Testing Features

Using the JUnit testing was beneficial to ensure the individual class components were behaving as intended. For testing the overall functionality of the game, it was easier to simply have multiple playthroughs of the game itself. However, setting up test cases was a good opportunity to sift through the code and refactor any inefficient design patterns and remove unused variables/methods.

MainCharacter

- testing when object of this class is created
    - ensure attributes are set to their expected values
- test that when a reward is collected by the player, object's reward tracker is updated (increments successfully)
- test that when a player moves up or down, the coordinate system is updated

Chaser (Enemy component)

- testing when object is created
    - test it's graphic image is not null

Legless (Enemy component)

- testing when object is created
    - make sure graphic image is not null
- test that enemy does expected amount of damage to player score upon collision

GamePanel

- testing when object of this class is created
    - test if enemies generate on the player
    - test if medkits generate on a player

Findings

After writing and running our tests, we noticed a few bugs that we were unaware of when running the game. We definitely made some changes such as code refactoring but as well as fixing some bugs. One of the bugs that were revealed was that the zombie was generating on the players tile so the game would instantly lose. This only happens occasionally as the generation of the zombies are random. We also noticed that non moving zombies were spawning on the player and subtracting points but the game was instantly ending as well. Sometimes the player would even spawn right on a medkit so the points were instantly added to the players score and there would only be 4 medkits left to collect. There were no errors with player movement but while testing, we changed the way the zombies moved per tick and there was a bug that was discovered that allowed the zombie to walk through the walls. We are still working on fixing that but we would update the test suite once we have that debugged.