[B-7] Collision Basics

Objective

To learn how to detect collisions between objects in Unity and implement basic responses to these collisions.

Tasks

1. Add a rigidbody component to the white cube object, and TURN OFF gravity. In unity, collisions happen between rigidbody objects.
2. The purple ball has a rigidbody and will move left and right with the arrow keys.
3. Edit the “CollisionDetection” script so that the cube reacts to collisions with the sphere.
    a. On collision, change the color of the cube to become red, and print the name of the object that is colliding with the cube.
    b. When they are not colliding anymore, revert the color of the cube back to white.

Answer key next page!

Answer Key

```
using UnityEngine;

public class CollisionDetectionSolution : MonoBehaviour
{
    private Renderer renderer;

    void Start()
    {
        renderer = GetComponent<Renderer>();
    }

    void OnCollisionEnter(Collision collision)
    {
        // Change color upon collision
        renderer.material.color = Color.red;

        // Optional: print the name of the collided object
        Debug.Log("Collided with: " + collision.gameObject.name + "\n");
    }

    void OnCollisionExit(Collision collision)
    {
        // Revert color when collision ends
        renderer.material.color = Color.white;
    }
}
```

Starter Code

```
using UnityEngine;

public class CollisionDetection : MonoBehaviour
{
    private Renderer renderer;

    void Start()
    {
        renderer = GetComponent<Renderer>();
```

```
    }

    // Change the color of the sphere when it collides with another object,
    // and print the name of the collided object


    // Revert the color of the sphere when it stops colliding with another
object
}
```