# [B-1] Move a ball

## Objective

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

## Tasks

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**

```csharp
using UnityEngine;

public class Move_solution : 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**

```csharp
using UnityEngine;

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

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