For my project I choose the first option of making a game in a game engine. I was not familiar with any of the engines you suggested. After few research on this list I decided to use unity. I downloaded unity and spent several hours on understanding its features and reading about it. Watch several YouTube videos too, to understand how the engine works and the features it provides.

One of the simple ideas I got on what game to make was flappy birds. I made this entirely from scratch. First time using a game engine and designing a game, I was impressed. I took random pictures from the internet for the bird and pipe.

Watched hours of YouTube videos on how to do this. I understood the gravity effect, friction effect, adding velocity and what not. After familiarizing myself with Unity's interface and basic functionalities, I began by creating the essential components of the game. I utilized Unity's sprite renderer to import and display the images of the bird and pipes that I had gathered from the internet. These images were used as sprites within the game to represent the characters and obstacles.

To ensure collision detection and interaction between game elements, I employed Unity's circle collider component for the bird and pipe game objects. This allowed me to define the areas where collisions would be detected accurately. The circle collider was chosen for its suitability in detecting collisions with the circular shapes of the bird and pipes. (I know my image wasn’t quite circular)

For implementing the game logic and behaviors, I utilized C# scripting within unity (it uses visual studio 2022). Through scripting, I established the mechanics of the game, including gravity effects on the bird, its ability to jump upon pressing the space bar, and the spawning and movement of pipes.

The script responsible for the spawning of pipes managed their generation at specific intervals or positions within the game world. I wrote a script for random pipes size generation, but I was very random as shown in my video. I wanted to solve this problem but due to time I think I have not been able to achieve all I had in mind. I actually wanted to add another script for score and end game, if had enough time would have definitely worked on it. I would have wanted to also add a audio source for sound effects like collision sound and wings sound

Throughout the development process, I encountered challenges that required problem-solving skills and a deeper understanding of Unity's documentation. Debugging scripts, optimizing performance, and refining the gameplay experience were continuous tasks that contributed to the iterative development of the game.