For this assignment, I continued to practice MVC design on a more complex program. I experimented with new Java syntax and functionality, including for and while loops, array lists, 2D arrays, scanners, and readable and appendable interfaces. I also learned how to intake input from the user directly rather than scripting the program in the main file.

Additionally, I learned two different ways of implementing the program model: one which utilized lists and the other which acted on the 2D array more directly. My final program is an amalgamation of those two directions, which might run contrary to the recommendations from SOLID principles. Some of my methods are interdependent and have a degree of shared responsibility (move and getBoard). However, I found that using lists helped prevent a user from changing the game board directly and cheating, while acting on the 2D array directly created a more straightforward and easy-to-read programming experience.

This program encourages future growth by using readable interfaces, which allow the user to change the controller’s source of input. It also uses MVC design and interfaces. Interfaces create a basic framework that the programmer can easily update or customize without affecting core functionality. MVC design also allows for easy modification since each section is independent of the other, therefore you can make one change without having to rework your entire program. Additionally, MVC design encourages faster development and makes for easier planning and code maintenance.