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Homework 2

# Best Practice

1. Modularity (Remove DRY code, replaced with OpenClose methods)

* Replace hardcoded win conditions with Computing Algorithm
* Function’ lengths are shortened to at most one screen

1. Open Close Principle (Game can be expanded to nxn size)

* Game can be expanded to NxN size upon initialization without changing any internal variable
* Minimize the need to modify old functions when the app is developed further

1. Magic strings/numbers are replaced with Static String
2. Encapsulation: All fields are set to Private; fields now can be accessed via Setter and Getter

# Composite Design Pattern

First we need to split RowGameUI constructor into smaller functions:

A screenshot of a computer

Description automatically generated

Text

Description automatically generated

These two new functions will be constructor of two new classes RowGameBoardView and RowGameStatusView, respectively. The fields for RowGameBoardView are

private RowGameModel gameModel = new RowGameModel();

private JButton[][] blocks;

update method will update the blocks from gameModel and update blocks from View

and RowGameStatusView

private RowGameModel gameModel = new RowGameModel();

private JTextArea playerturn = new JTextArea();

update method will update the Component C text area from gameModel and text area from View

# Observer Design Pattern

Field that corresponds to an Observable: blocksData

Java Swing that corresponds to its Observer: JButton blocks

Implementation of update method: addActionListener