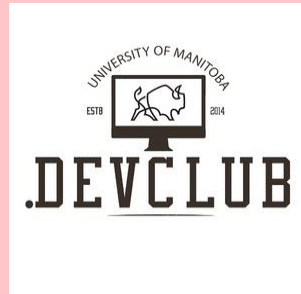


# Dress to Impress Workshop Day 3 - Runway

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# Day 3 - Runway

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**01** *Day 2 - Recap*

**02** *Importing Clothes*

**03** *Clothes Setup*

**04** *Clothing Script*

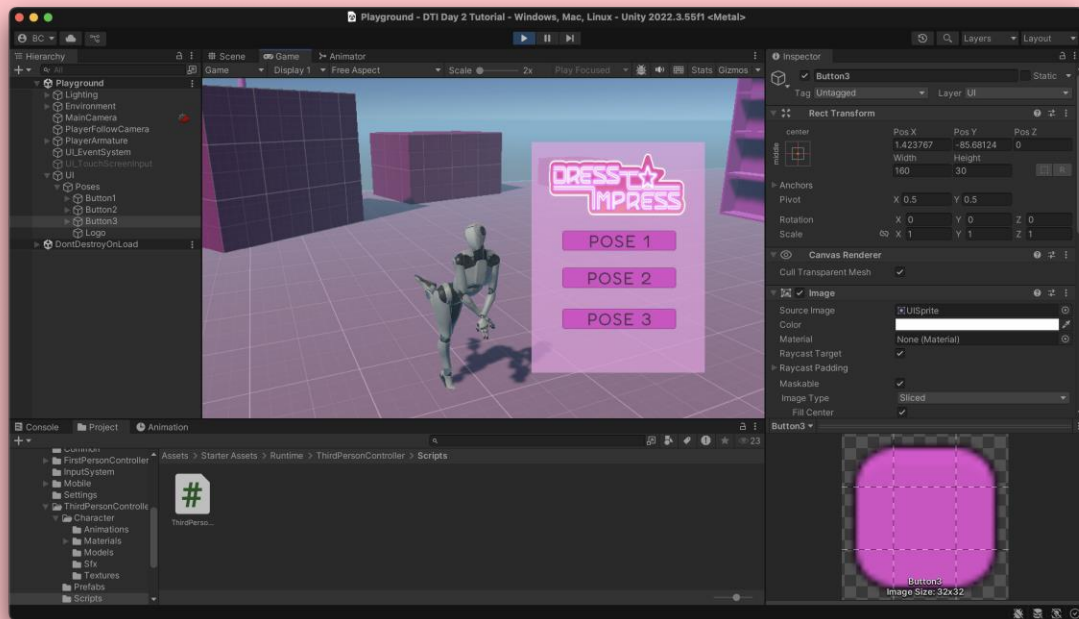
**05** *Implementing  
Clothes Behaviour*

**06** *Debugging*

# Previously...

## DAY 2 Recap – Posing

- Unity setup
- Package importing
- Animator
- Pose functions
- UI buttons



# Day 1 and Day 2

Files and slides can be found:

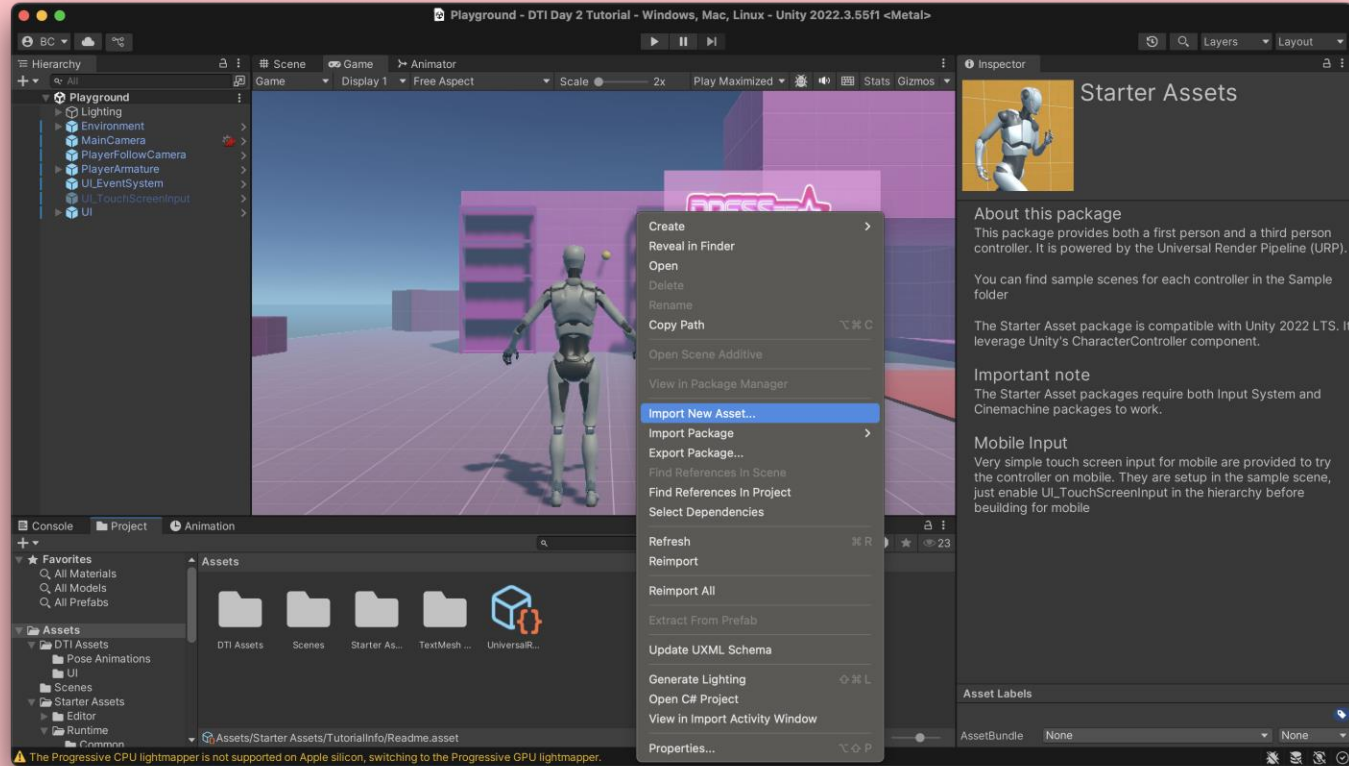
**<https://www-test.cs.umanitoba.ca/~carinof/>**

# Importing Clothes

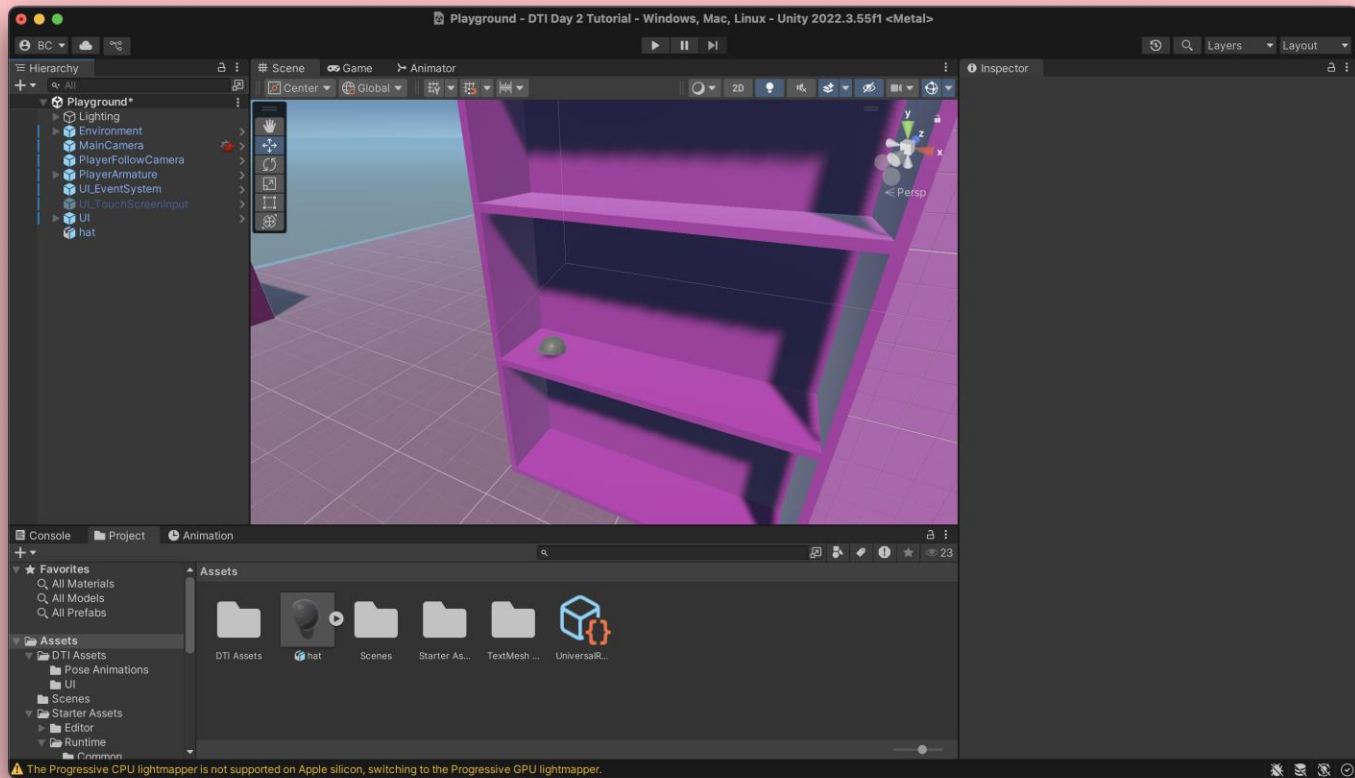
---

- **Bring in Blender clothes created in Day 1**
- **Download hat.fbx file in the GD**
  - **If you didn't attend Day 1**
- **Bring clothes into scene**

After downloading file either drag and drop the .fbx file or right click and "Import New Asset" and locate the file in your computer.



**Drag and drop your imported clothes into the Playground on the  
'Scene' tab of the editor**



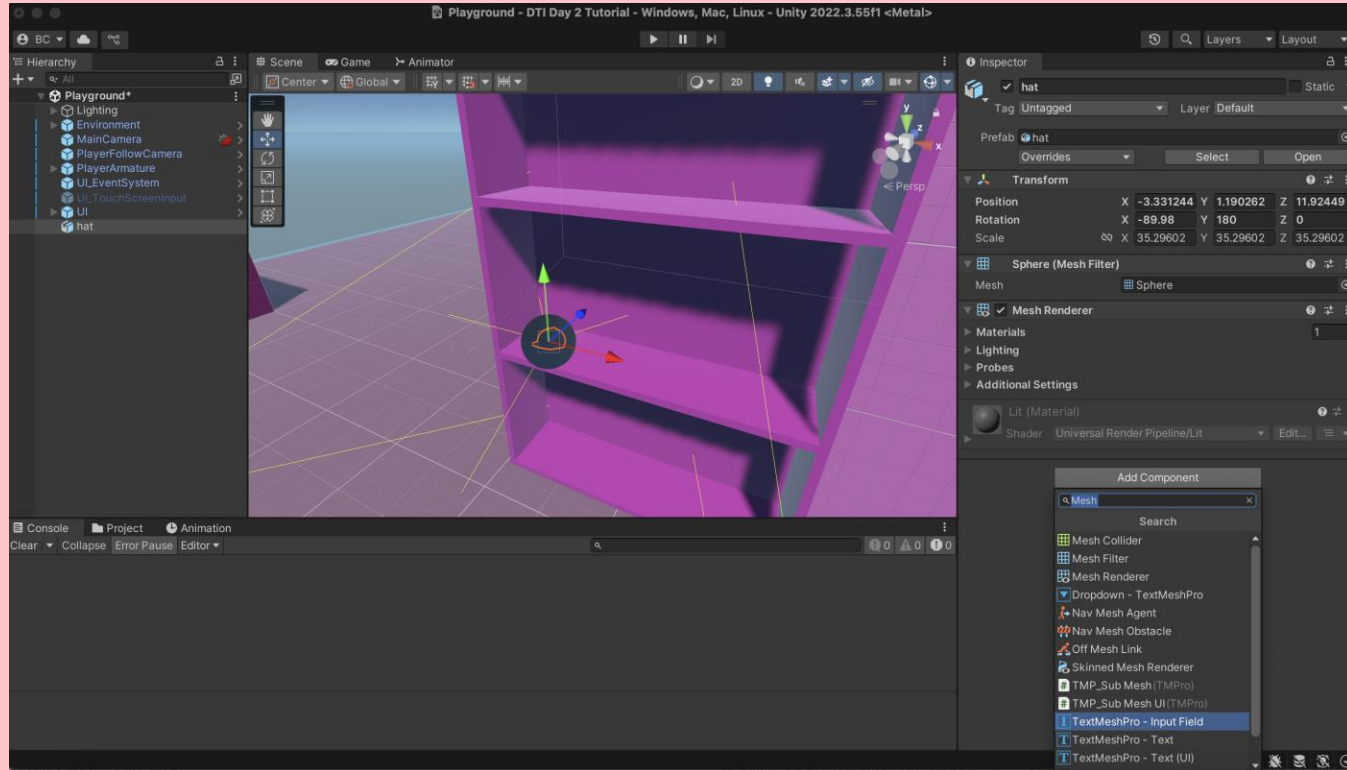
# Clothes Setup

---

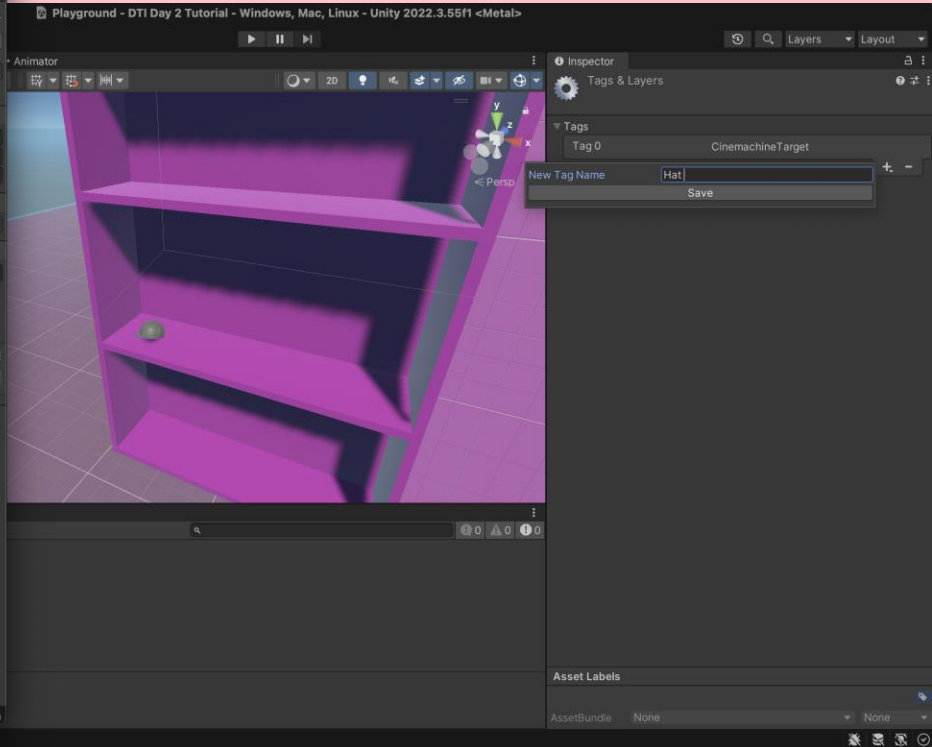
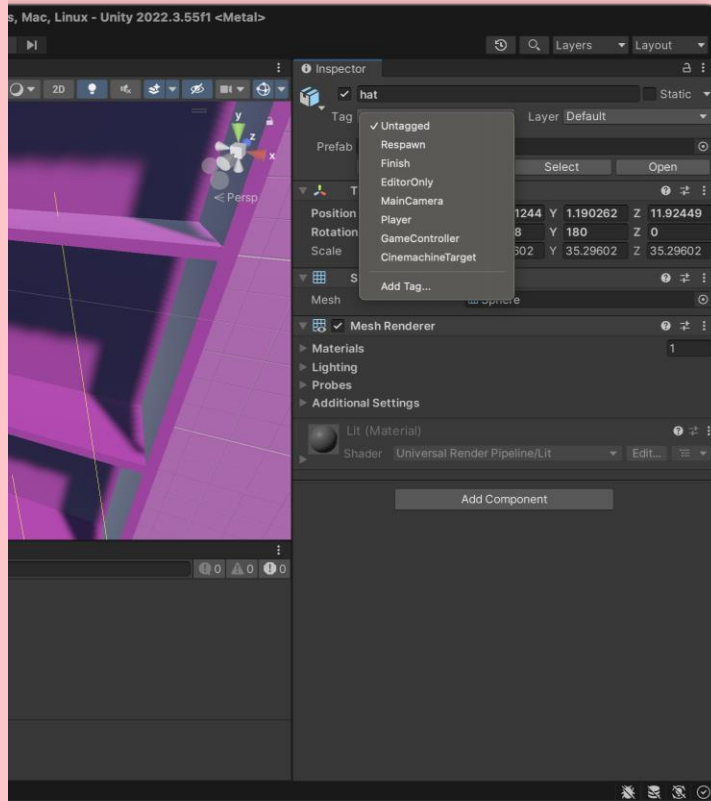
- **Mesh collider**
- **Tags**



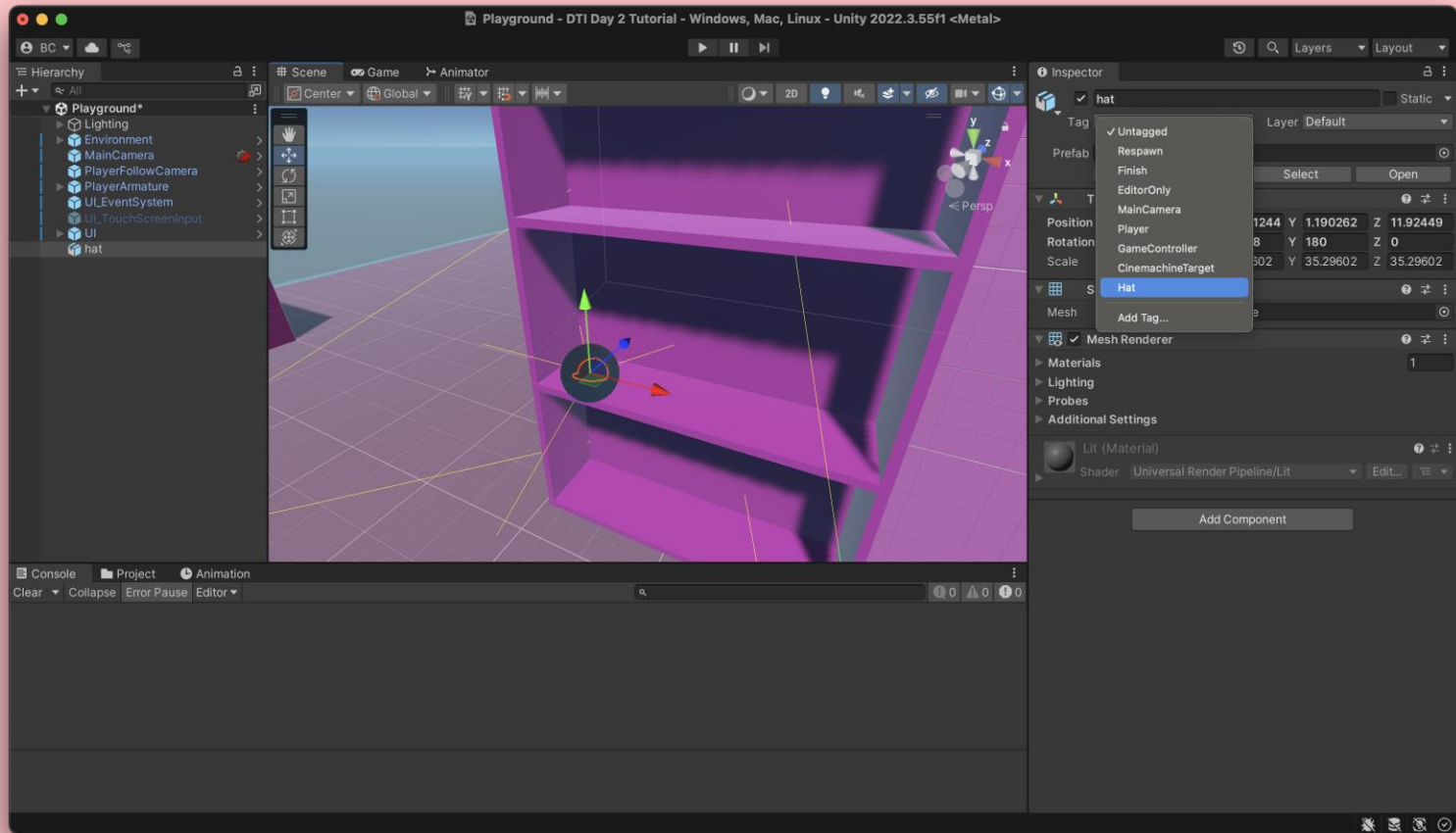
Select the clothes you inserted into the Playground and in 'Inspector' add a 'Mesh Collider' component to it.



**Add tags corresponding to your clothes (i.e. "Hat") and save.**



# Select your clothes and assign its corresponding tag to it

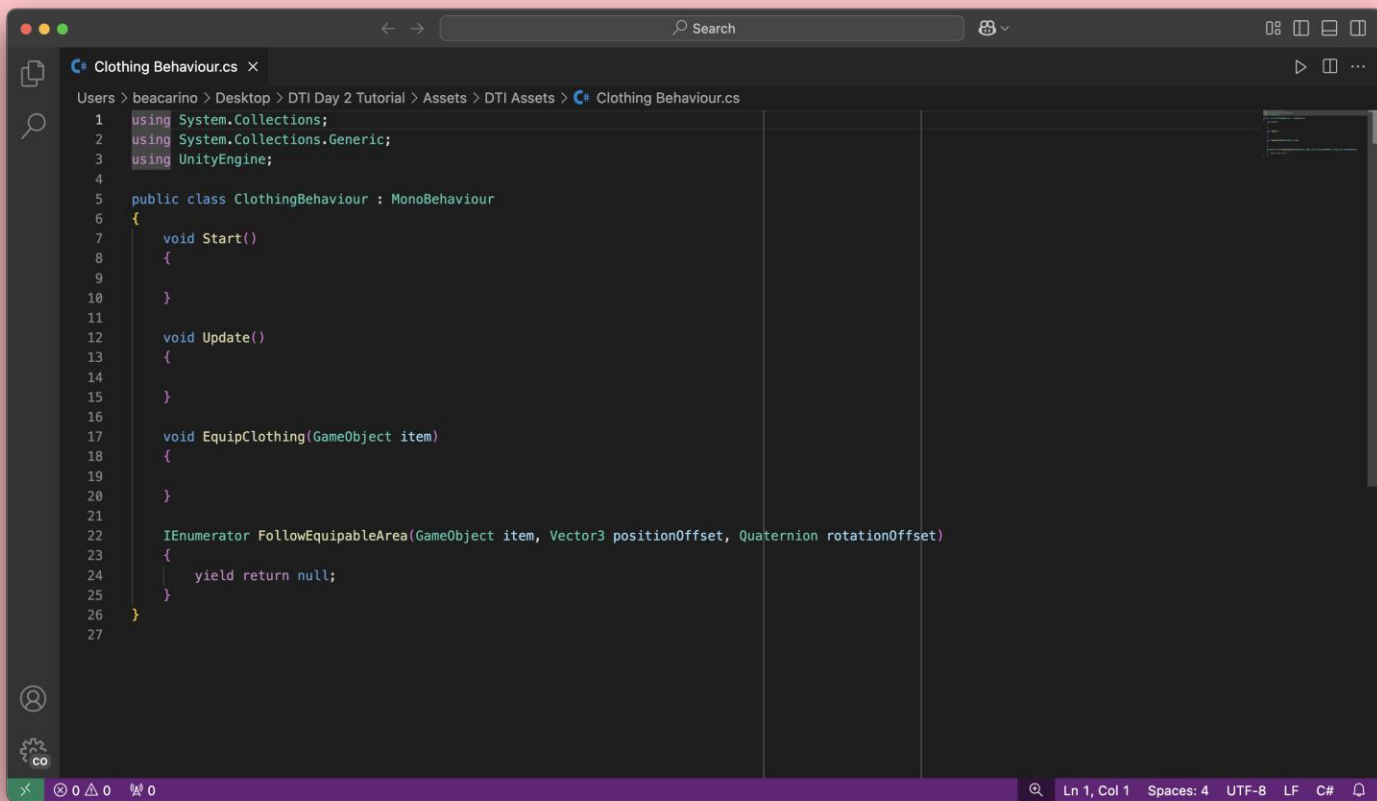


# Clothes Script

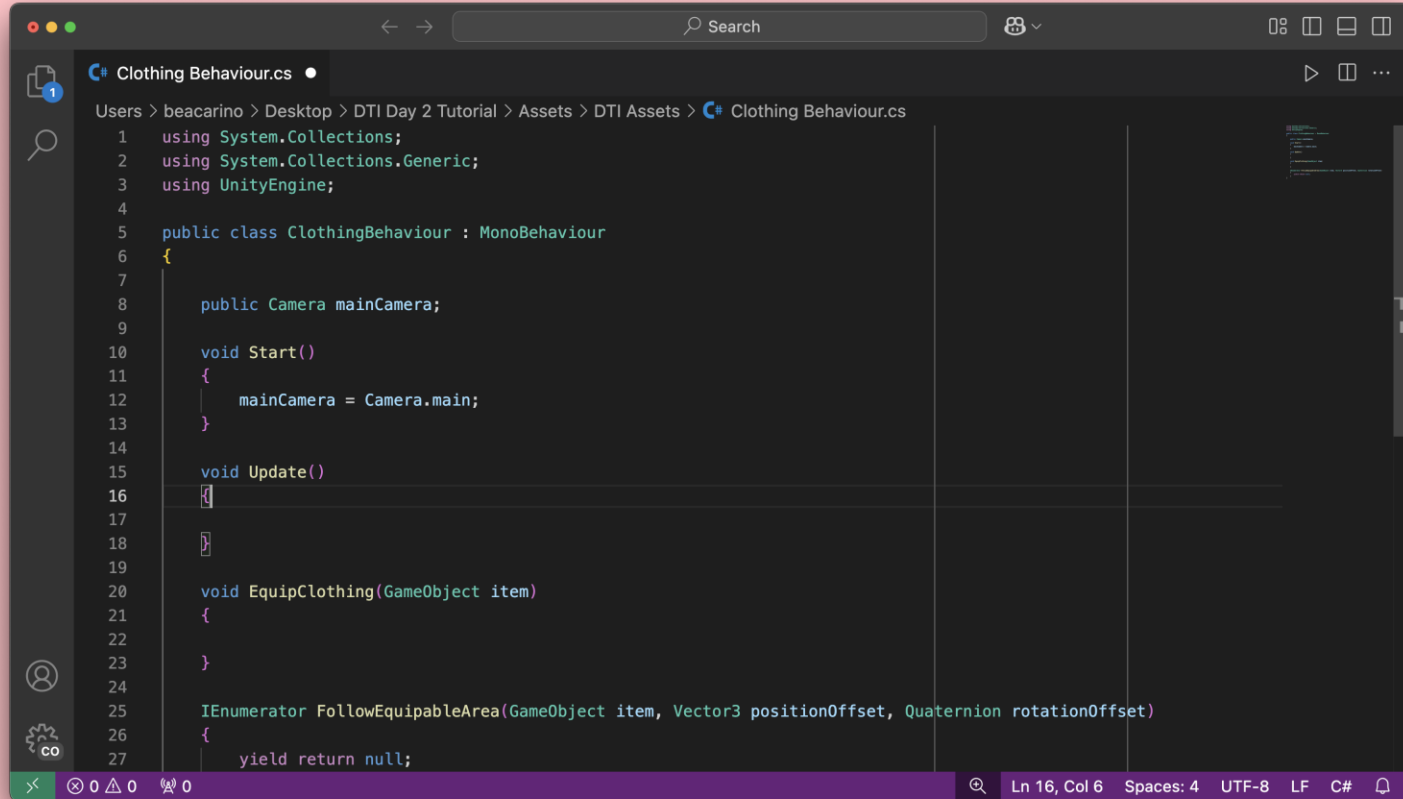
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- **Coding clothing behaviour**

Open up Assets > DTI Assets > Clothing Behaviour file.

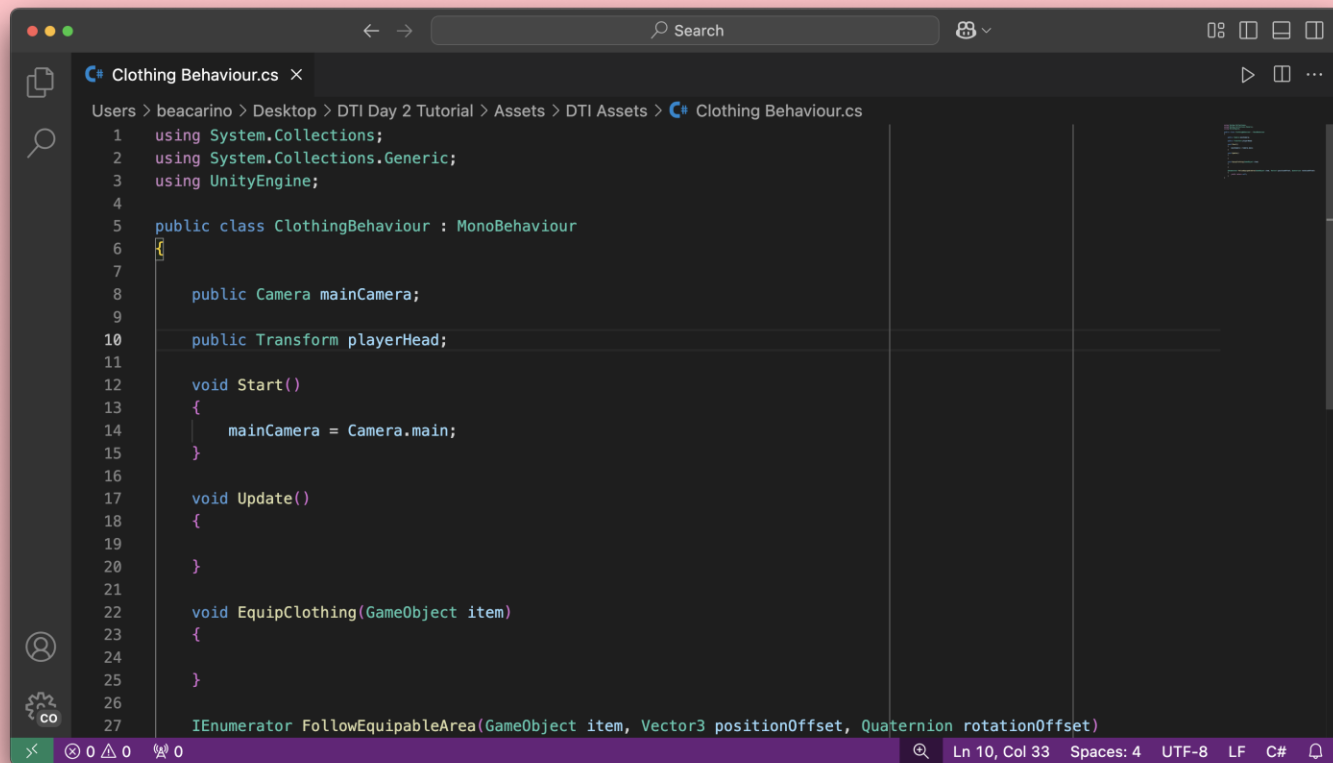


## Start by setting up the camera.



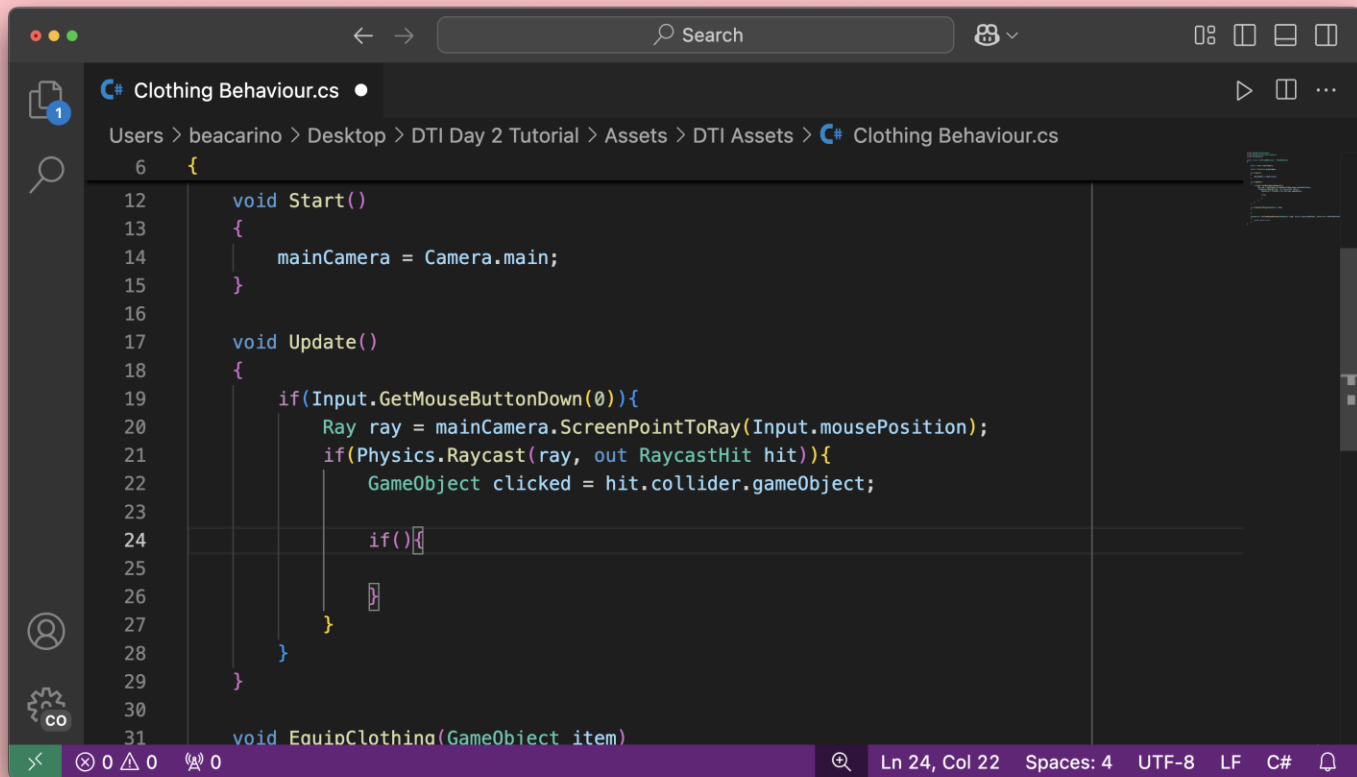
```
C# Clothing Behaviour.cs
Users > beacarino > Desktop > DTI Day 2 Tutorial > Assets > DTI Assets > C# Clothing Behaviour.cs
1  using System.Collections;
2  using System.Collections.Generic;
3  using UnityEngine;
4
5  public class ClothingBehaviour : MonoBehaviour
6  {
7
8      public Camera mainCamera;
9
10     void Start()
11     {
12         mainCamera = Camera.main;
13     }
14
15     void Update()
16     {
17
18     }
19
20     void EquipClothing(GameObject item)
21     {
22
23     }
24
25     IEnumerator FollowEquipableArea(GameObject item, Vector3 positionOffset, Quaternion rotationOffset)
26     {
27         yield return null;
```

Depending on where you want your clothing to attach to add a variable referring to that part (i.e. hat -> playerHead etc.)



```
C# Clothing Behaviour.cs X
Users > beacarno > Desktop > DTI Day 2 Tutorial > Assets > DTI Assets > Clothing Behaviour.cs
1  using System.Collections;
2  using System.Collections.Generic;
3  using UnityEngine;
4
5  public class ClothingBehaviour : MonoBehaviour
6  {
7
8      public Camera mainCamera;
9
10     public Transform playerHead;
11
12     void Start()
13     {
14         mainCamera = Camera.main;
15     }
16
17     void Update()
18     {
19     }
20
21
22     void EquipClothing(GameObject item)
23     {
24     }
25
26
27     IEnumerator FollowEquipableArea(GameObject item, Vector3 positionOffset, Quaternion rotationOffset)
```

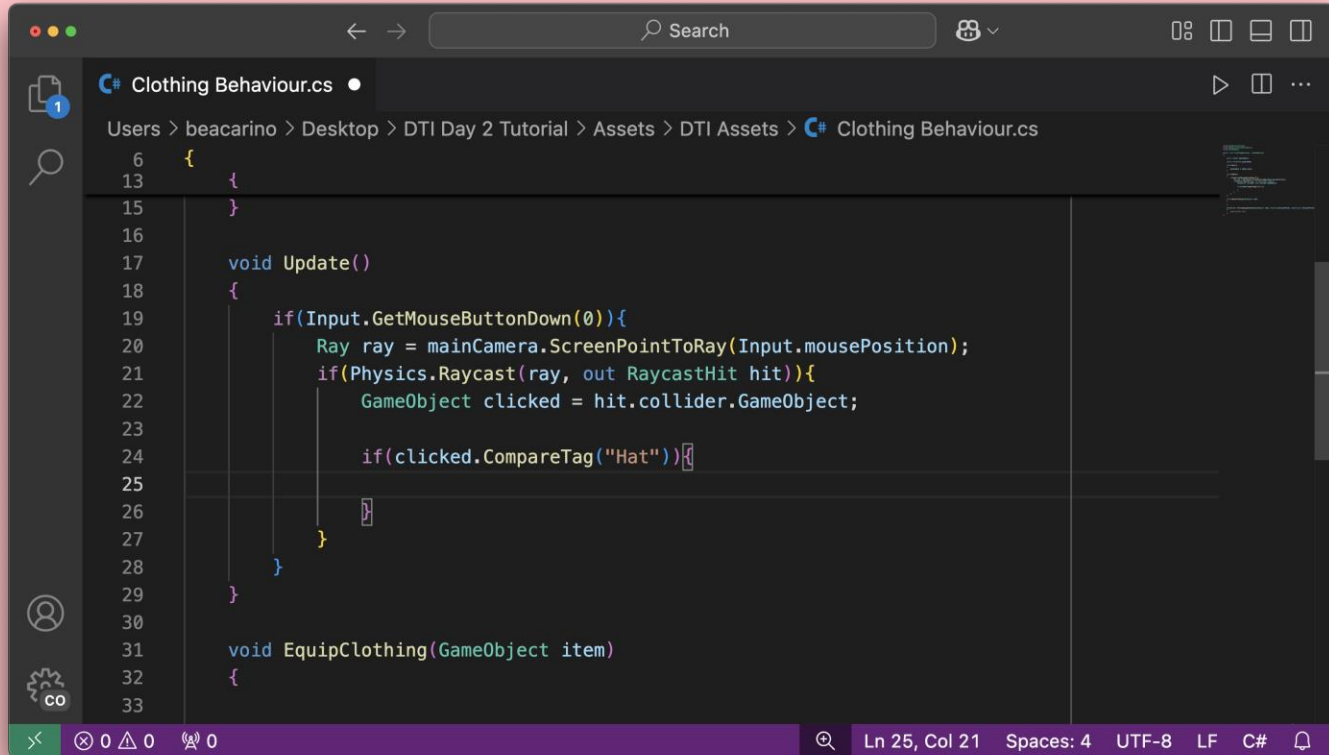
Write the following code for the Update() method in the script.



```
6 {  
12     void Start()  
13     {  
14         mainCamera = Camera.main;  
15     }  
16  
17     void Update()  
18     {  
19         if(Input.GetMouseButtonDown(0)){  
20             Ray ray = mainCamera.ScreenPointToRay(Input.mousePosition);  
21             if(Physics.Raycast(ray, out RaycastHit hit)){  
22                 GameObject clicked = hit.collider.gameObject;  
23  
24                 if()  
25             }  
26         }  
27     }  
28 }  
29  
30  
31 void EquipClothing(GameObject item)
```



Now depending on what you named the tag you created earlier do the following if statement and replace "Hat" to your tag

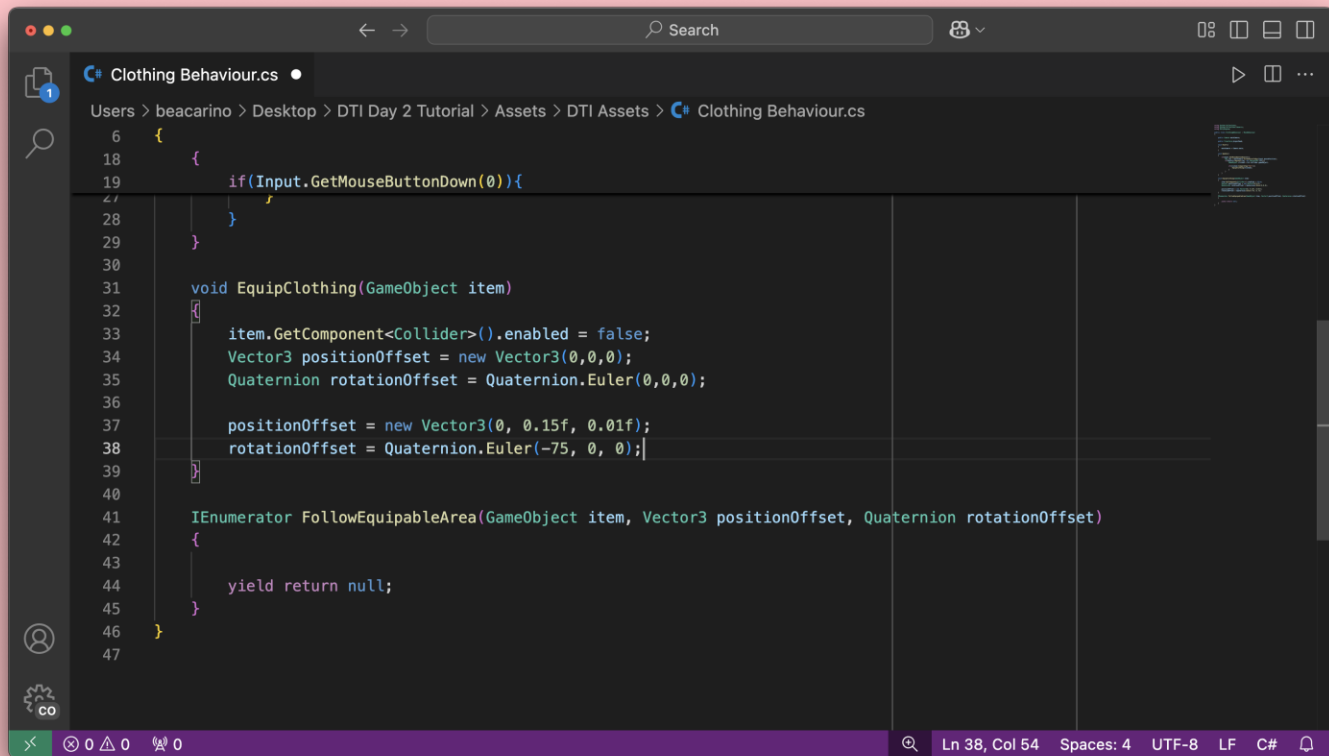


The screenshot shows the Visual Studio Code editor with a file named 'Clothing Behaviour.cs' open. The file path in the breadcrumb is 'Users > beacarino > Desktop > DTI Day 2 Tutorial > Assets > DTI Assets > Clothing Behaviour.cs'. The code is as follows:

```
6      {
13     {
15     }
16
17     void Update()
18     {
19         if(Input.GetMouseButtonDown(0)){
20             Ray ray = mainCamera.ScreenPointToRay(Input.mousePosition);
21             if(Physics.Raycast(ray, out RaycastHit hit)){
22                 GameObject clicked = hit.collider.gameObject;
23
24                 if(clicked.CompareTag("Hat")){
25
26                 }
27             }
28         }
29     }
30
31     void EquipClothing(GameObject item)
32     {
33     }
```

The status bar at the bottom indicates 'Ln 25, Col 21', 'Spaces: 4', 'UTF-8', 'LF', 'C#', and a bell icon.

Write the following code for the EquipClothing() method. Offsets can be adjusted later on as needed!



```
6  {
18  {
19      if(Input.GetMouseButtonDown(0)){
20          //
21          }
22      }
23  }
24
25  void EquipClothing(GameObject item)
26  {
27      item.GetComponent<Collider>().enabled = false;
28      Vector3 positionOffset = new Vector3(0,0,0);
29      Quaternion rotationOffset = Quaternion.Euler(0,0,0);
30
31      positionOffset = new Vector3(0, 0.15f, 0.01f);
32      rotationOffset = Quaternion.Euler(-75, 0, 0);
33  }
34
35  IEnumerator FollowEquipableArea(GameObject item, Vector3 positionOffset, Quaternion rotationOffset)
36  {
37      yield return null;
38  }
39  }
```

The screenshot shows a code editor window titled 'Clothing Behaviour.cs'. The file path is 'Users > beacarino > Desktop > DTI Day 2 Tutorial > Assets > DTI Assets > Clothing Behaviour.cs'. The code is in C# and shows the implementation of the EquipClothing() method. The method disables the collider of the item and sets position and rotation offsets. The position offset is (0, 0.15f, 0.01f) and the rotation offset is Quaternion.Euler(-75, 0, 0). The method also includes a commented-out line for a FollowEquipableArea method.

## Write the following code for the FollowEquipableArea() method

```
Users > beacarino > Desktop > DTI Workshop Day 2 > Assets > DTI Assets > Clothing Behaviour.cs
6 {
30 }
31
32 void EquipClothing(GameObject item)
33 {
34     item.GetComponent<Collider>().enabled = false;
35     Vector3 positionOffset = new Vector3(0,0,0);
36     Quaternion rotationOffset = Quaternion.Euler(0,0,0);
37
38     positionOffset = new Vector3(0, 0.15f, 0.01f);
39     rotationOffset = Quaternion.Euler(-75, 0, 0);
40
41 }
42
43 IEnumerator FollowEquipableArea(GameObject item, Vector3 positionOffset, Quaternion rotationOffset)
44 {
45     while(true){
46         if(item.CompareTag("Hat")){
47             item.transform.position = playerHead.position + playerHead.TransformVector(positionOffset);
48             item.transform.rotation = playerHead.rotation * rotationOffset;
49         }
50
51         yield return null;
52     }
53 }
54 }
55
```

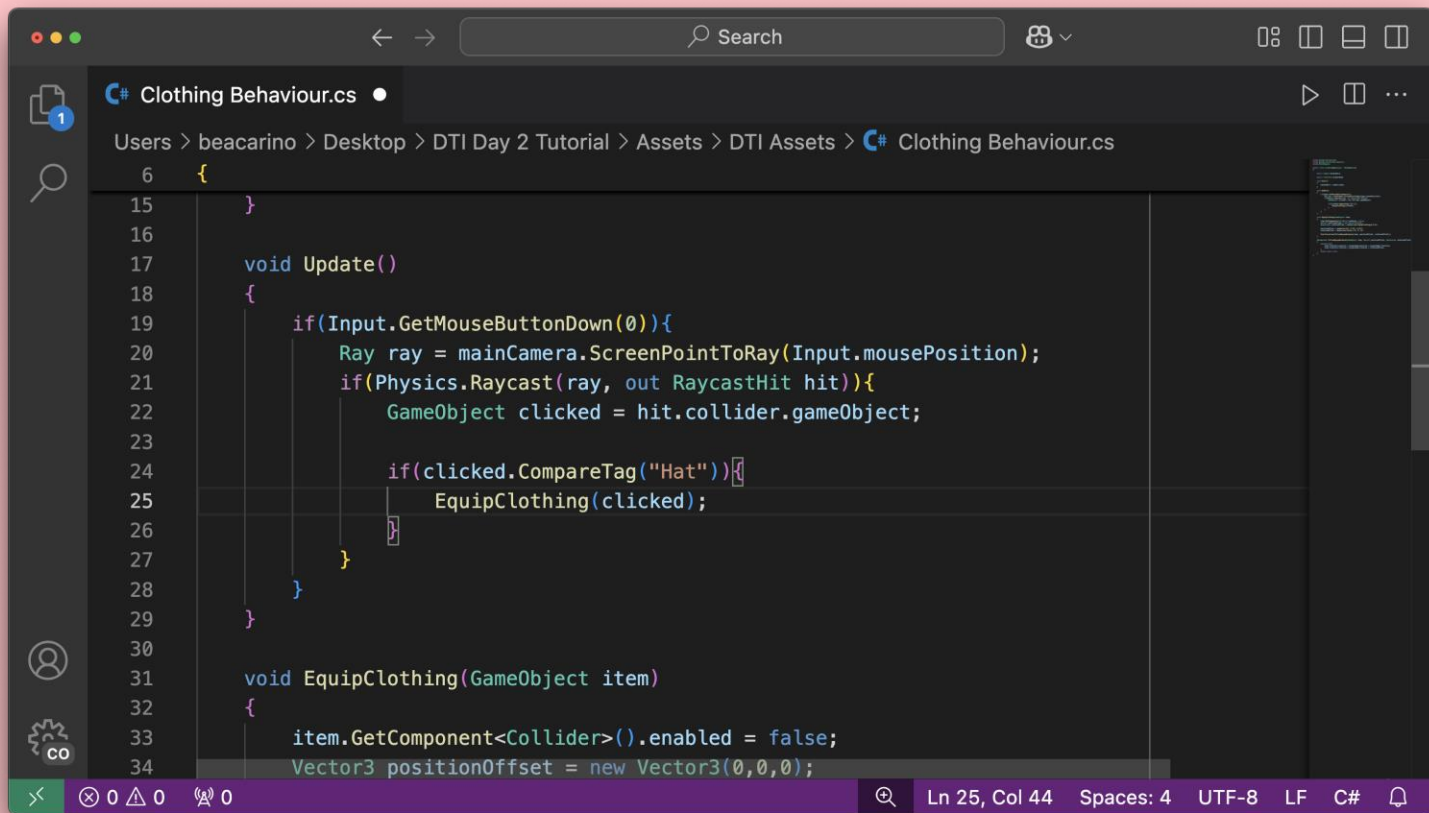
Ln 40, Col 1 Spaces: 4 UTF-8 LF C#

## Call FollowEquipableArea() method in EquipClothing() method.

```
Users > beacarino > Desktop > DTI Workshop Day 2 > Assets > DTI Assets > Clothing Behaviour.cs
6  {
18  {
19      if(Input.GetMouseButtonDown(0)){
21          if(Physics.Raycast(ray, out RaycastHit hit)){
28              }
29          }
30      }
31
32      void EquipClothing(GameObject item)
33      {
34          item.GetComponent<Collider>().enabled = false;
35          Vector3 positionOffset = new Vector3(0,0,0);
36          Quaternion rotationOffset = Quaternion.Euler(0,0,0);
37
38          positionOffset = new Vector3(0, 0.15f, 0.01f);
39          rotationOffset = Quaternion.Euler(-75, 0, 0);
40
41          StartCoroutine(FollowEquipableArea(item, positionOffset, rotationOffset));
42      }
43
44      IEnumerator FollowEquipableArea(GameObject item, Vector3 positionOffset, Quaternion rotationOffset)
45      {
46          while(true){
47              if(item.CompareTag("Hat")){
48                  item.transform.position = playerHead.position + playerHead.TransformVector(positionOffset);
49                  item.transform.rotation = playerHead.rotation * rotationOffset;
50              }
51
52              yield return null;
53          }
54      }
55  }
```

Ln 41, Col 83 Spaces: 4 UTF-8 LF C#

**Call EquipClothing() method in Update() method. And save your script!**



```
C# Clothing Behaviour.cs
Users > beacarino > Desktop > DTI Day 2 Tutorial > Assets > DTI Assets > C# Clothing Behaviour.cs

6  {
15 }
16
17 void Update()
18 {
19     if(Input.GetMouseButtonDown(0)){
20         Ray ray = mainCamera.ScreenPointToRay(Input.mousePosition);
21         if(Physics.Raycast(ray, out RaycastHit hit)){
22             GameObject clicked = hit.collider.gameObject;
23
24             if(clicked.CompareTag("Hat")){
25                 EquipClothing(clicked);
26             }
27         }
28     }
29 }
30
31 void EquipClothing(GameObject item)
32 {
33     item.GetComponent<Collider>().enabled = false;
34     Vector3 positionOffset = new Vector3(0,0,0);
```

Ln 25, Col 44 Spaces: 4 UTF-8 LF C#

## Save your script and return to the editor.

```
Users > beacarno > Desktop > DTI Workshop Day 2 > Assets > DTI Assets > Clothing Behaviour.cs
1  using System.Collections;
2  using System.Collections.Generic;
3  using UnityEngine;
4
5  public class ClothingBehaviour : MonoBehaviour
6  {
7
8      private Camera mainCamera;
9
10     public Transform playerHead;
11
12     void Start()
13     {
14         mainCamera = Camera.main;
15     }
16
17     void Update()
18     {
19         if(Input.GetMouseButtonDown(0)){
20             Ray ray = mainCamera.ScreenPointToRay(Input.mousePosition);
21             if(Physics.Raycast(ray, out RaycastHit hit)){
22                 GameObject clicked = hit.collider.gameObject;
23
24                 if(clicked.CompareTag("Hat")){
25                     Debug.Log("Clicked");
26                     EquipClothing(clicked);
27                 }
28             }
29         }
30     }
31
32     void EquipClothing(GameObject item)
33     {
34         item.GetComponent<Collider>().enabled = false;
35         Vector3 positionOffset = new Vector3(0,0,0);
36         Quaternion rotationOffset = Quaternion.Euler(0,0,0);
37
38         positionOffset = new Vector3(0, 0.15f, 0.01f);
39         rotationOffset = Quaternion.Euler(-75, 0, 0);
40
41         StartCoroutine(FollowEquipableArea(item, positionOffset, rotationOffset));
42     }
43
44     IEnumerator FollowEquipableArea(GameObject item, Vector3 positionOffset, Quaternion rotationOffset)
45     {
46         while(true){
47             if(item.CompareTag("Hat")){
48                 item.transform.position = playerHead.position + playerHead.TransformVector(positionOffset);
49                 item.transform.rotation = playerHead.rotation * rotationOffset;
50             }
51
52             yield return null;
53         }
54     }
55 }
56
```

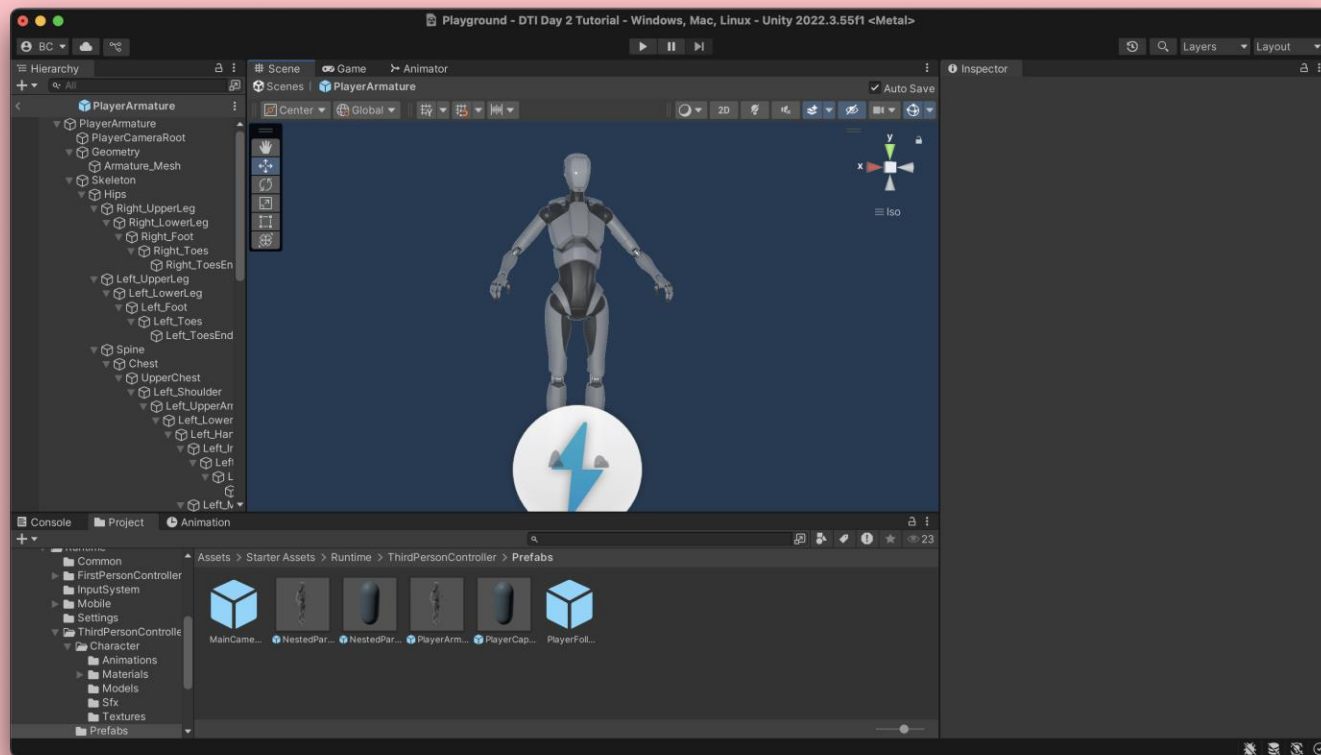
Ln 41, Col 83 Spaces: 4 UTF-8 LF C#

# Implementing Clothes Behaviour

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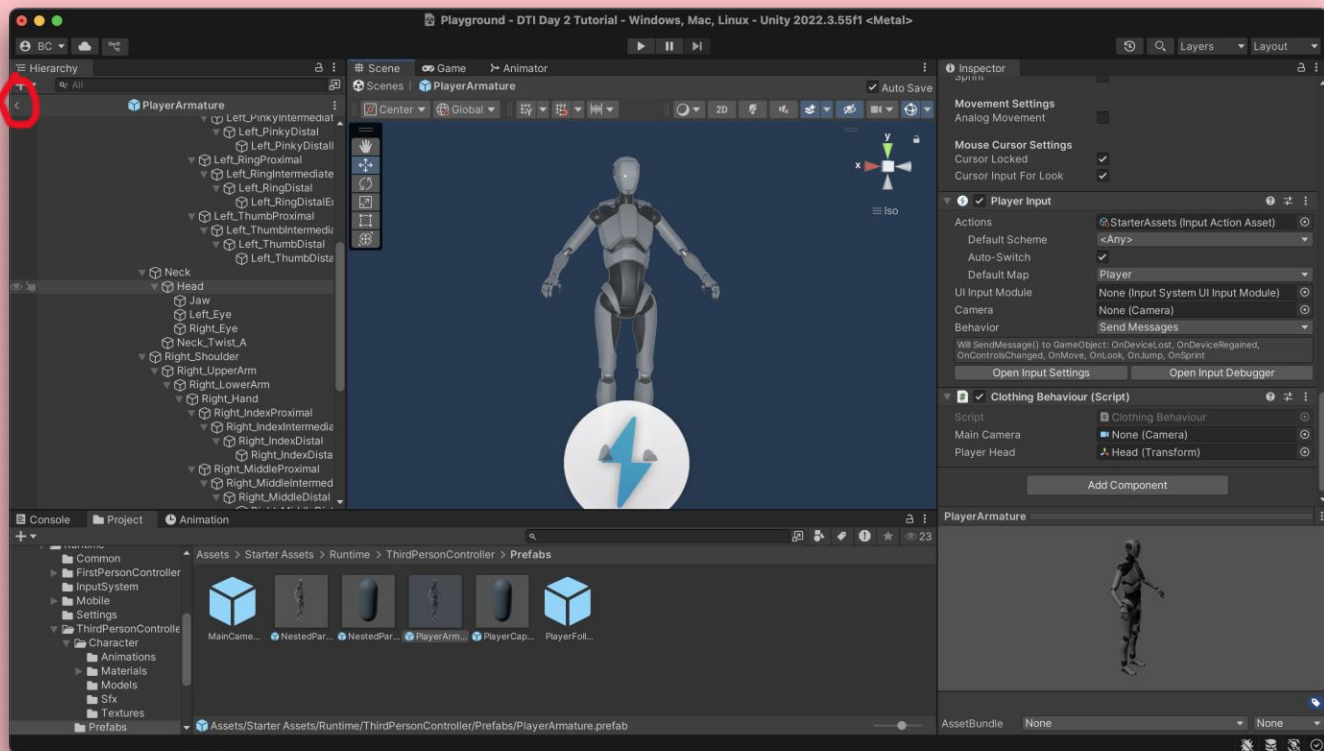
- **Assigning transforms for script**

**Open Assets > Starter Assets > Runtime > ThirdPersonController > Prefabs and double click on PlayerArmature**

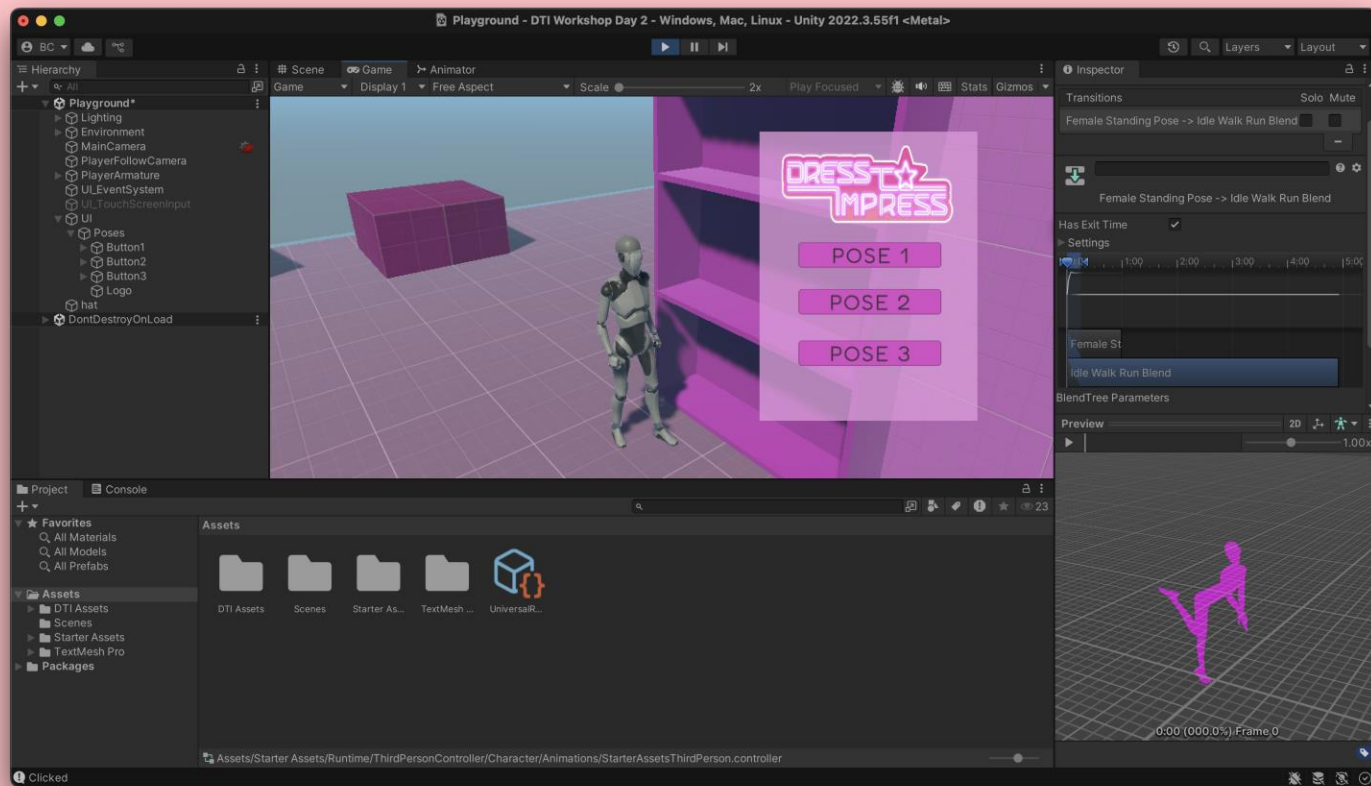




Exit back to scene by clicking on the arrow on the left by "PlayerArmature" and save your project.



Hit play, click your placed clothing and adjust offsets in script as need



# You Can Now Rock The Runway!

