

[B-1] Move a ball

Objective

Learn how to move objects in Unity using vector math, while adhering to defined boundaries.

Challenge Statement

1. Scripting Movement:
 - a. Edit the “Move” script to move the object using vector operations.
 - b. The script should allow the object to move in different directions based on user input (e.g., arrow keys or WASD keys).
 - c. Use the z-axis for forward and backward movement. Use the x-axis for side movements.

Answer key next page!

Answer Key

```
using UnityEngine;

public class ObjectMovement : MonoBehaviour
{
    public float speed = 5.0f;

    void Update()
    {
        float moveHorizontal = Input.GetAxis("Horizontal");
        float moveVertical = Input.GetAxis("Vertical");

        Vector3 movement = new Vector3(moveHorizontal, 0.0f, moveVertical);
        Vector3 newPosition = transform.position + movement * speed *
Time.deltaTime;

        // Ensure the new position is within boundaries
        newPosition.x = Mathf.Clamp(newPosition.x, -10f, 10f);
        newPosition.z = Mathf.Clamp(newPosition.z, -10f, 10f);

        transform.position = newPosition;
    }
}
```

Starter Code

```
using UnityEngine;

public class ObjectMovement : MonoBehaviour
{
    public float speed; // Speed of the object

    void Update()
    {
        // Movement logic to be implemented
    }
}
```