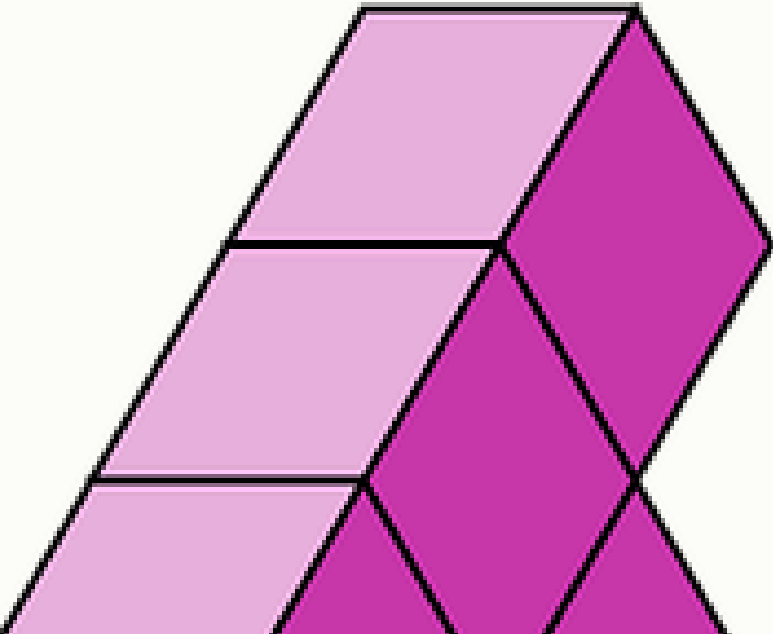# Why?

Why

I planned to make a game using GUI, and I wanted to implement Tetris, the most representative classic game and loved by many.
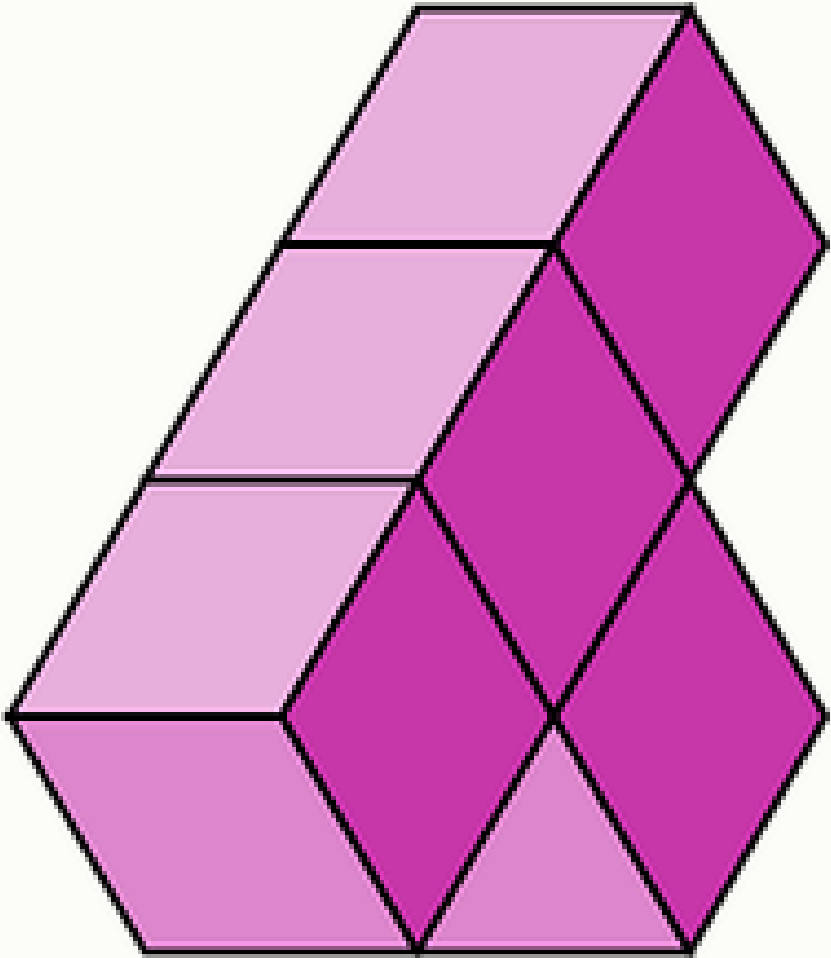
Step ★★☆☆☆

🎮Focus Point

So many rules

In Tetris, there are various rules such as block order rules and scores, and we want to implement those rules as much as possible.

I implemented Tetris by referring to the Tetr.io site.
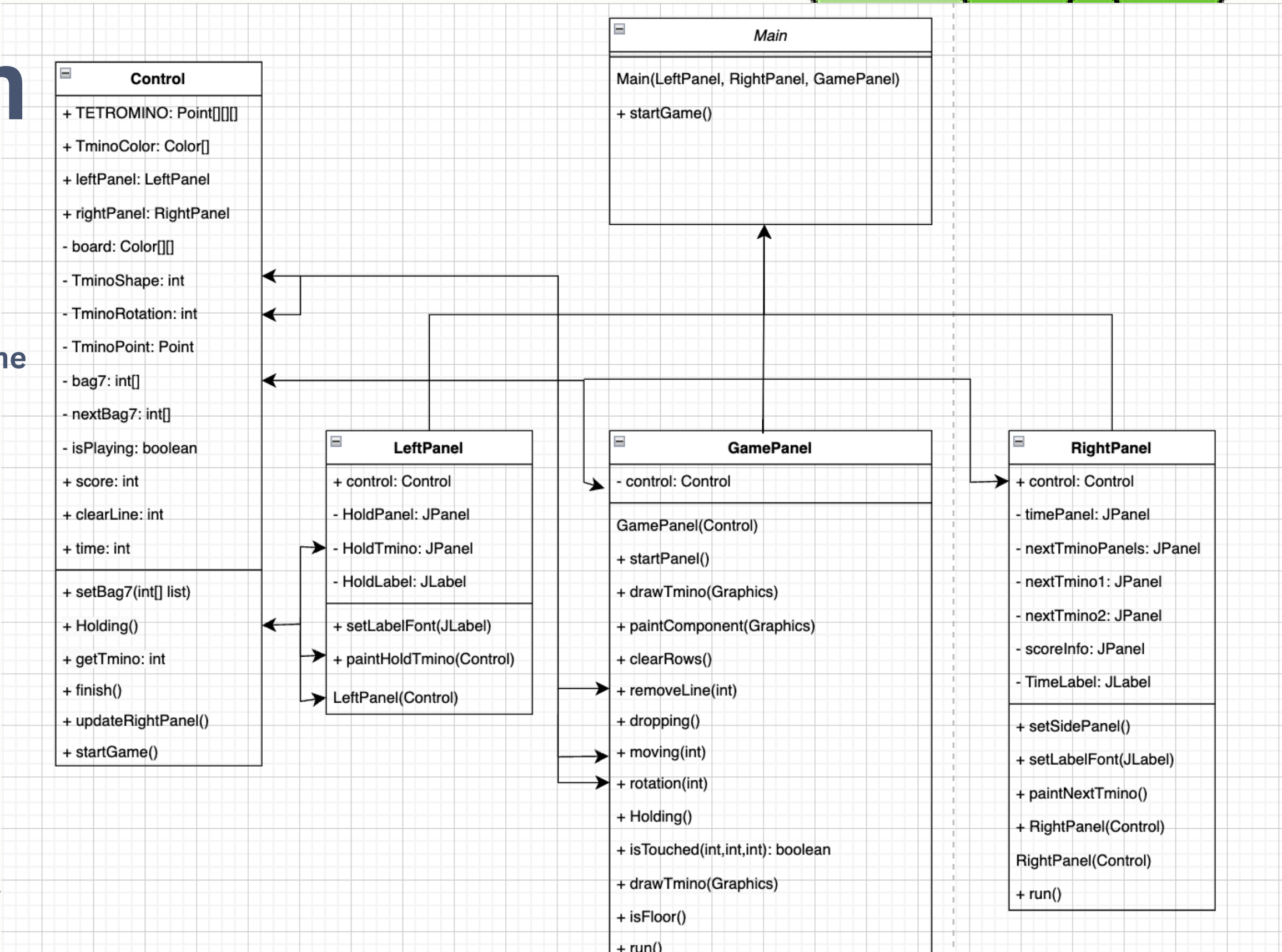
Step ★★★☆☆

UML Diagram

Control

Processing a variety of information in the game

GamePanel

**Main screen output
where Tetris games are played**

Left/RightPanel

**Screen that displays various information
such as hold block, next block, score, etc**

Step ★★★★☆

Main

Main(LeftPanel, RightPanel, GamePanel)

+ startGame()

Control

+ TETROMINO: Point[][][]

+ TminoColor: Color[]

+ leftPanel: LeftPanel

+ rightPanel: RightPanel

- board: Color[][]

- TminoShape: int

- TminoRotation: int

- TminoPoint: Point

- bag7: int[]

- nextBag7: int[]

- isPlaying: boolean

+ score: int

+ clearLine: int

+ time: int

+ setBag7(int[] list)

+ Holding()

+ getTmino: int

+ finish()

+ updateRightPanel()

+ startGame()

LeftPanel

+ control: Control

- HoldPanel: JPanel

- HoldTmino: JPanel

- HoldLabel: JLabel

+ setLabelFont(JLabel)

+ paintHoldTmino(Control)

LeftPanel(Control)

GamePanel

- control: Control

GamePanel(Control)

+ startPanel()

+ drawTmino(Graphics)

+ paintComponent(Graphics)

+ clearRows()

+ removeLine(int)

+ dropping()

+ moving(int)

+ rotation(int)

+ Holding()

+ isTouched(int,int,int): boolean

+ drawTmino(Graphics)

+ isFloor()

+ run()

RightPanel

+ control: Control

- timePanel: JPanel

- nextTminoPanels: JPanel

- nextTmino1: JPanel

- nextTmino2: JPanel

- scoreInfo: JPanel

- TimeLabel: JLabel

+ setSidePanel()

+ setLabelFont(JLabel)

+ paintNextTmino()

+ RightPanel(Control)

RightPanel(Control)

+ run()

Demo

Key

←, →: Moving block

↑ : Changing rotation

space : Dropping the block right away

c : Holding

Step ★★★★★