Code Review - Assignment 3

1. Long Method - keyPressed in Input Class
   - Divided the long method into two smaller methods: menuKeyPressed(int) and gameKeyPressed(int).
   - menuKeyPressed registers the key pressed during the main menu and changes the game state accordingly.
   - gameKeyPressed registers the key pressed during the game and moves the gatherer on the game window accordingly.

2. Duplicate Code - CollisionChecker Class
   - Extract Method - setCollsion(boolean, Entity): Sets collision of Entity based on the value of the boolean parameter.
   - Extract Method - areaAndSpeed(Entity): Update solid area of Entity according to the direction
   - Refactored code which reduced the line count by 100 lines.

3. Data Clump - GameWindow
   - Create two new methods: setPrimitiveVariables() and setVariables()
   - All member (primitive and non-primitive) variables are declared in the class with the appropriate access modifiers and the default values of the variables are set in the functions.
   - This change reduced the declaration and initialization of the variables at the beginning of the class from 58 lines to 31 lines and allowed the code to be more modularized.

4. Long Method - draw_menu_screen() in UI Class
   - Split up the draw_menu_screen() method into two more methods: menu_options() and controls()
   - menu_options() displays the options at the start of the game
   - controls() displays the controls for the game at the bottom of the menu screen

5. Unused/Redundant variables - multiple classes
   - Deleted all unused variables in classes such as GameWindow, UI, etc. that
   - Refactored redundant variables so that no additional memory space is taken up

6. Poor Code Structure - Gatherer Class
   - update() method refactored with minor fixes such as simplified if statements and reordering booleans
   - draw(Graphics2D g2) method cleaned up using an enhanced switch statement for better cohesion

- Deleted some commented/unused lines of code