CMPT 276 Assignment 4

Code Review

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Bad/Confusing Variable Names

Constant variables were named inconsistently, leading to developers not being able to differentiate a constant variable from a mutable one. In order to fix this issue, any offending variable names were simply renamed to fit a decided standard (ALL_UPPER_SNAKE_CASE).

Example: the constant variables in GamePanel.java used to all be camel case and indistinguishable from normal variables.

Reference Commit: 9637a22 (main branch)

Badly Structured Project:

Prior to refactoring, our project directory essentially followed this structure:

Main
- Characters Package
- Rewards Package
- Tile Package
- Other .java files

By restructuring our project structure so that related classes are found together inside well named packages, organization of our project improves and relevant classes

Reference Commit: a9280b2 (main branch)

Dead Code

CollisionChecker was not used in the project, since we already have a working collision method, therefore we can delete the CollisionChecker class. It will probably be better to fix it and get it working, however, we already have a working one.

Reference Commit: b4ba12a (develop branch)

Lack of Documentation

The PathFinder.java class lacked any documentation. As a result, following the code was difficult for anyone not directly involved in implementing it. In order to fix it, documentation was added to the class.

Reference Commit: 7bd36c1 (main branch)

Unnecessary if/else or switch/case statements

Replaced multiple if-else conditions with a switch for better readability and maintenance, since switch statement provides a clearer and more concise way to handle multiple cases based on the 'lastDirection'. It also enhances readability by explicitly stating each case and the corresponding action, making the code easier to understand at a glance. We also included a safeguarding mechanism to handle cases where the currentFrameIndex might be out of range.

Reference Commit: 4223832 (main branch)

Code Duplication

In the StartMenu.java class, the code for creating new buttons and action listeners is duplicated every single time a new button is added, causing large amounts of code duplication. In order to minimize this, one method for button creation was added, and logic for each button was delegated to their own logic methods. This refactoring led to far more lines of code being deleted than inserted.

Reference Commit: 88fee34 (main branch)

Confusing Class Hierarchy

Originally, our class hierarchy had the Punishments.java class extend off Rewards.java, as we initially thought that much of the logic would be the same. However, implementation of the Rewards logic diverged too far from how Punishments would be implemented. Punishments extending Rewards also does not make sense from an "Is a" perspective as a Punishment is not a Reward. We fixed this by refactoring both Rewards and Punishments to extend off a parent class, Actor (later renamed to StaticEntity).

Reference Commit: 6b2f837 (this is for Punishment.java; main branch)

Unused Variables

The score variable was unused within our program. We removed the score variable from the game class because the score variable is implemented somewhere else.

Reference Commit: 7f4ec4e (main branch)