

Kershaw County's Youth VIDEO GAME Programmers

@ The Kershaw County Library -
Camden Branch

TAUGHT BY:

CONOR X. ROM

CITADEL CLASS OF 2025 / TAX ACCOUNTANT / SCSG ADMIN OFFICER



FREE CLASSES
Jan 13th, 27th,
Feb 10th, & 24th
3:30-4:30pm



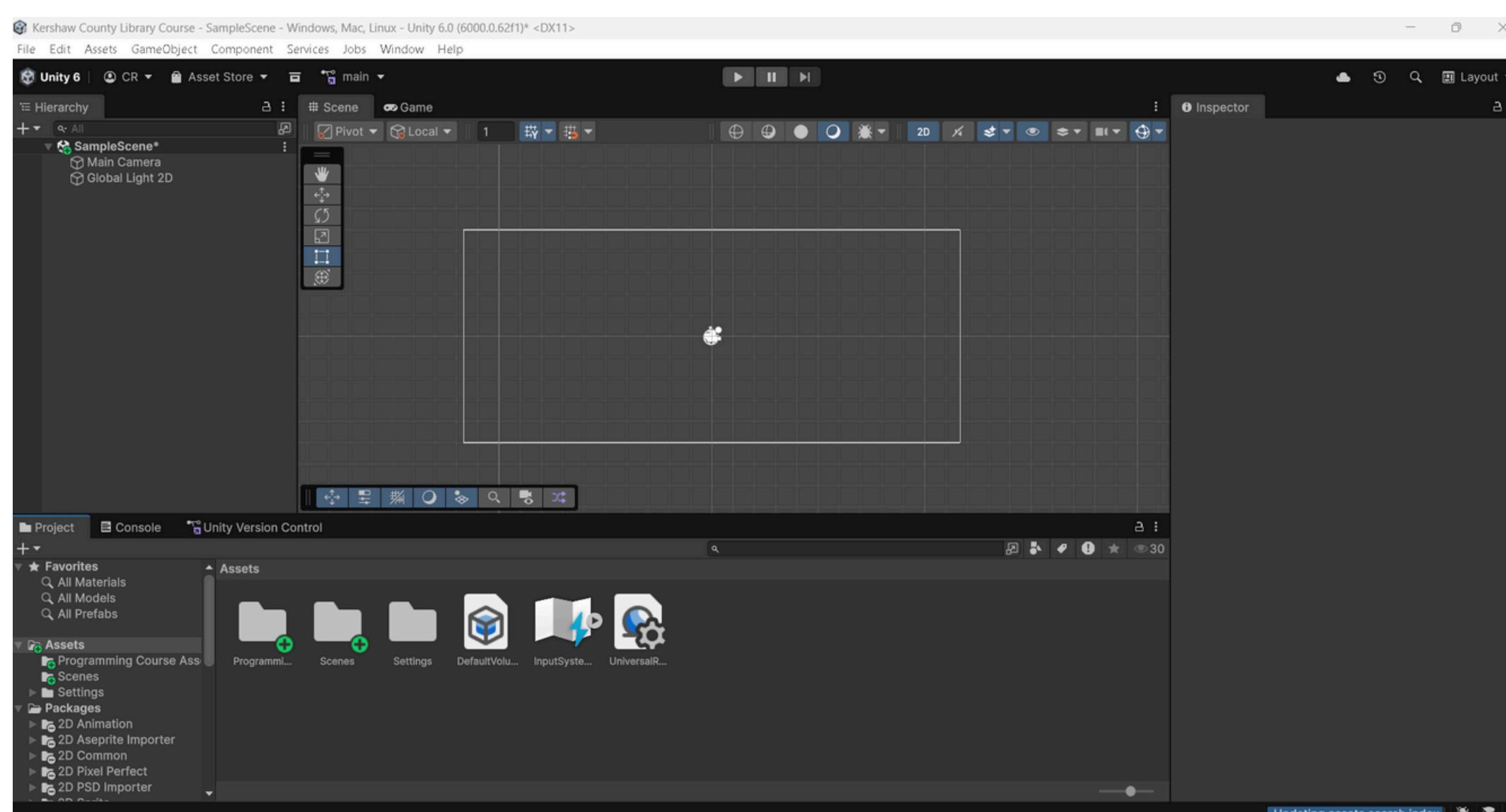
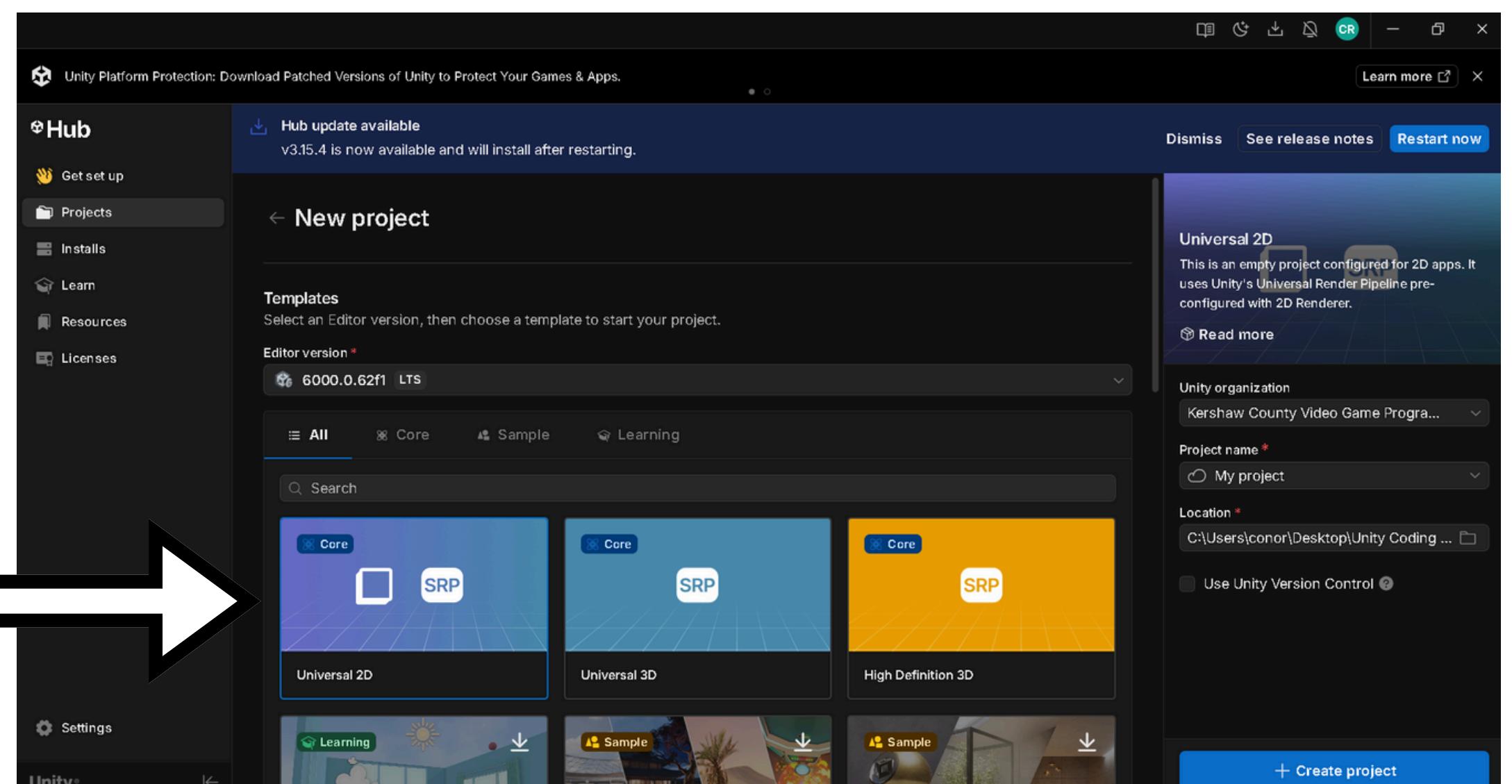
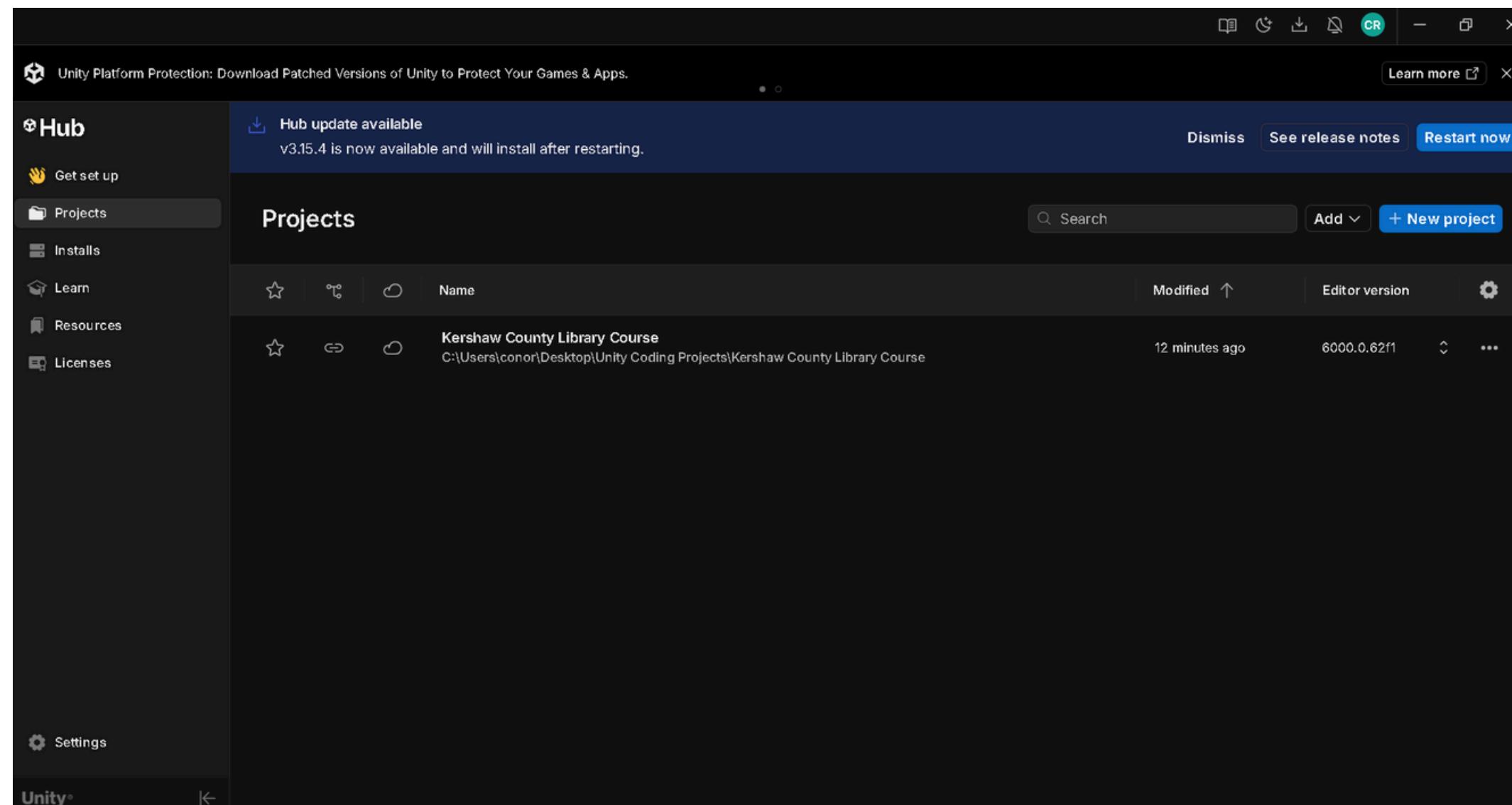
Mana Rock
Gaming

KCL

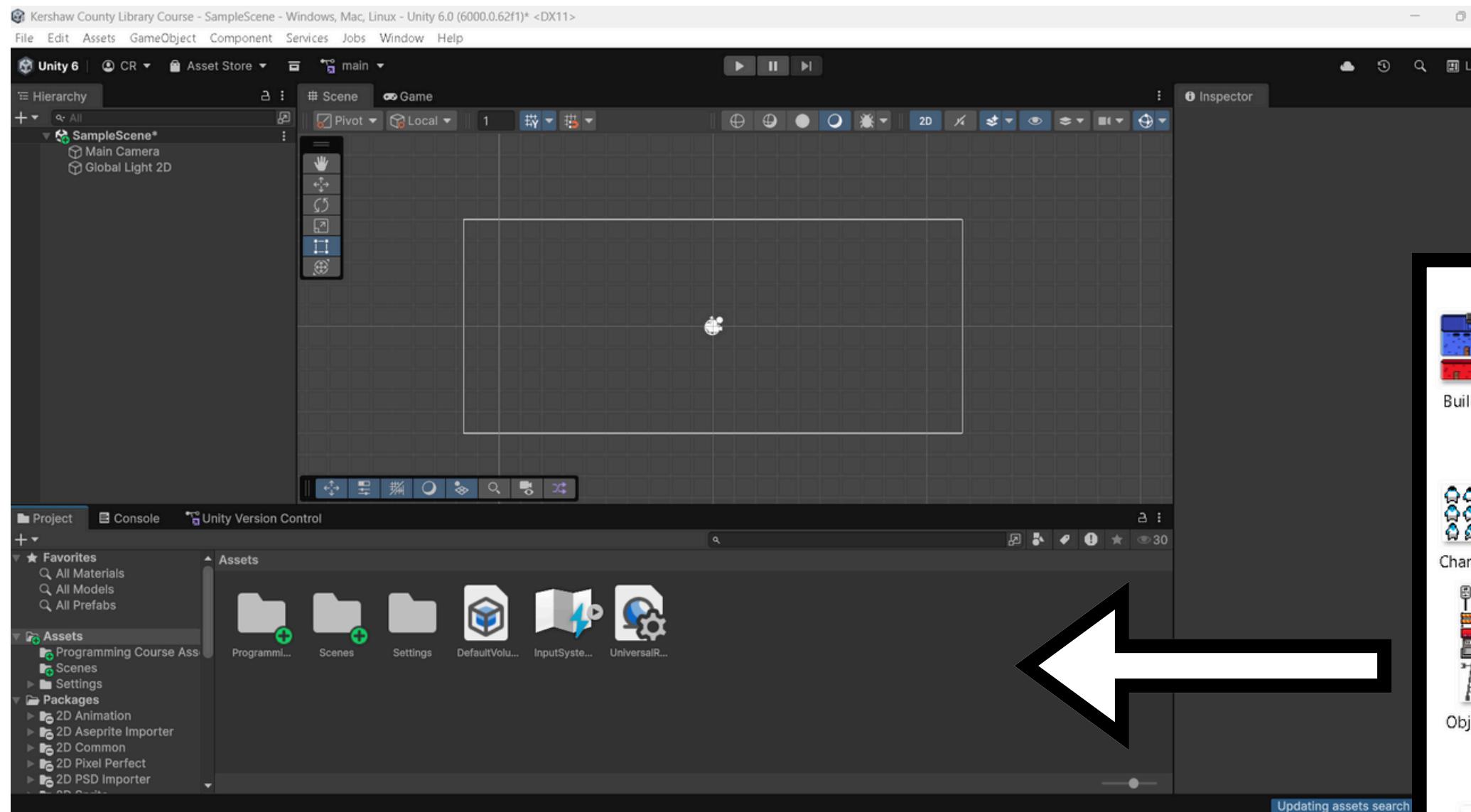
KERSHAW
COUNTY
LIBRARY

LESSON 1: BASIC MOVEMENT

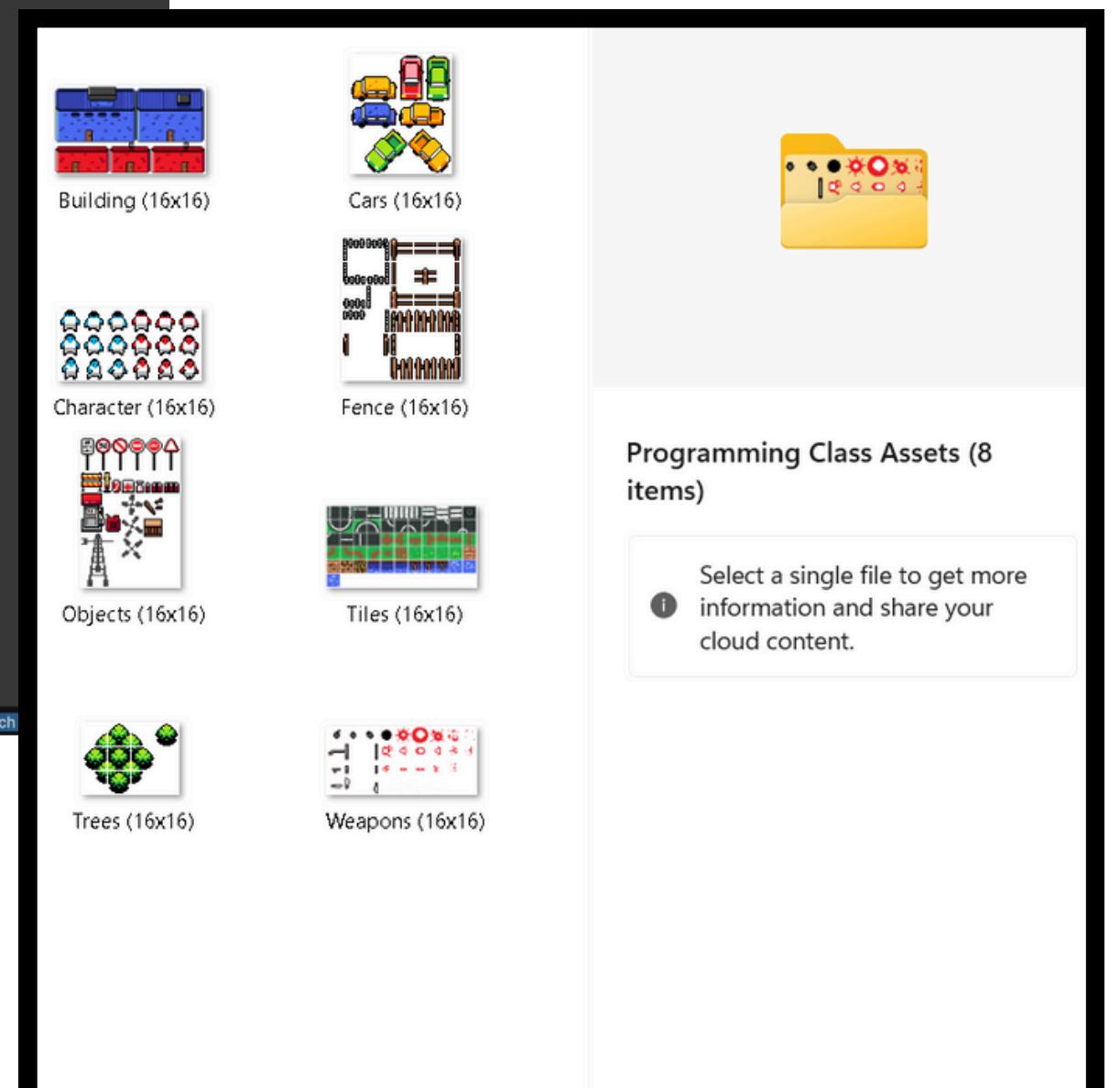
STARTING A NEW 2D GAME



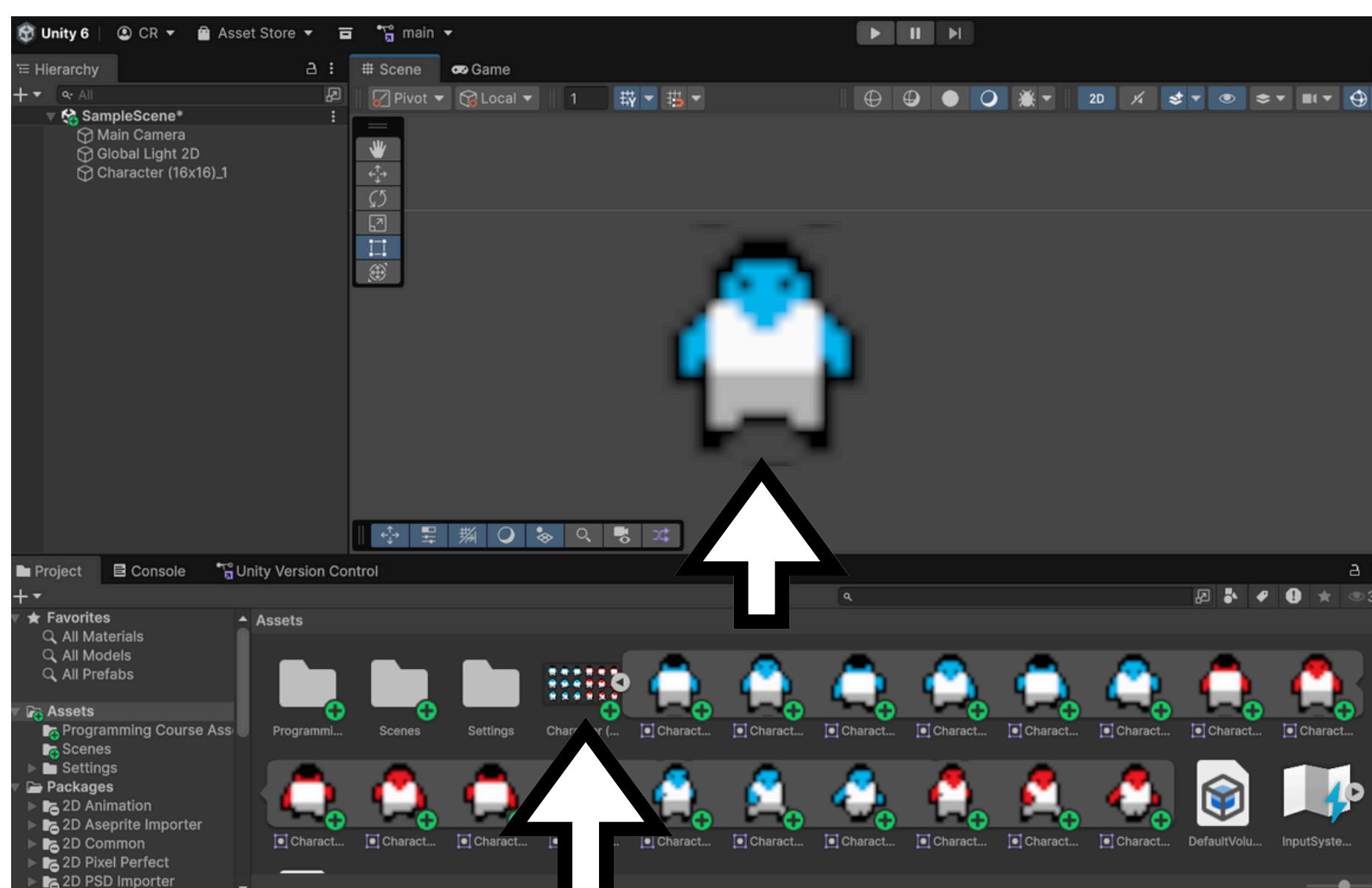
ADDING A 2D SPRITE



DRAG & DROP



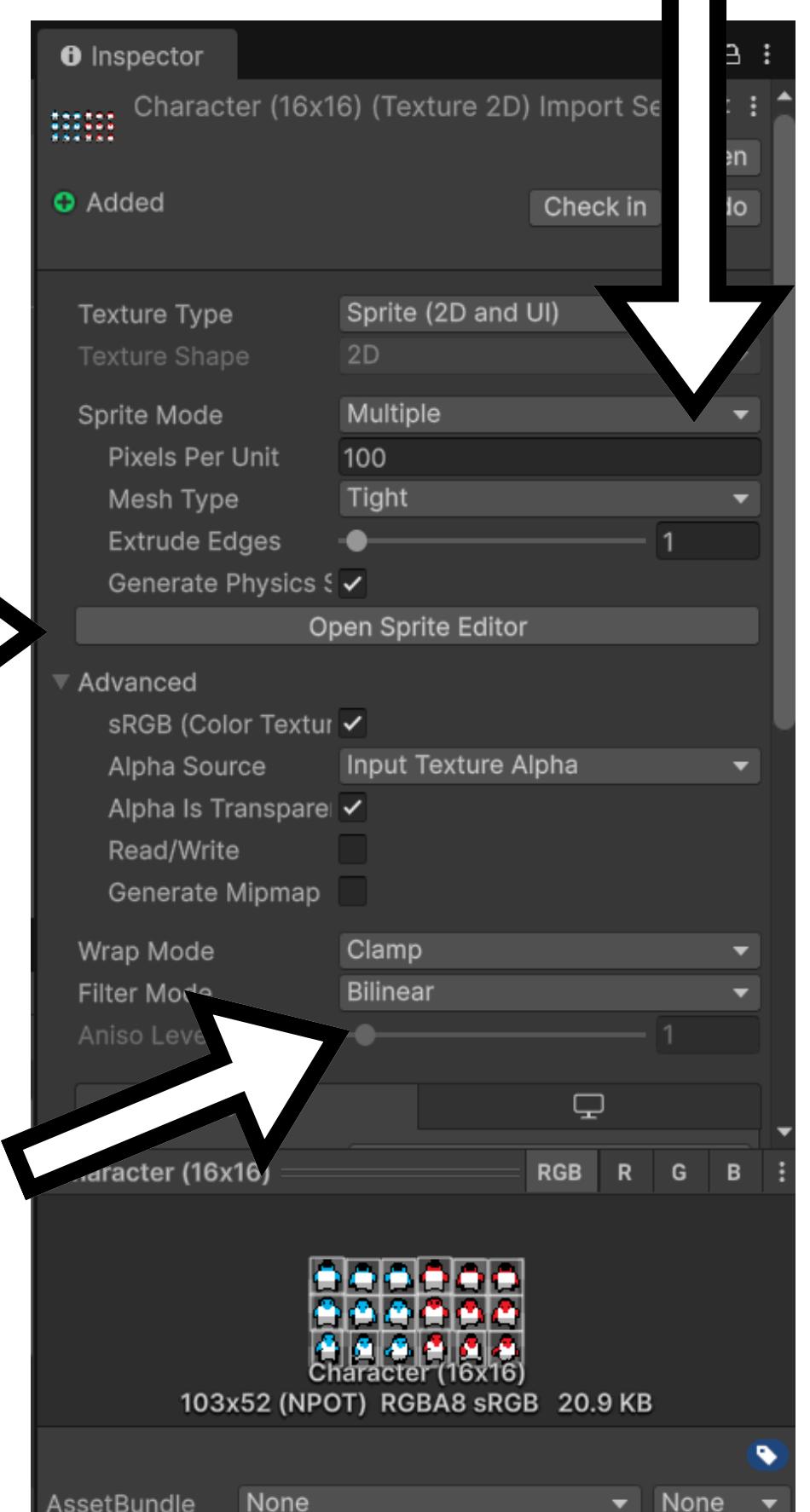
DRAG INTO SCENE



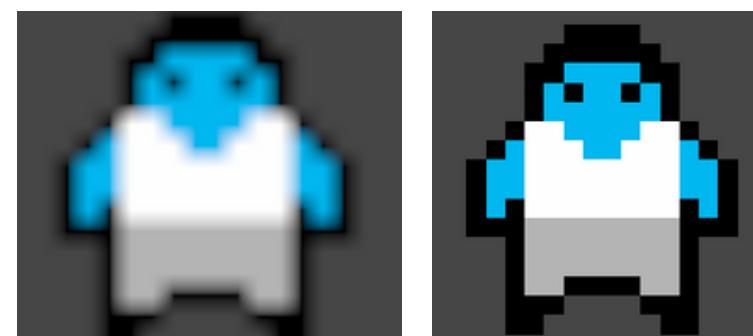
SWITCH TO
PIXEL SIZE (16)



CLICK TO OPEN
IN INSPECTOR



SWITCH TO POINT (NO FILTER)



PLAYER MOVEMENT

RENAME TO "PLAYER"

ADD COMPONENT(S)

SET GRAVITY TO ZERO

CONNECT RIGIDBODY 2D TO SCRIPT

PlayerMovement.cs

```

1  using System.Collections;
2  using System.Collections.Generic;
3  using UnityEngine;
4
5  public class PlayerMovement : MonoBehaviour
6  {
7      public Rigidbody2D rb;
8
9      public float moveSpeed = 5f;
10
11     Vector2 movement;
12
13     // Update is called once per frame
14     void Update()
15     {
16         movement.x = Input.GetAxisRaw("Horizontal");
17         movement.y = Input.GetAxisRaw("Vertical");
18     }
19
20     // Fixed Updates are called at a fixed frame rate
21     void FixedUpdate()
22     {
23         rb.MovePosition(rb.position + movement * moveSpeed * Time.fixedDeltaTime);
24     }
25 }
26

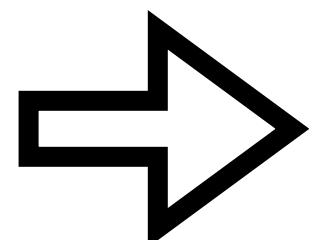
```

Inspector View (Player Object)

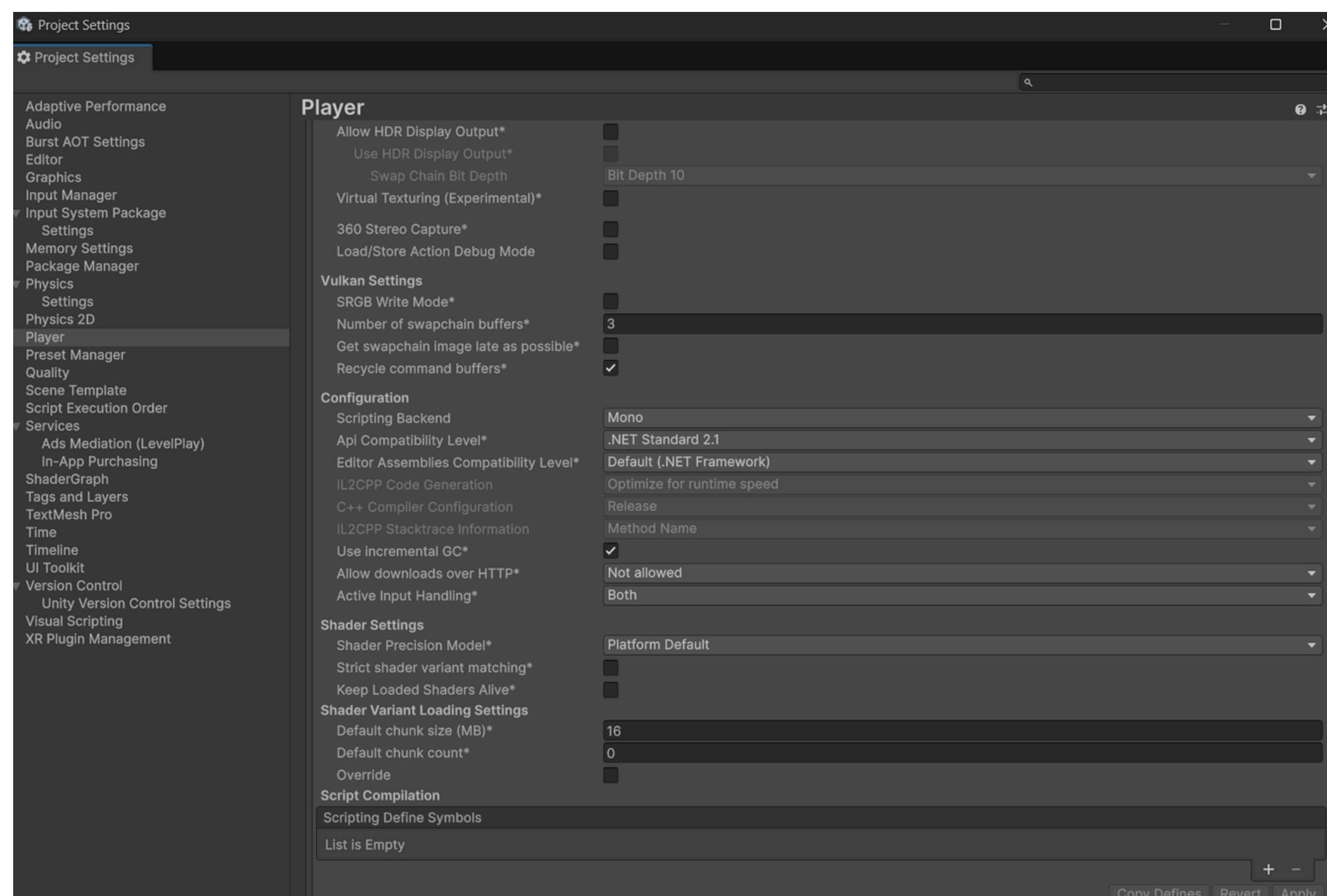
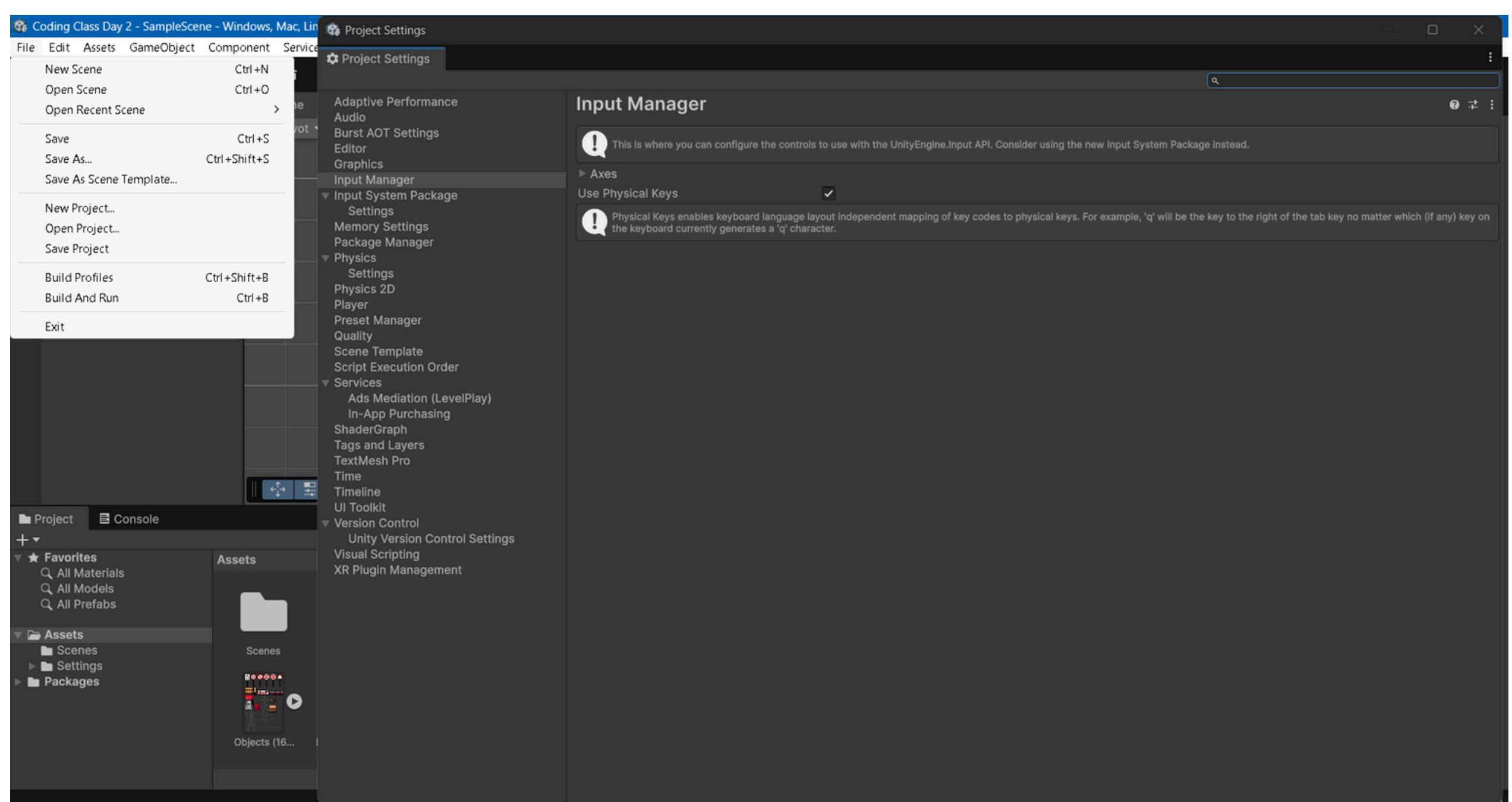
Rigidbody 2D Component (Player Object)

Player Movement (Script) Component (Player Object)

ACTIVATE PLAYER INPUT

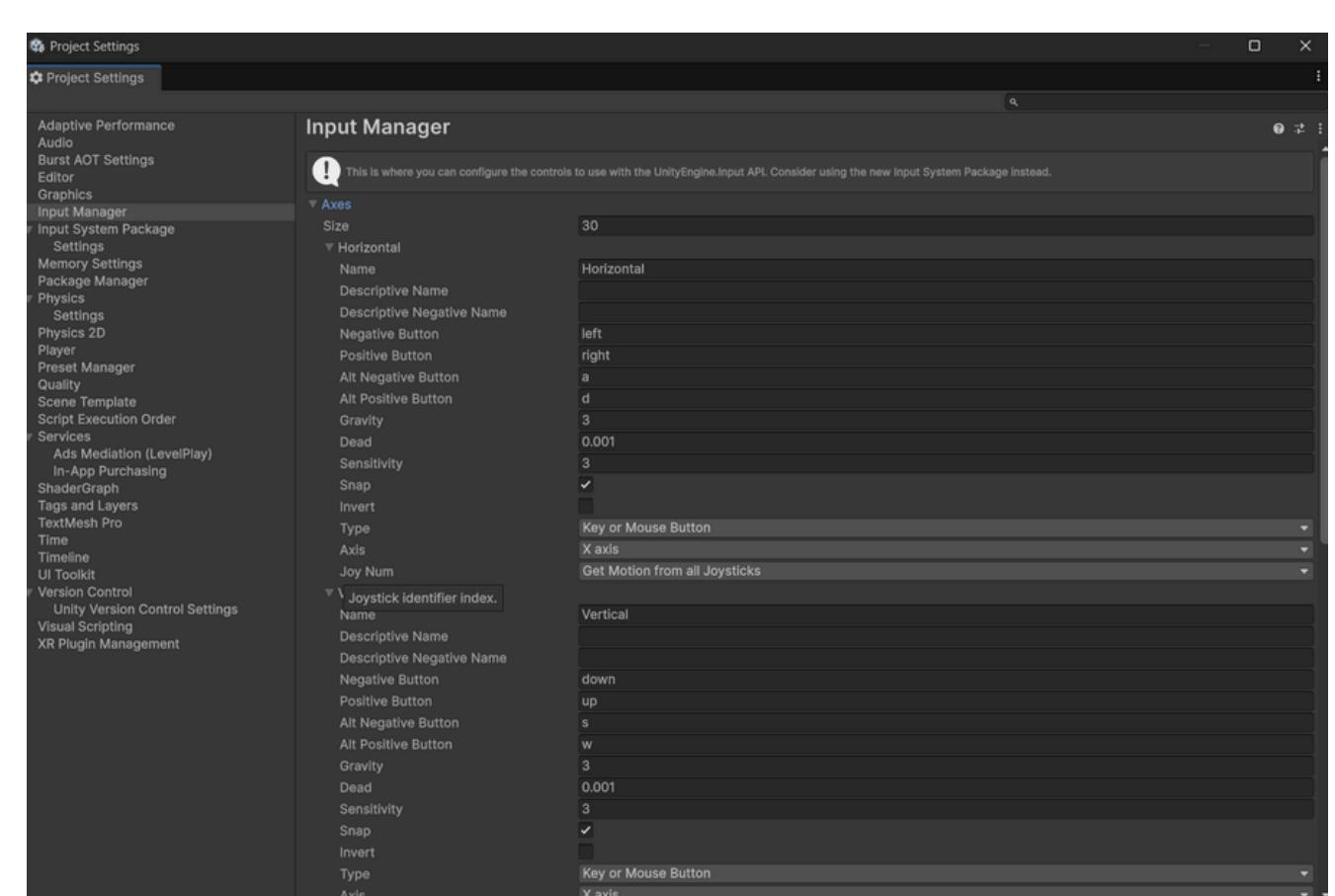
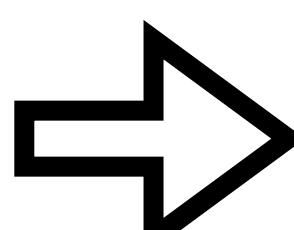


**GO TO EDIT
THEN PROJECT
SETTINGS**

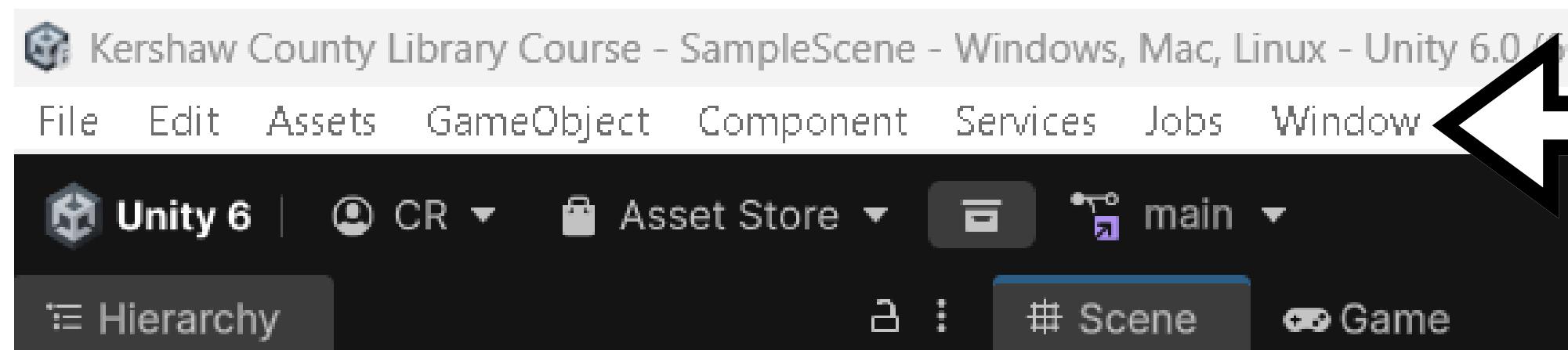


**SWITCH TO
BOTH**

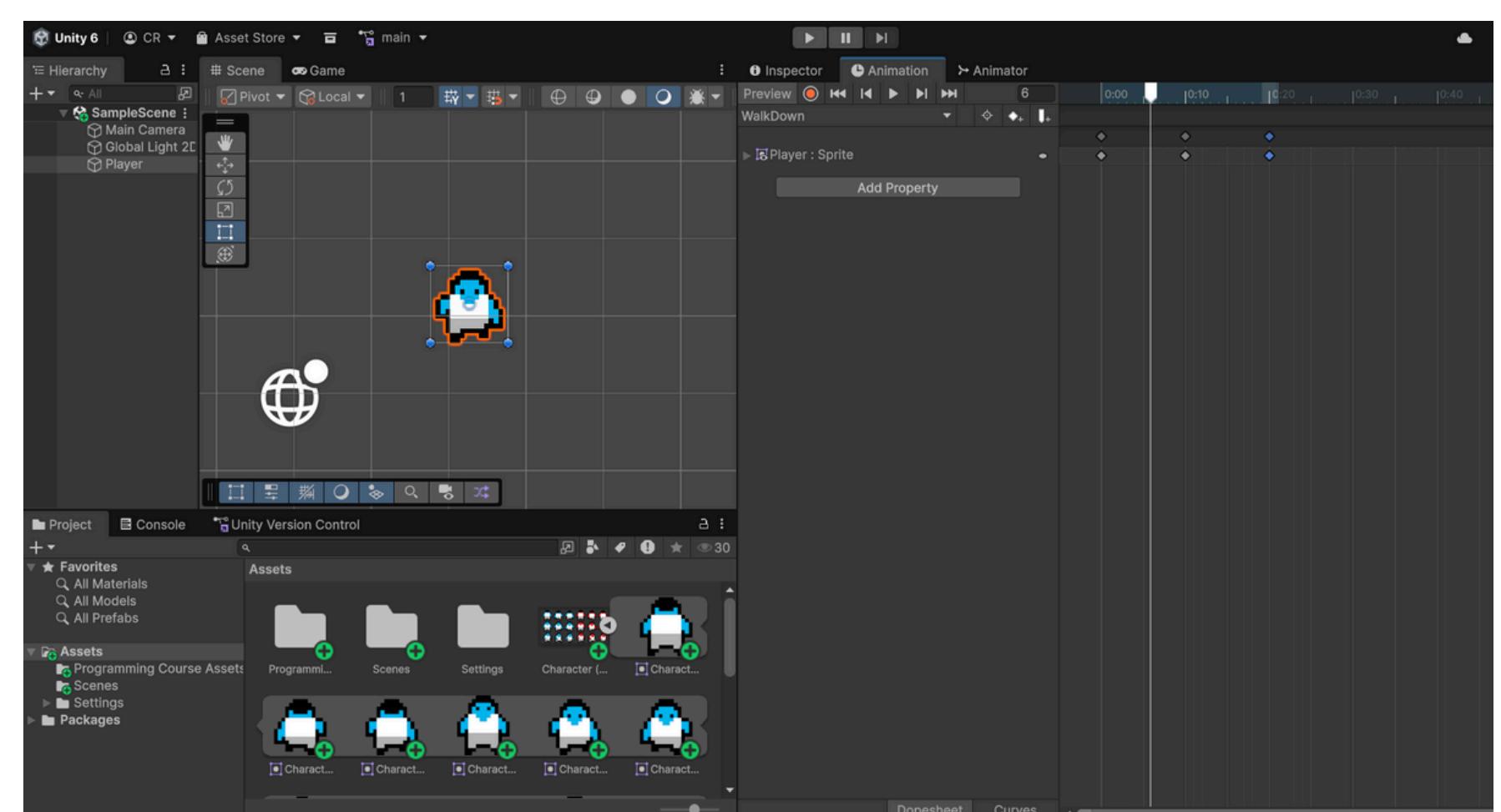
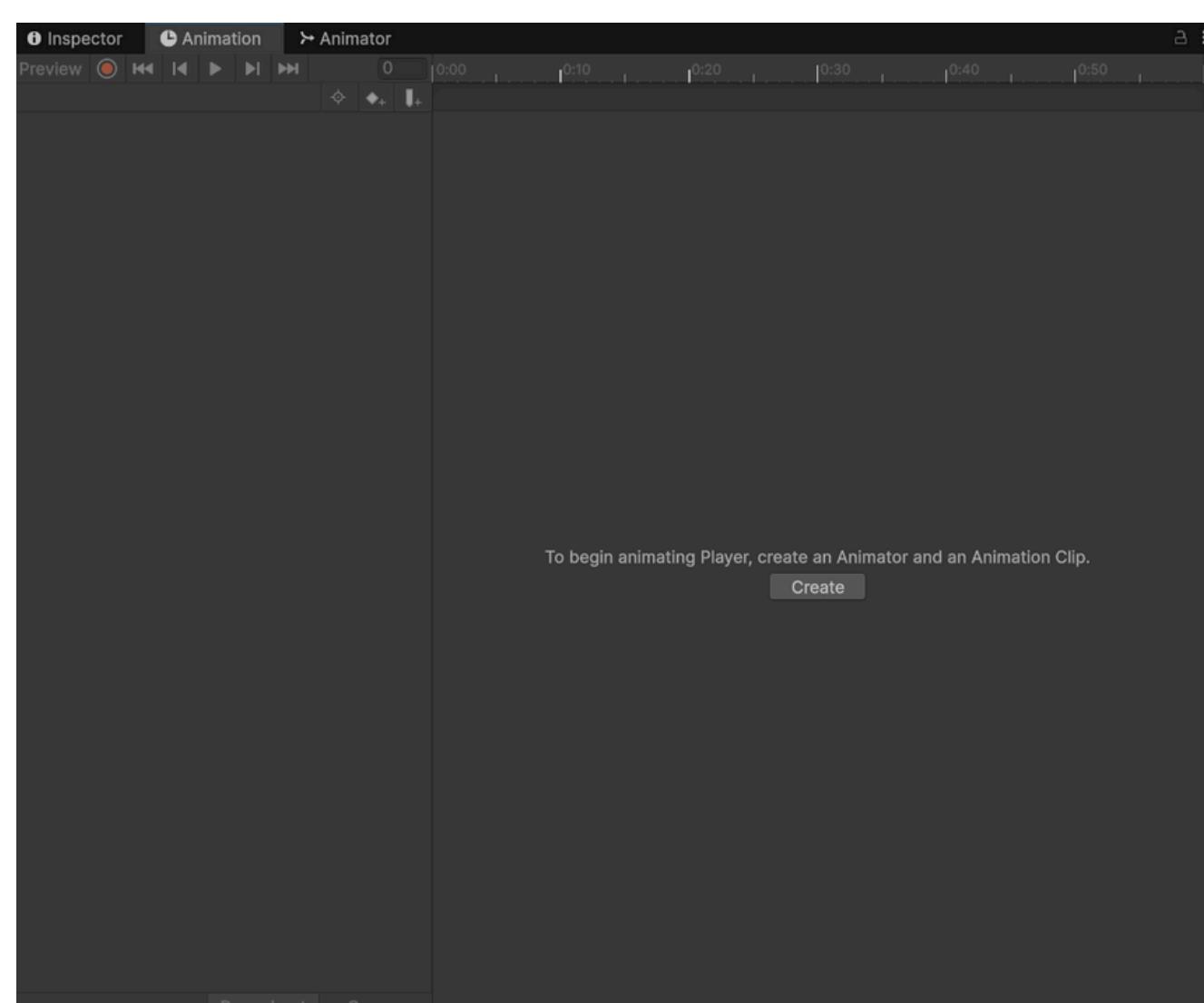
**SEE ALL INPUTS IN
INPUT MANAGER**



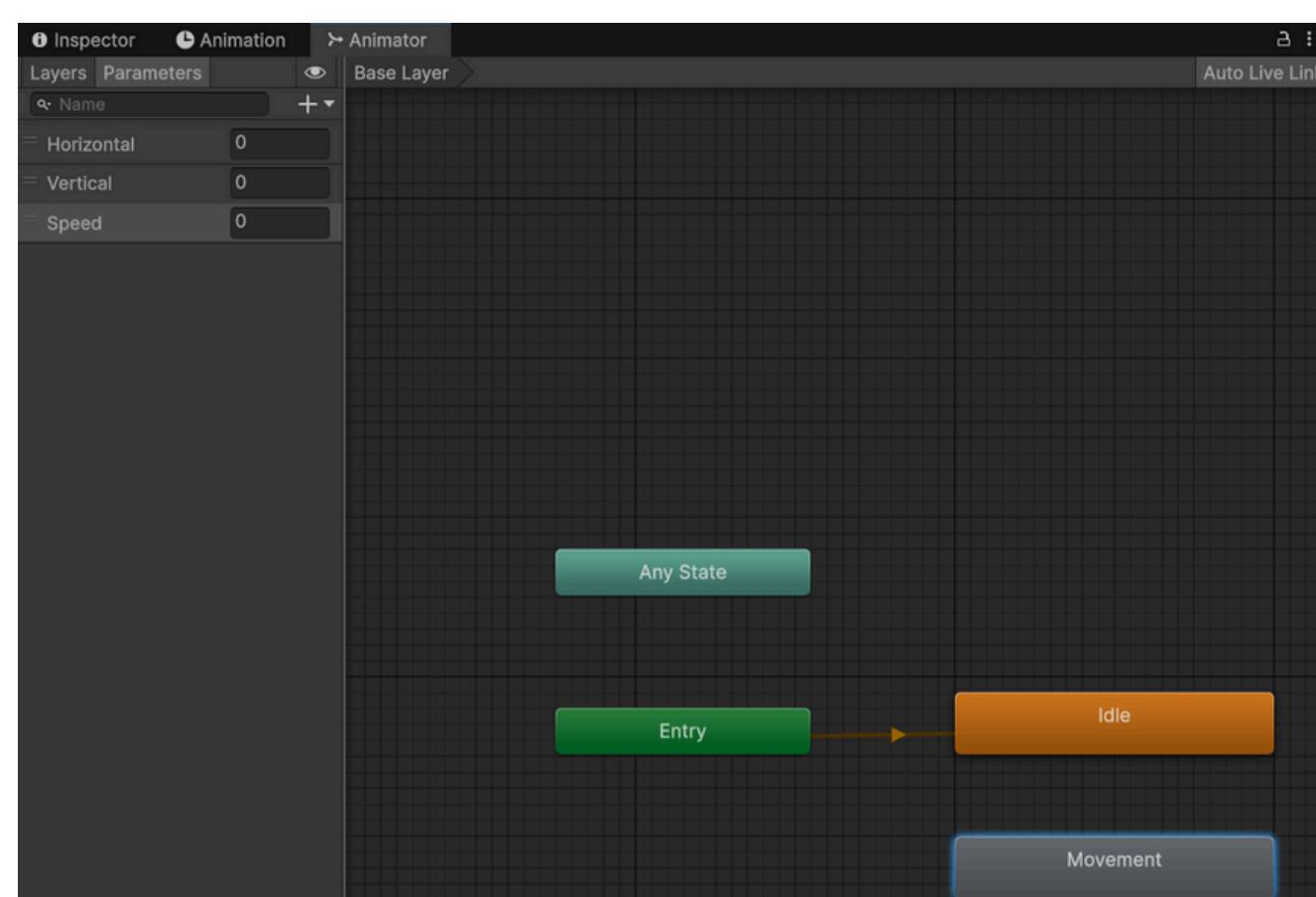
ADDING AN ANIMATION



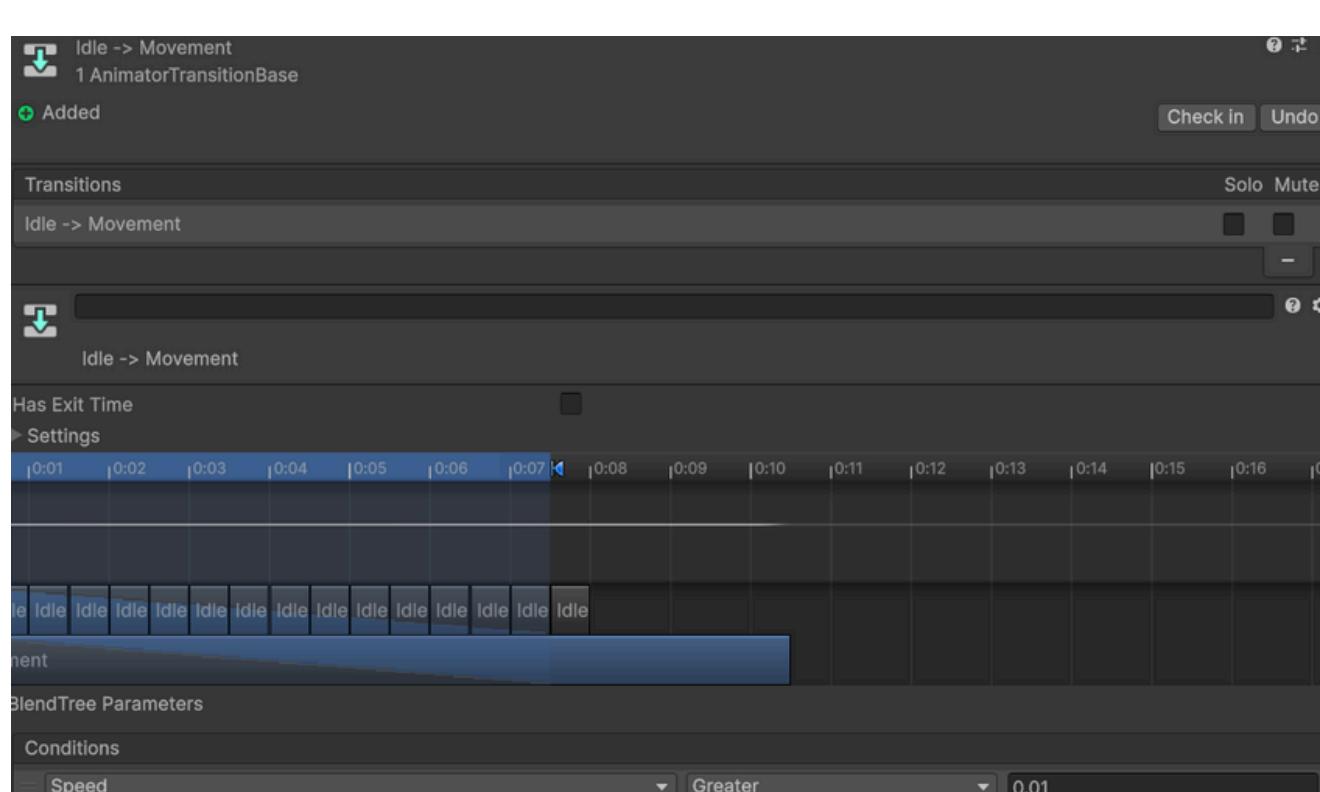
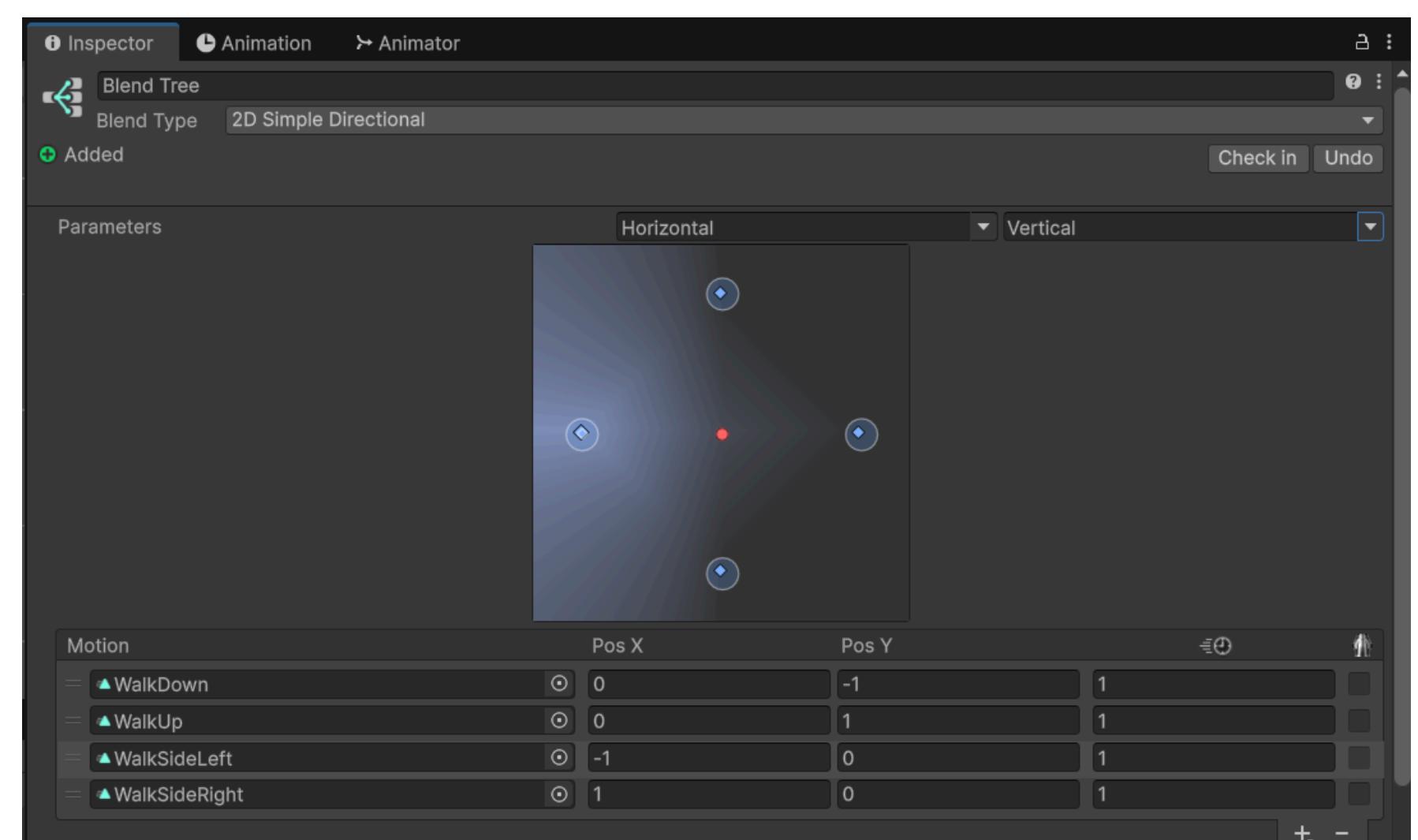
**OPEN THE
“ANIMATION” AND
“ANIMATOR” WINDOW**



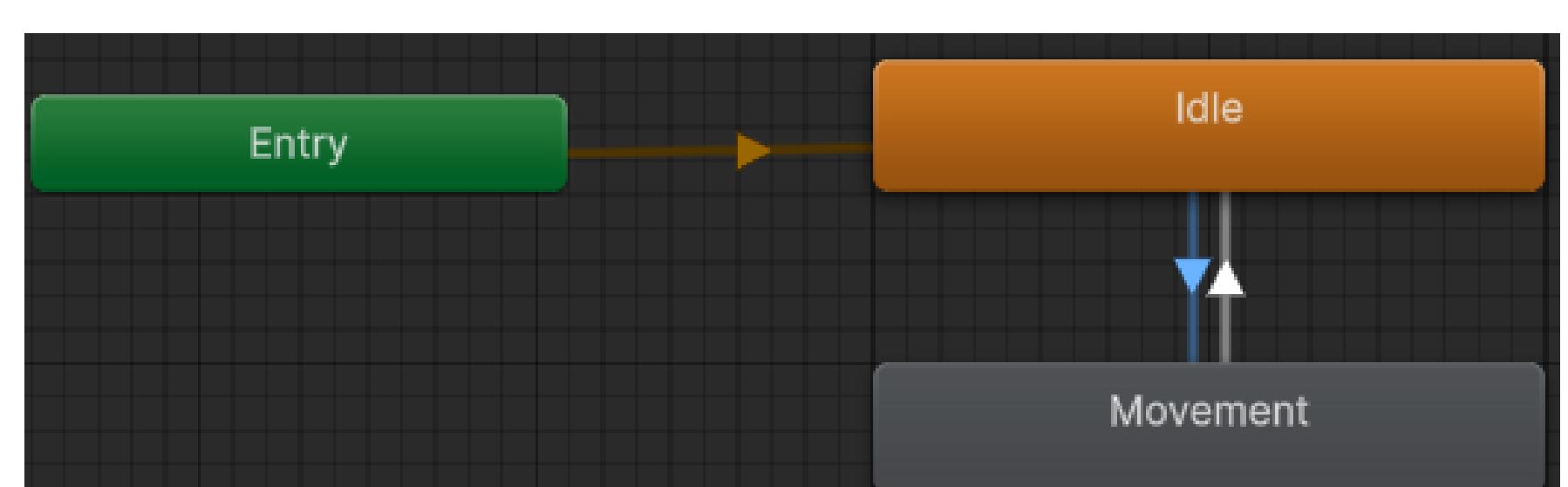
LETS START WITH A DOWN ANIMATION



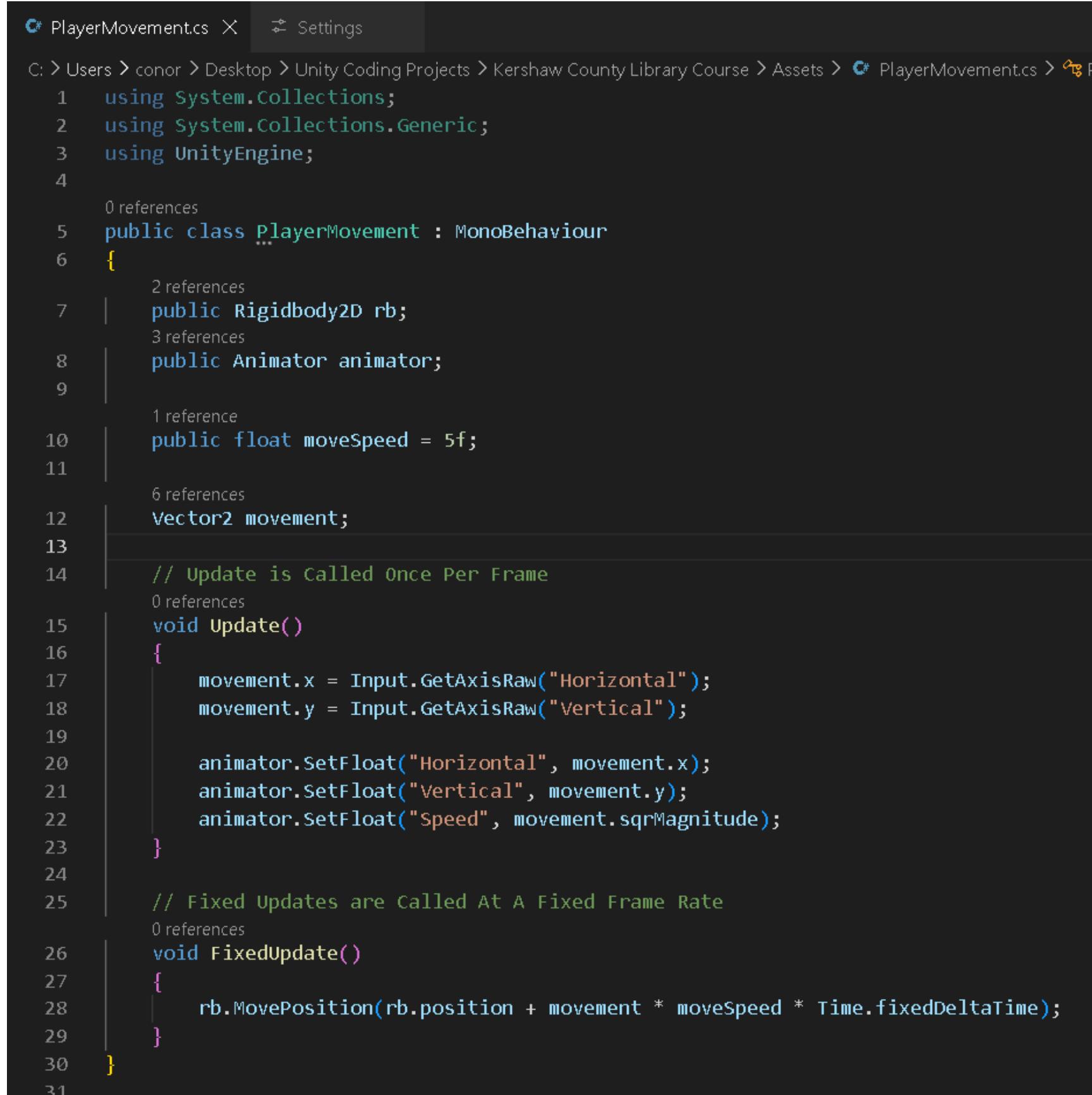
**CREATE THREE FLOAT
PARAMETERS**



**CREATE A BLEND TREE
CREATE FOUR MOTIONS
SET TYPE TO 2D SIMPLE DIRECTION**



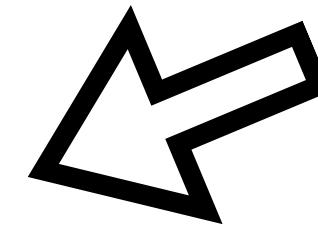
ANIMATION CONTINUED



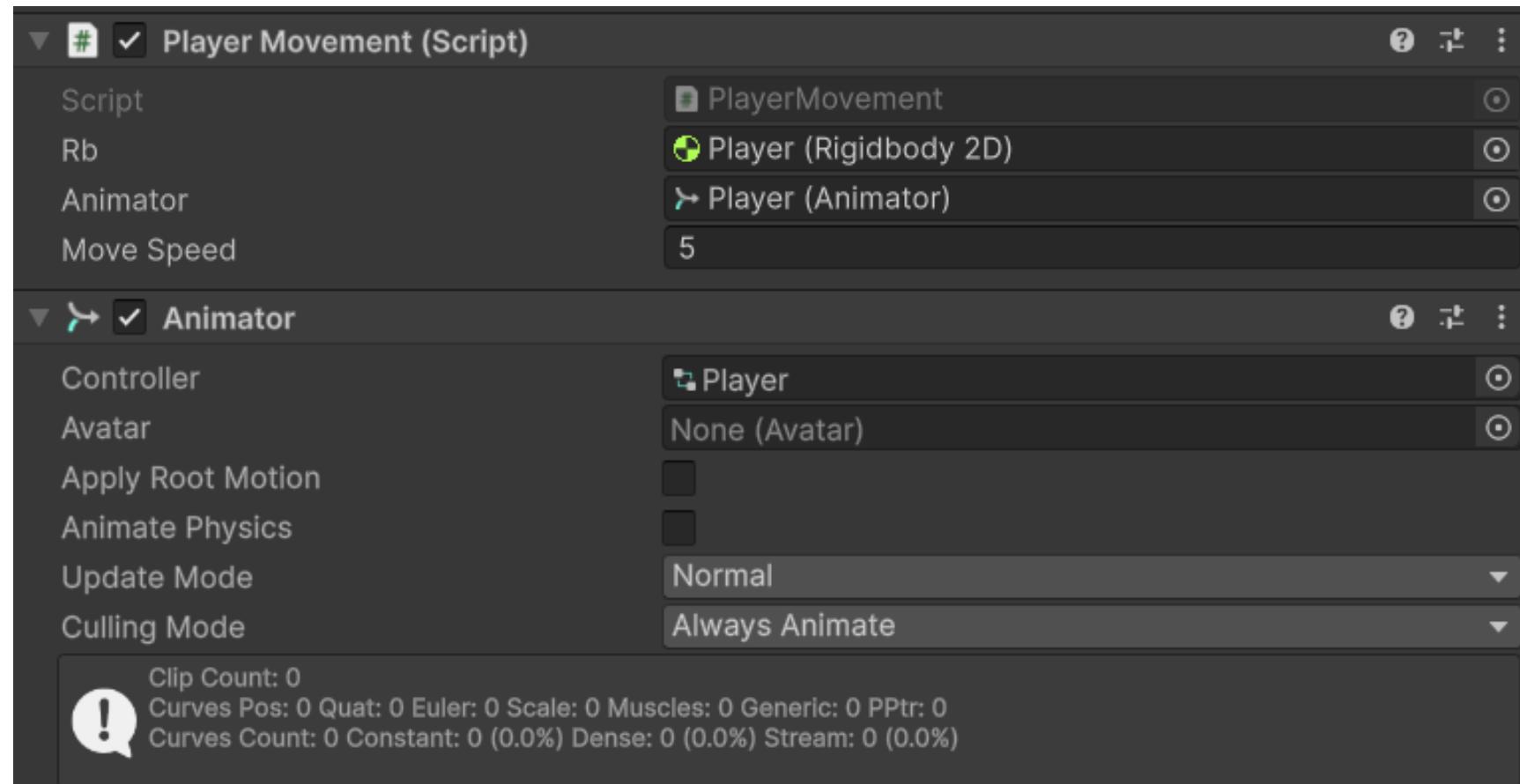
```
PlayerMovement.cs
C:\Users\conor\Desktop\Unity Coding Projects\Kershaw County Library Course\Assets\PlayerMovement.cs
1  using System.Collections;
2  using System.Collections.Generic;
3  using UnityEngine;
4
5  public class PlayerMovement : MonoBehaviour
6  {
7      public Rigidbody2D rb;
8      public Animator animator;
9
10     public float moveSpeed = 5f;
11
12     Vector2 movement;
13
14     // Update is called Once Per Frame
15     void Update()
16     {
17         movement.x = Input.GetAxisRaw("Horizontal");
18         movement.y = Input.GetAxisRaw("Vertical");
19
20         animator.SetFloat("Horizontal", movement.x);
21         animator.SetFloat("Vertical", movement.y);
22         animator.SetFloat("Speed", movement.sqrMagnitude);
23     }
24
25     // Fixed Updates are Called At A Fixed Frame Rate
26     void FixedUpdate()
27     {
28         rb.MovePosition(rb.position + movement * moveSpeed * Time.fixedDeltaTime);
29     }
30 }
31
```

```
// Fixed Updates are Called At A Fixed Frame Rate
0 references
void FixedUpdate()
{
    Vector2 normalizedMovement = movement.normalized;
    rb.MovePosition(rb.position + normalizedMovement * moveSpeed * Time.fixedDeltaTime);
}
```

**YOU MAY NOTICE
CHARACTER MOVES
EXTREMELY FAST
DIAGONALLY**

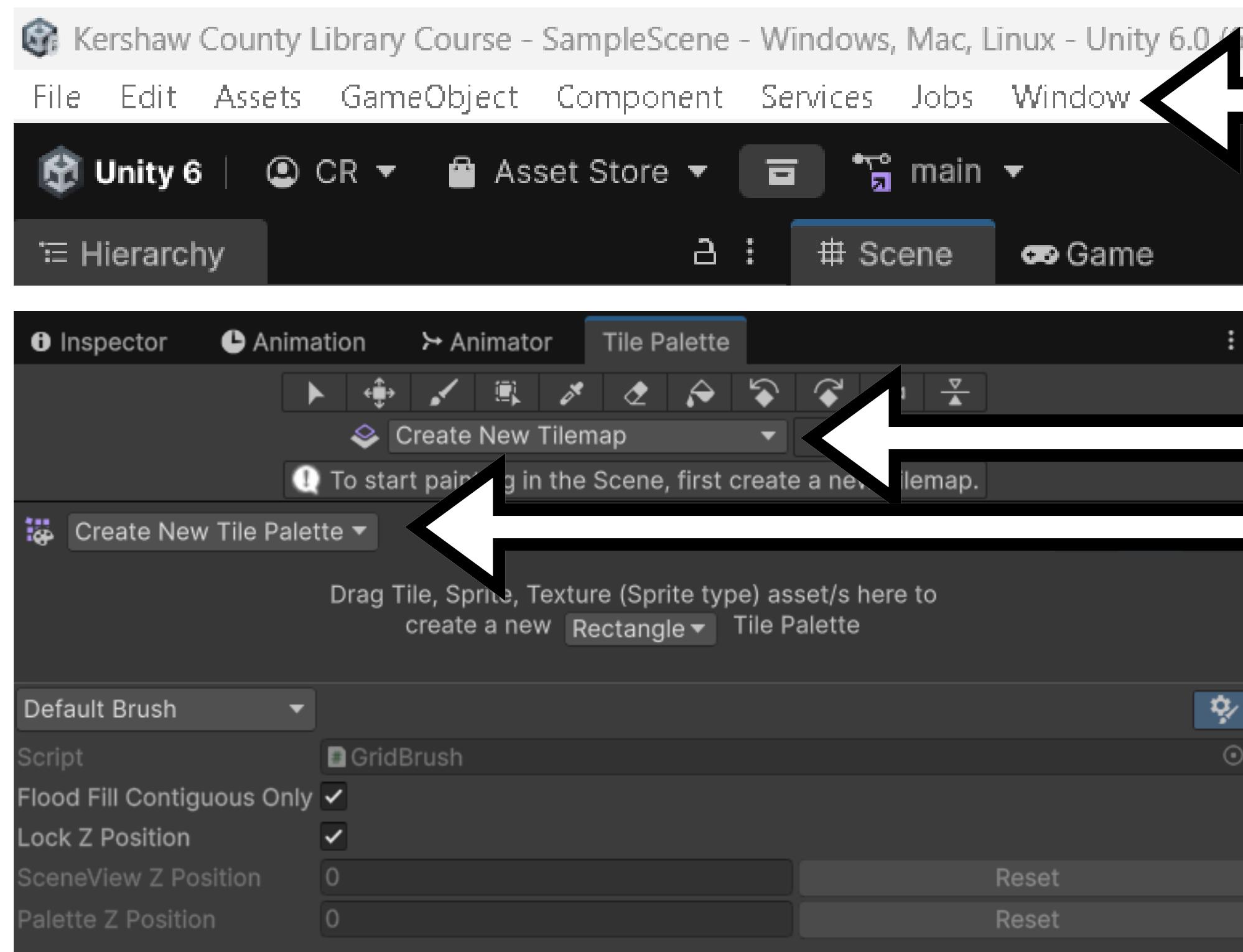


BUG FIX:
**PLAYERMOVEMENT CODE
CHANGE TO NORMALIZE
DIAGONAL MOVEMENT**

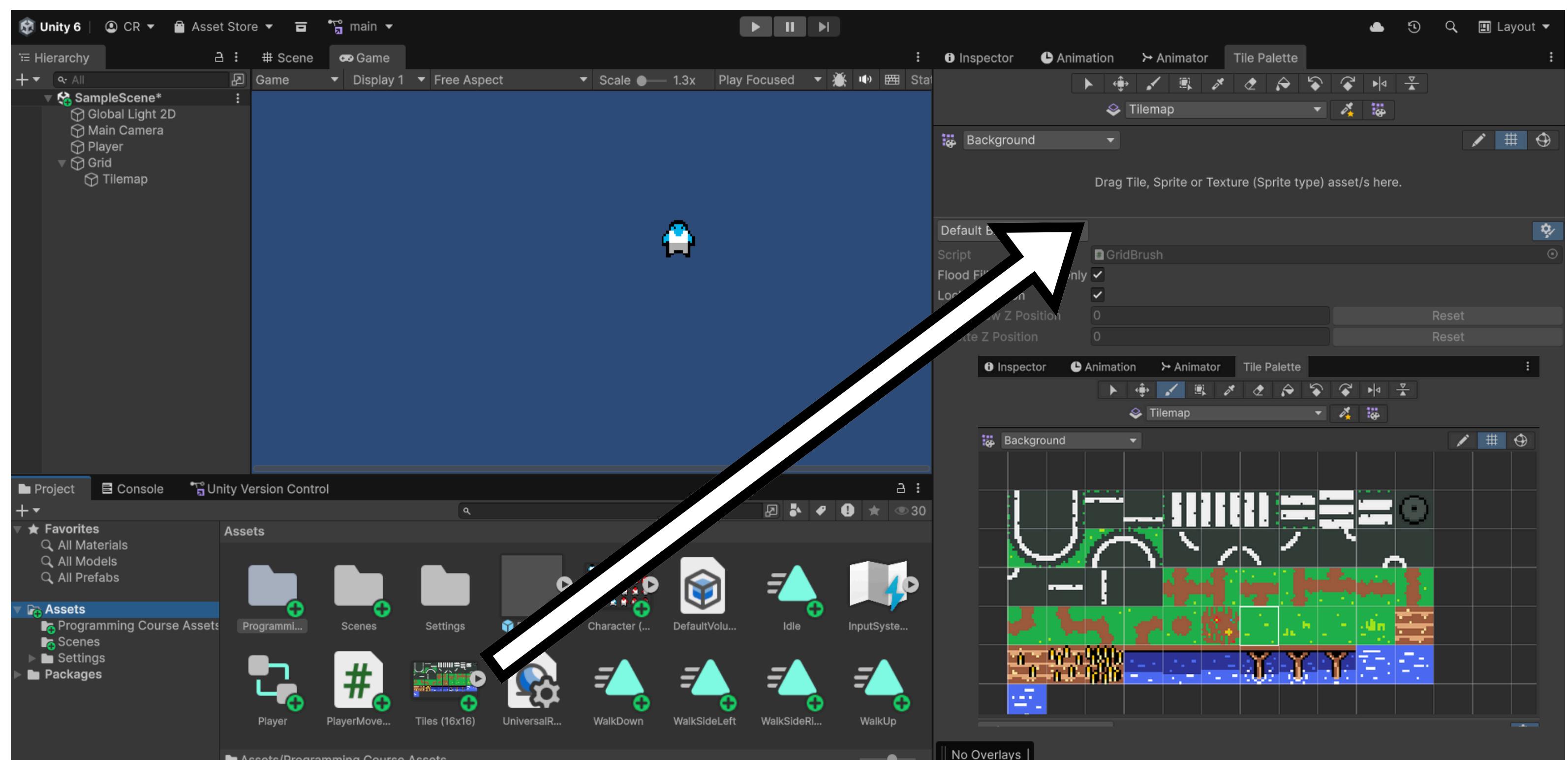


CONNECT ANIMATOR

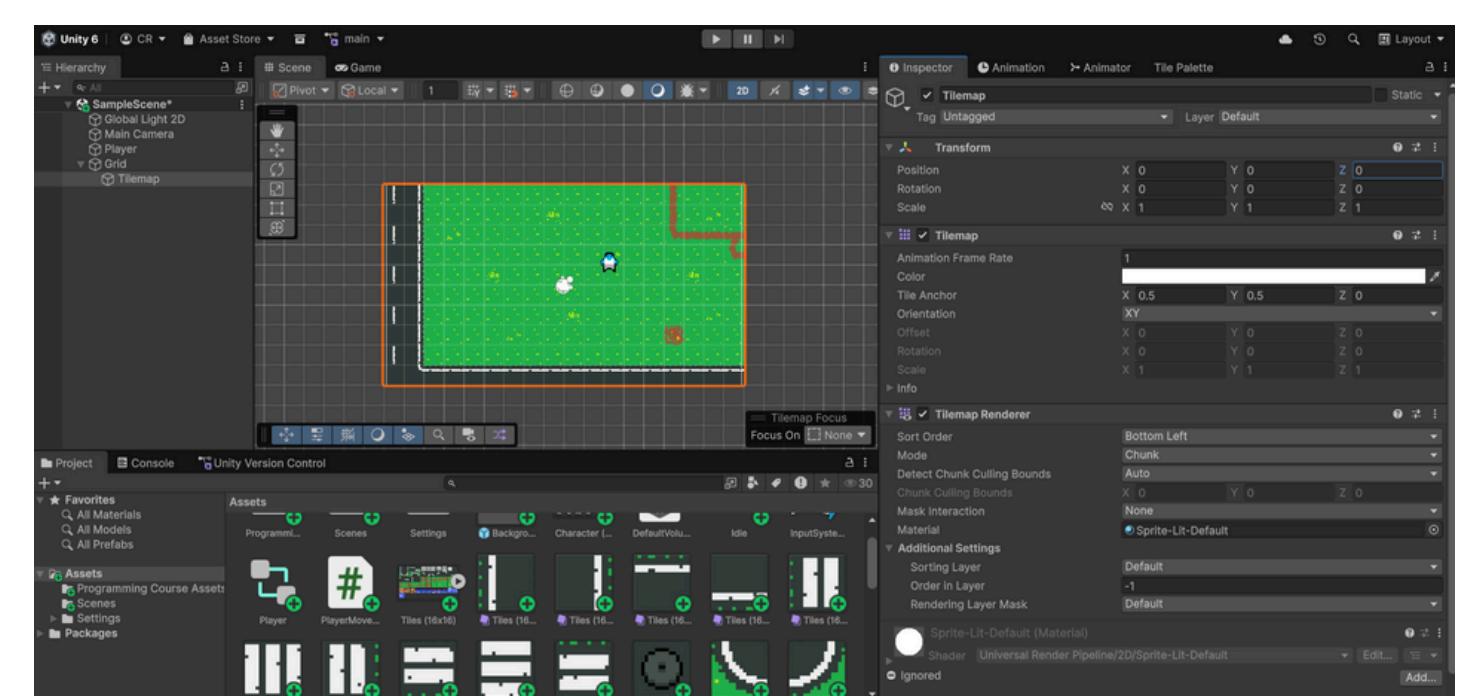
CREATE TILE BACKGROUND



OPEN THE "2D - TILE PALETTE" WINDOW



DRAG TILES INTO TILE PALETTE



PAINT YOUR WORLD THEN
SET TILEMAP RENDER LAYER TO -1

CONCLUSION



Mana Rock Gaming

MANA ROCK GAMING WEBSITE

[HTTPS://WWW.MANAROCKGAMING.COM/](https://www.manarockgaming.com/)



KERSHAW COUNTY VIDEO GAME PROGRAMMERS, DESIGNERS, & ARTISTS

[HTTPS://DISCORD.GG/3DGAPPVKCS](https://discord.gg/3DGAPPVKCS)



KERSHAW COUNTY EVENTS PAGE

[HTTPS://WWW.KERSHAWCOUNTYLIBRARY.ORG/EVENTS/PROGRAMMING-
WITH-CONOR/](https://www.kershawcountylibrary.org/events/programming-with-conor/)

YOUTUBE TUTORIAL

[HTTPS://WWW.YOUTUBE.COM/WATCH?V=WHZOMFGJT50](https://www.youtube.com/watch?v=WHZOMFGJT50)