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<u>Project 1</u>

For my project, I recreated the well-known Atari game Pong in a 2D Unity3D space. I coded the game to have it be player versus the "AI" of sorts. I created the paddles and ball using default game objects and just adjusting their positions and scaling. I then added the Rigidbody2D and Boxcollider components to the paddles and ball so that the ball would not go through the paddles or walls when in movement. I also created empty objects in order to make walls around the scene that the ball could bounce off by also adding a box collider component.

For the gameplay, I coded for the player's paddle to be controlled by both the 'W' and 'S' buttons as well as the up and down arrows on a keyboard. The computer paddle is controlled by simplified "AI" like code that has the computer track the ball when it is hit to a certain spot on the right side of the playing field. Once the ball in is those parameters the computer paddle with follow-up on it until it serves the ball back. Once the ball is served back the computer paddle will idle in the middle area of its side until the ball is returned back to it. The ball is set to go in a random direction every time the game starts and will also be reset to the center of the playing field if it hits the left or right walls.

For the User-Interface (UI) I created a game manager (pong manager in my Unity) in order to track the score when the ball would hit an opposing wall. Every time the ball collider with the wall's box collider the opposite side's score text would go up by 1 point and then the game will restart. After I coded that in the game manager I tested the

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game's functionality in the test runner and it passed all its tests. Overall this was an

interesting project and I did enjoy it when the code would work without error.