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HW 3 Written Questions – Game Development

5a) Explain the process of detecting collisions within Unity in a few sentences:

Every GameObject that will be detecting collisions must have the collider component enabled (ex. BoxCollider). At least one of GameObjects participating in the collision will also need to have the Rigidbody component enabled. The Rigid Body component allows a GameObject to act under the control of Unity’s Physics engine, which enables realistic physical behaviors like collision. Depending on how the game developer sets things up, GameObjects can exhibit different behavior when colliding (ex. both GameObjects may move when colliding or one GameObject remains in its position even when another is colliding against it).

5b) True or False: When the same C# script is added as a component to multiple game objects to detect collisions, each game object detects its own collisions without interfering with the collisions of the other game objects. Justify your answer:

It’s true because each GameObject has its own instance of the C# script that it refers to. Also, each GameObject has its own collider component and when the script interacts with this component, it only detects collisions for that particular instance of the GameObject. Moreover, if the GameObjects are independent of each other, then their associated script is also independent of other scripts. Lastly, when there’s a collision, the script only gets collision data for the instance of the GameObject it’s associated with.

5c) Explain the use of the GetComponent method within Unity:

The GetComponent method is used to get a reference to a component of type T attached to a GameObject. Syntax: GetComponent<T>().