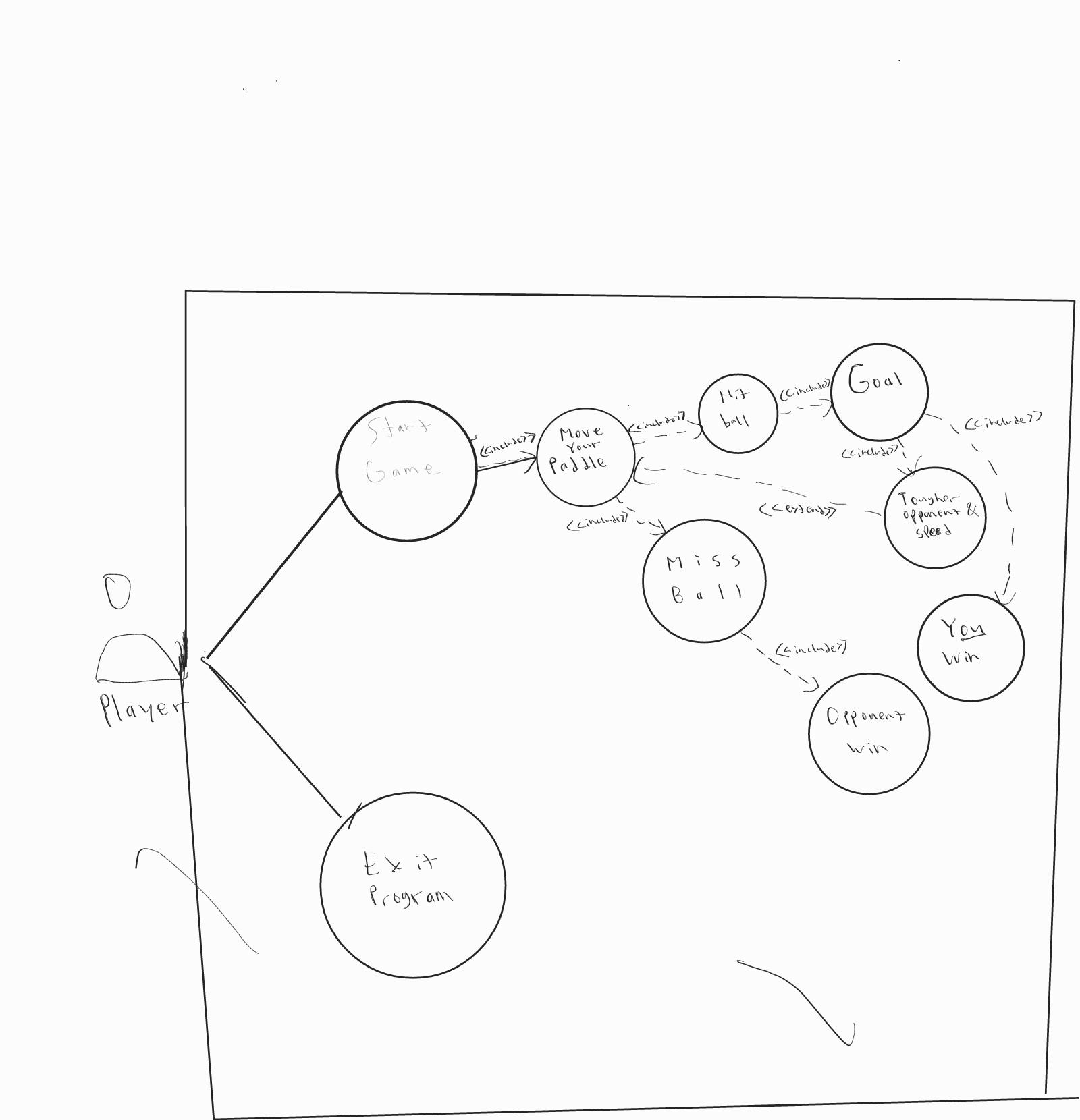
1. Brief Description

My project is a classic pong game, in which the gameplay consists of a ball bouncing around the screen with 2 paddles (one for the player and the other for the AI) moving across the edge of the screen to keep the ball from touching their goal side. The code is relatively simpler than other games, since it is comprised of less than 10 objects. However, as you score more, the game gets tougher until you reach the winning score, which is 10 points.

1. Use-case Diagram

The following is the use-case Diagram for the game:



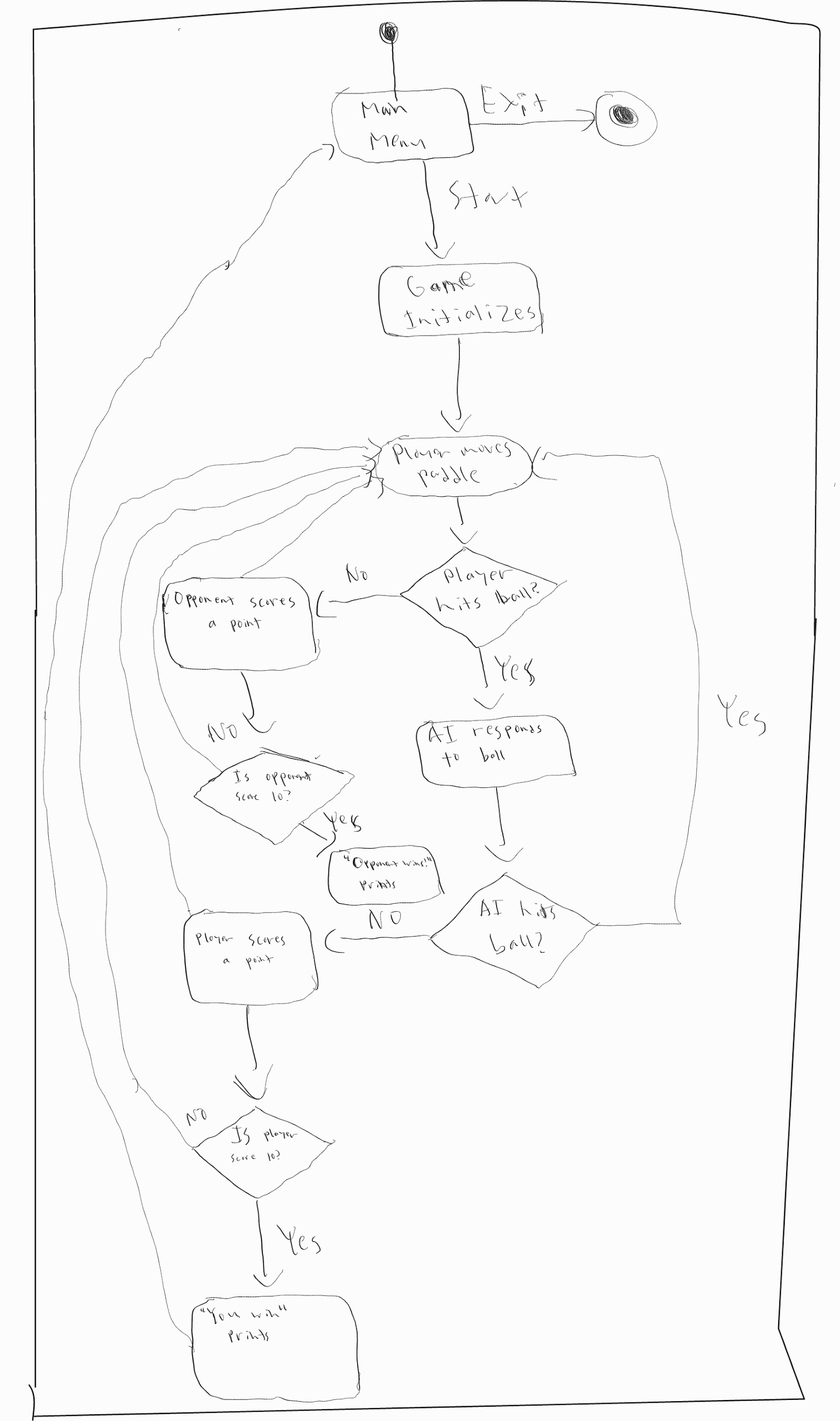
As shown in the diagram, there are only 2 options in the menu, which are “start game” and “end game”. You can start the game by pressing the “A” key. When the game is started, you will see 2 paddles, one for you, and another one for the AI. The ball will either go to your side, or the AI’s side. If you catch the ball, it will be bounced to the AI’s side. The AI will try to catch it. If the AI catches the ball, it will be bounced back to your side. Else if the AI fails to do so, the game will pause and give one point to you. Keep in mind that the more you score, the opponent and the ball will be faster, making the game tougher. However, if you fail to catch the ball, the AI will score one point.

If you or the AI score 10 points, then you will win the game, with the text “You win!” appearing on screen and the text “Opponent wins!” if the opponent wins, after either, you will be redirected to the main menu.

If you choose to exit the program by pressing the “X” key, the program will terminate.

1. Activity Diagram

Here is the activity diagram as shown below:



1. Class Diagram

Apparently, the game does not use classes, yet it still works fine.

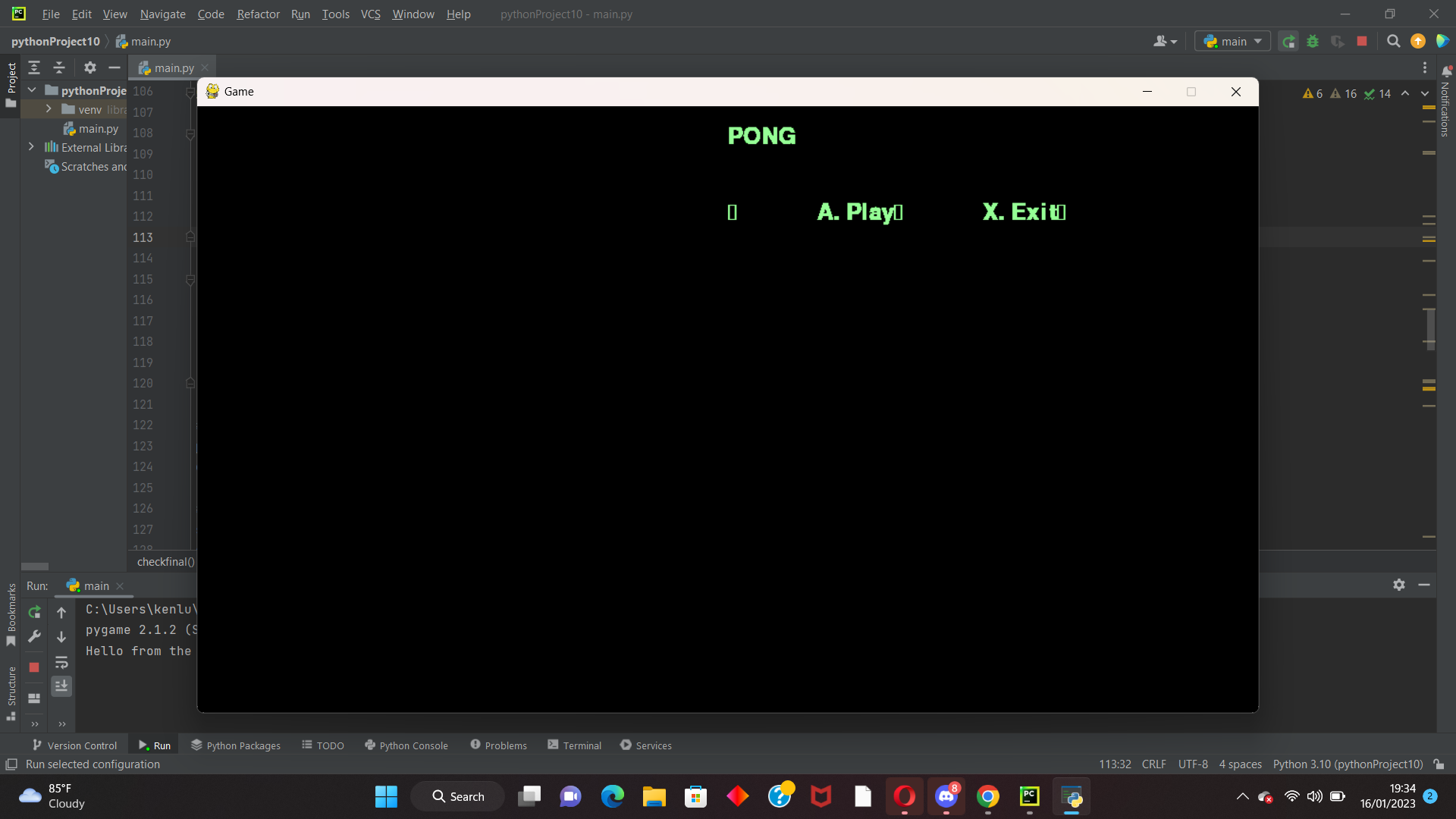
1. Modules

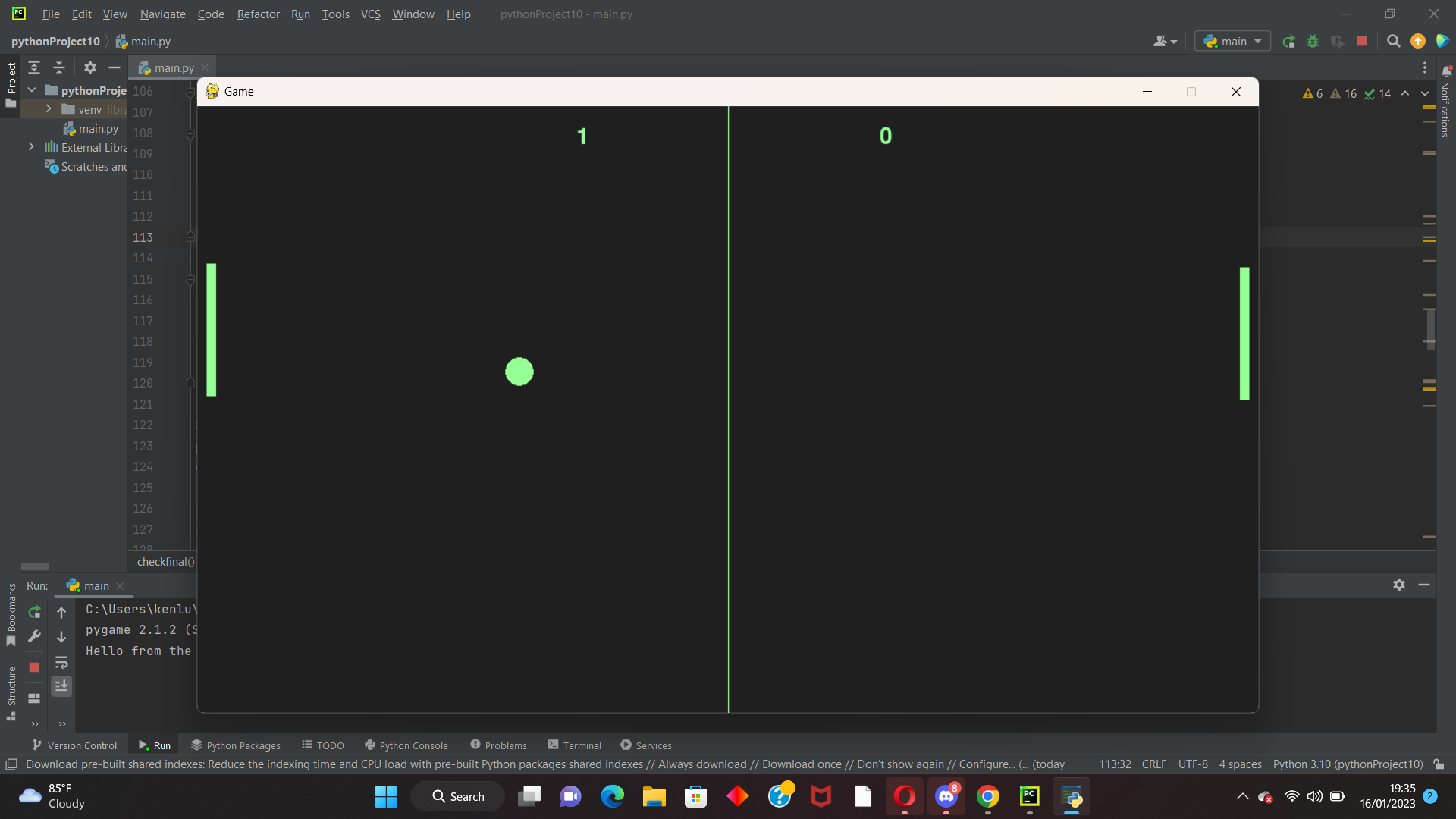
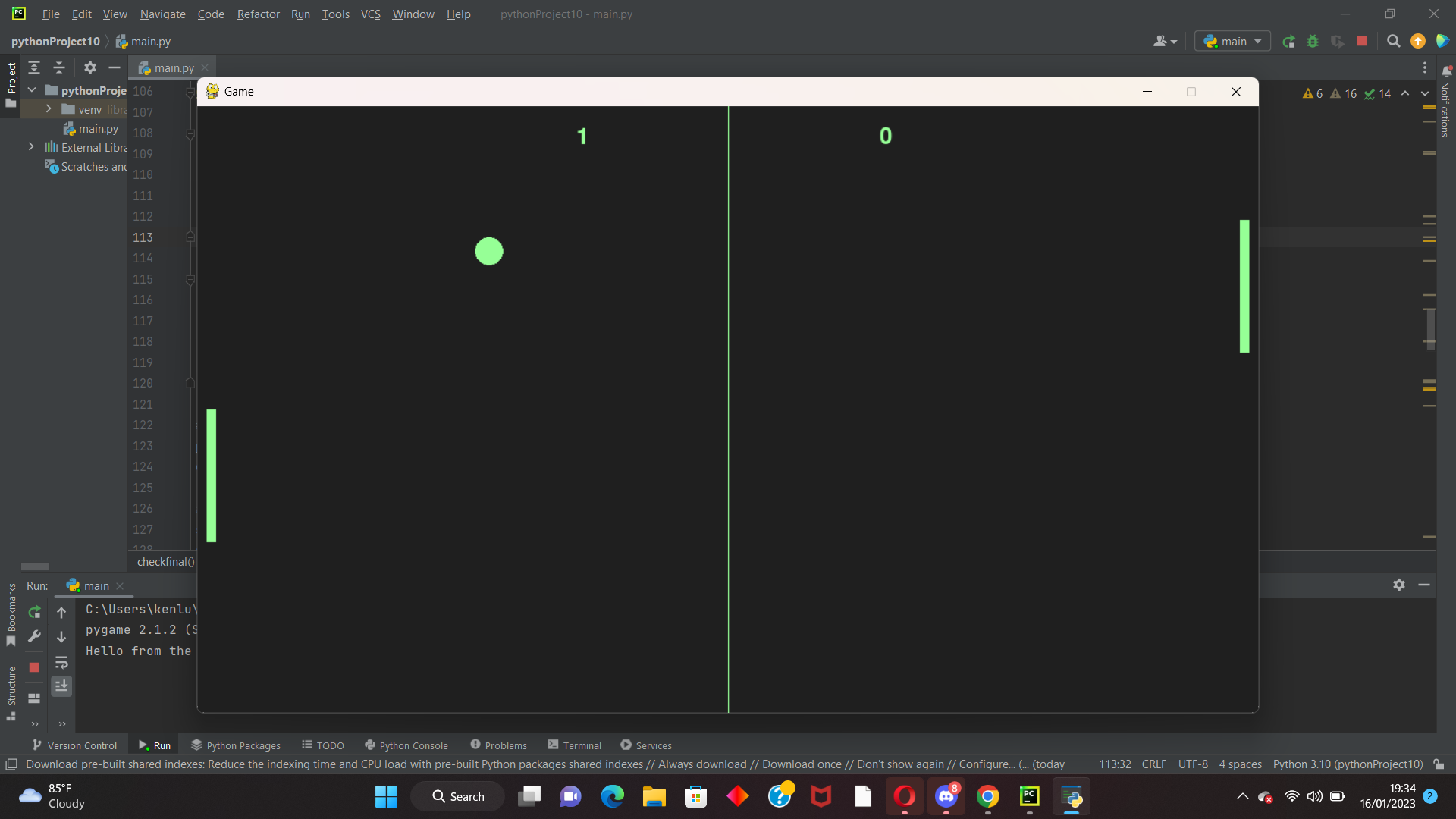
These are the modules I used for the game:

* pygame
* Sys
* random
* threading
* Time

1. Essential Algorithms
2. Screenshots of Application

Here are the screenshots of my application:





H. Lessons Learned / Application

From here, I learned a couple of things. First is learning how to make video games. Second, and the most important one, is to learn how to be disciplined, to plan and execute tasks properly. I need a major improvement in time management and discipline. I learned the lesson that I should hustle for the assignments effectively from the beginning of the assignment. In short, I need to be disciplined for the next time.