

Code Examples

Key Points

- **Inheritance** is a cornerstone of object oriented programming.
- It allows you to **share functionality between objects** because they are the same type of thing.
- This allows you to generalise types, where a derived class can be used in place of its base class using **Subtyping**.
- **Virtual** methods in a base class can they be **overridden** in their derived class, replacing or extending the original functionality.

Code Examples

Base Class

```
1. using UnityEngine;
2.
3. public abstract class PlayerSystem : MonoBehaviour
4. {
5.     protected Player player;
6.
7.     protected virtual void Awake()
8.     {
9.         player = transform.root.GetComponent<Player>();
10.    }
11.}
```

Derived Class

```
1. public class InputController : PlayerSystem
2. {
3.     protected override void Awake()
4.     {
```

```
5.     base.Awake();
6.     Debug.Log("This object has a reference to the Player: " + player);
7. }
8. }
```