Assignment Objective

This assignment aims to evaluate your understanding of foundational game development concepts, Unity setup, and the 2D Shooter game development pipeline. By completing this task, you will demonstrate your knowledge of how games are designed, developed, and managed in real-world environments.

Assignment Structure

Section A – Introduction to Game Programming

Q1. Define *Game Programming*. Explain how it differs from traditional software development.
Q2. Discuss the main components of a game loop and explain their role in a 2D shooter game.

Section B – Game Design and Development Process

Q3. Explain the complete *game process* from concept to deployment. Highlight the key phases involved.
Q4. "How are games made?" — Discuss this statement by describing the main stages of game creation and the collaboration between design, coding, and testing teams.

Section C – Roles and Team Structure

Q5. Elaborate on the **role of a Game Designer**. What are the designer's responsibilities during pre-production, production, and post-production?
Q6. Identify and describe the major roles in a **Game Development Team**. How do these roles interact to ensure project success?

Section D – Challenges, Costs, and Limitations

Q7. List and explain any **three cost-related and three technical limitations** commonly faced in 2D game development.
Support your answer with relevant examples.

Section E – Game Engine and Unity Setup

Q8. Define a **Game Engine** and discuss its purpose in game development. Provide examples of two popular engines and compare their features briefly.

Q9. Write a short overview of the **Solar System Project**. Describe how such a project helps beginners understand Unity's environment and object hierarchy.

Q10. Explain in proper sequence the **steps to download and install the Unity platform**, including Unity Hub setup and version management.

Q11. Describe the process of **creating a new Unity project** and **importing assets**. Explain the importance of managing project folders and assets effectively.

Q12. Discuss the **Unity Editor interface**, labeling the main panels (Scene, Game, Hierarchy, Inspector, and Project). Briefly explain what each is used for.

Due data of Assignment Submission: <u>31-10-2025</u>