GAME PROGRAMMING

LAB 4 : BEGINNER SCRIPTING PART 2

Aim: To practice the following scripts using the required game objects
https://learn.unity.com/project/beginner-gameplay-scripting?uv=2019.3

- ➔ 1. Linear Interpolation
- ➔ 2. Destroy
- ➔ 3. GetButton & GetKey
- ➔ 4. GetAxis
- ➔ 5. OnMouseDown
- ➔ 6. GetComponent
- ➔ 7. Delta Time
- ➔ 8. DataTypes
- ➔ 9. Classes
- ➔ 10. Instantiate
- ➔ 11. Arrays
- ➔ 12. Invoke
- ➔ 13. Enumerations
- ➔ 14. Switch Statements

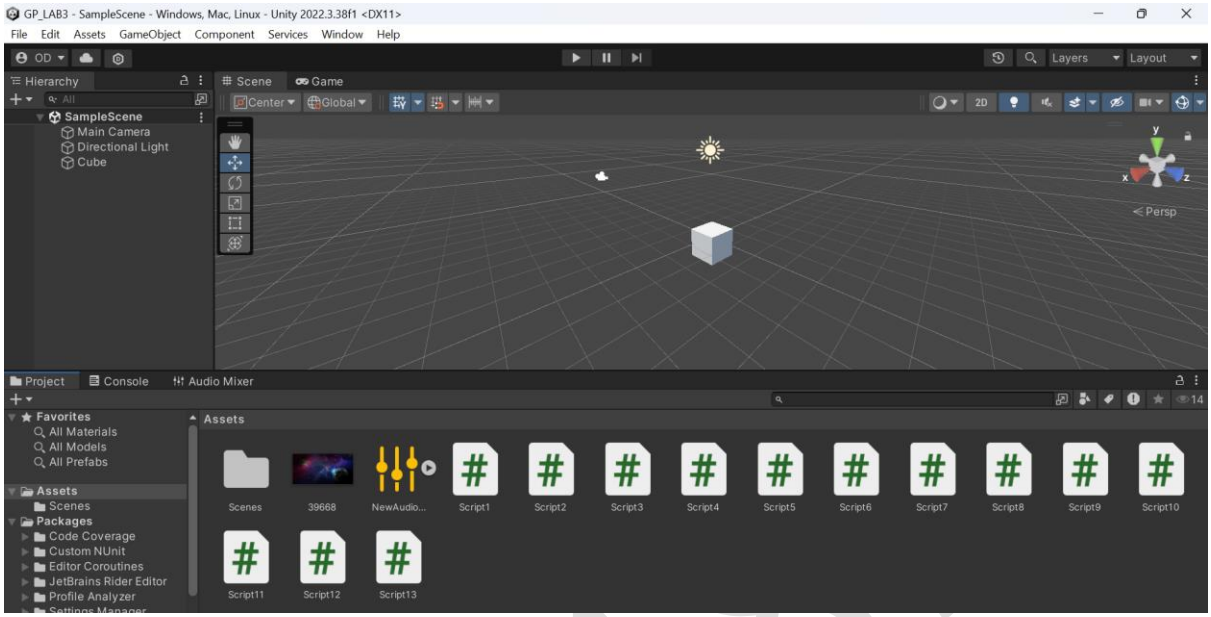
Execute the scripts given in the link for the above listed items and provide appropriate screenshots, gameplay video for giving the clarity of your development.

21BAI1876

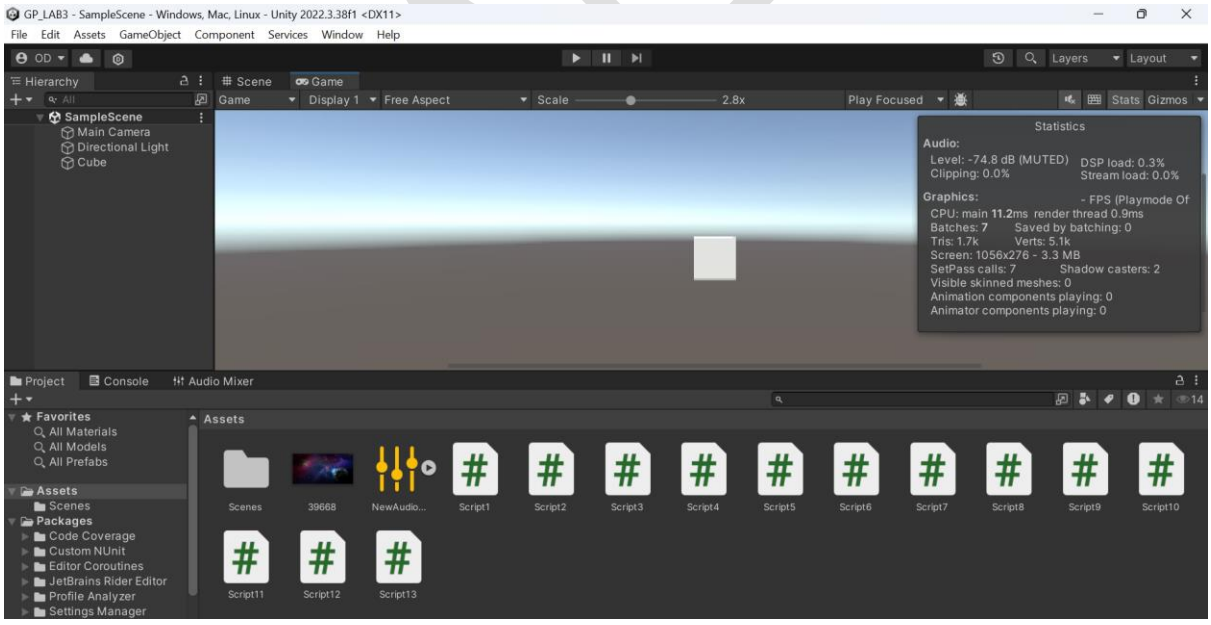
NAME : OM SUBRATO DEY

REGISTER NUMBER : 21BAI1876

From the final stage of the previous assignment, we remember we had got something like this

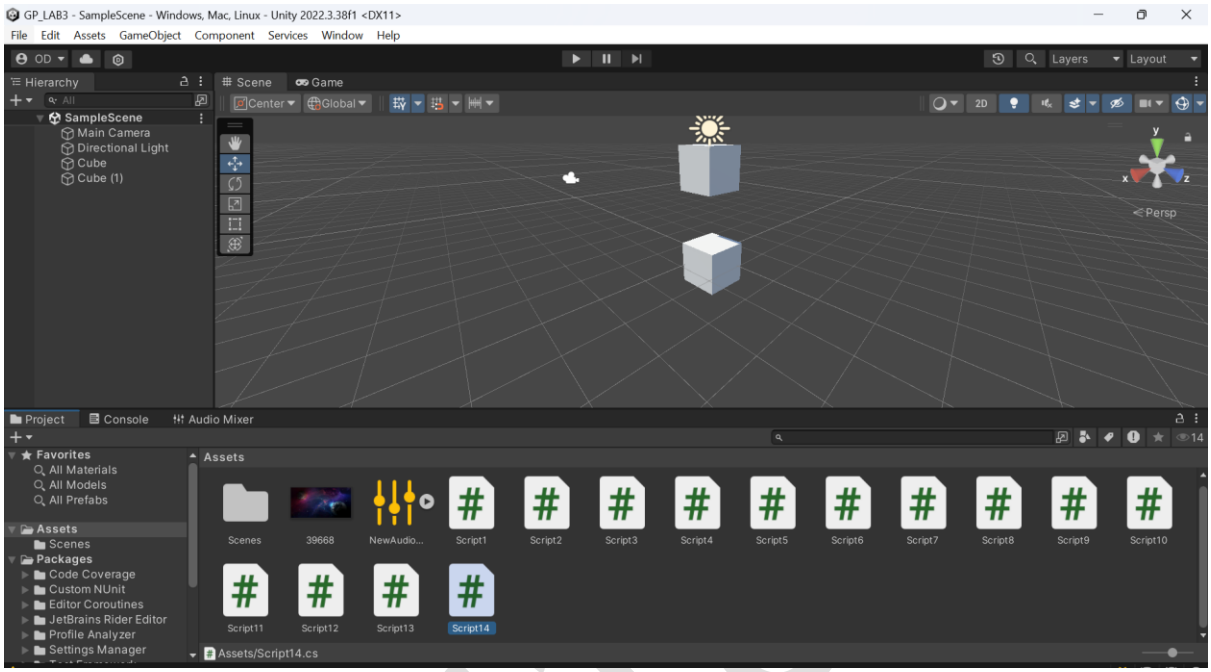


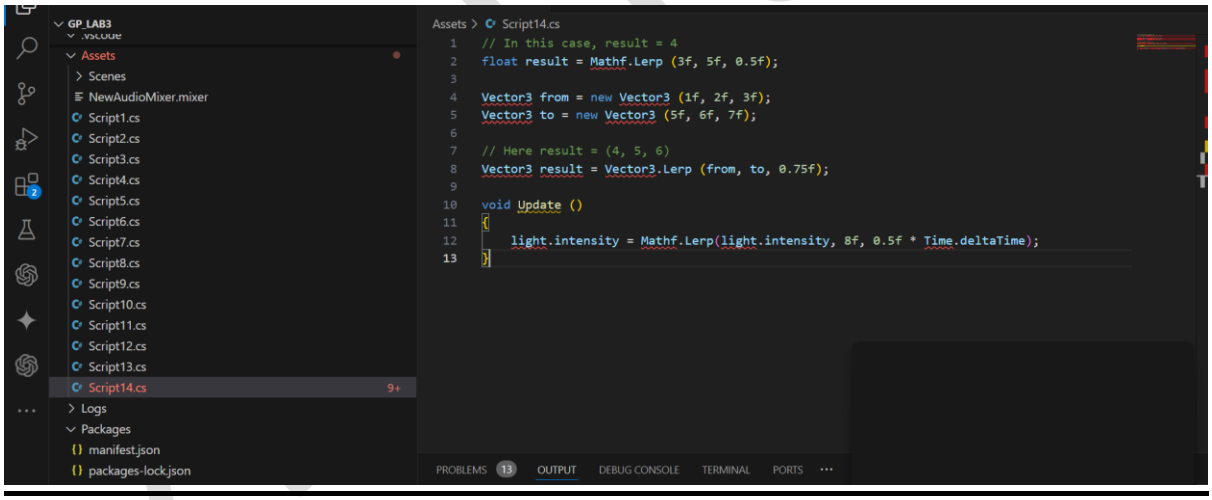
In game mode:



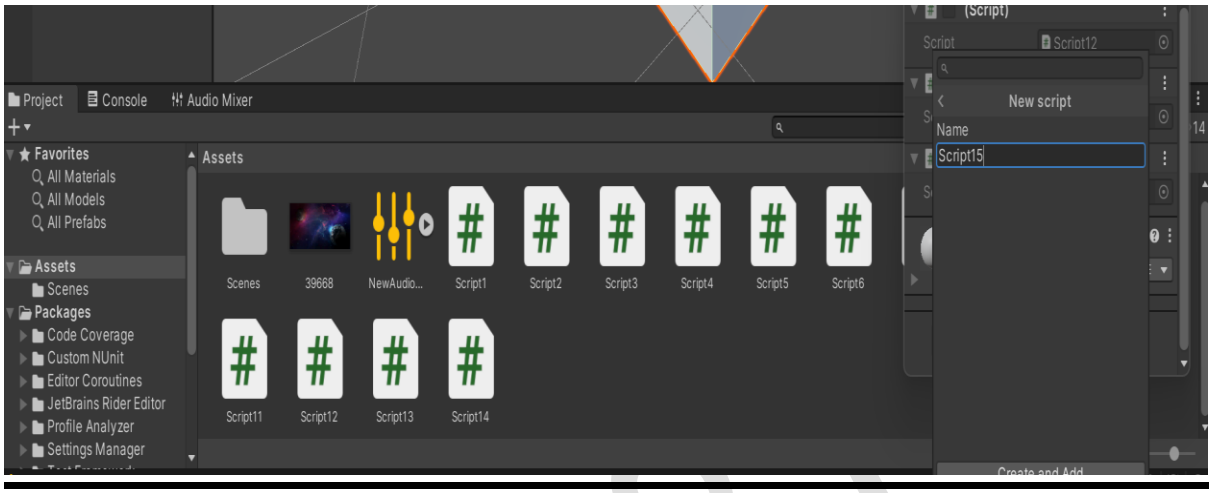
Now we will add the additional scripts as per mentioned in this upcoming assignment.

1. Linear Interpolation:





2. Destroy:


Project
Console
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All Prefabs
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Packages
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JetBrains Rider Editor
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Settings Manager
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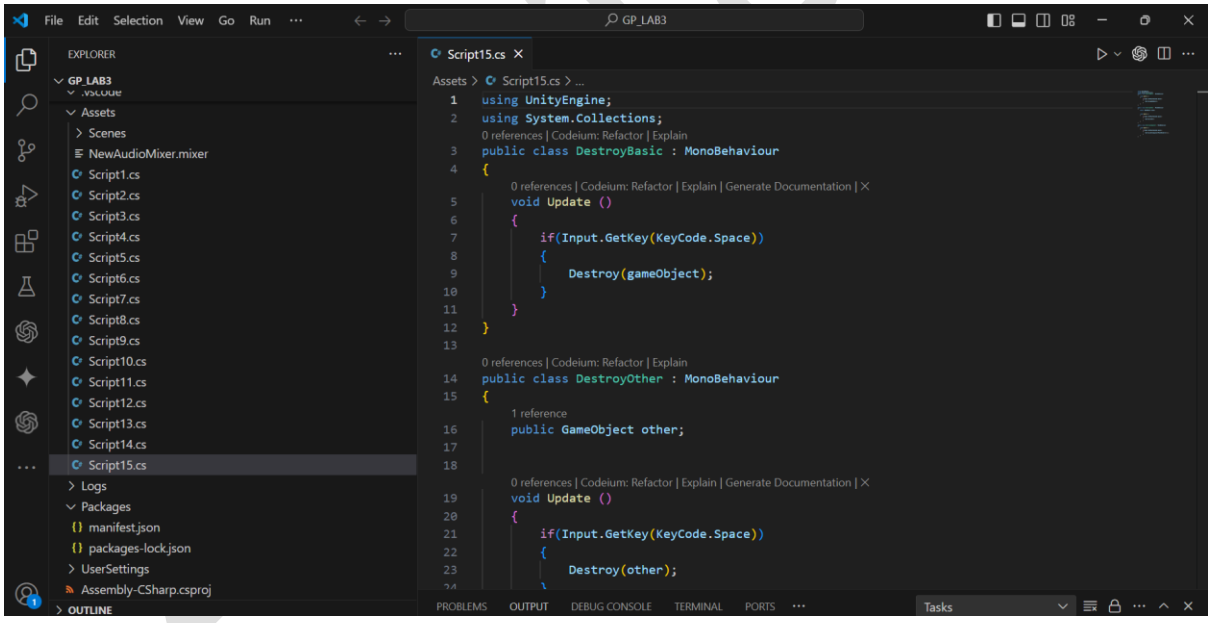
39668
NewAudio...
Script1
Script2
Script3
Script4
Script5
Script6
Script11
Script12
Script13
Script14
(Script)
Script
Script12
New script
Name
Script15
Create and Add


File Edit Selection View Go Run
GP_LAB3
EXPLORER
GP_LAB3
Assets
Scenes
NewAudioMixer.mixer
Script1.cs
Script2.cs
Script3.cs
Script4.cs
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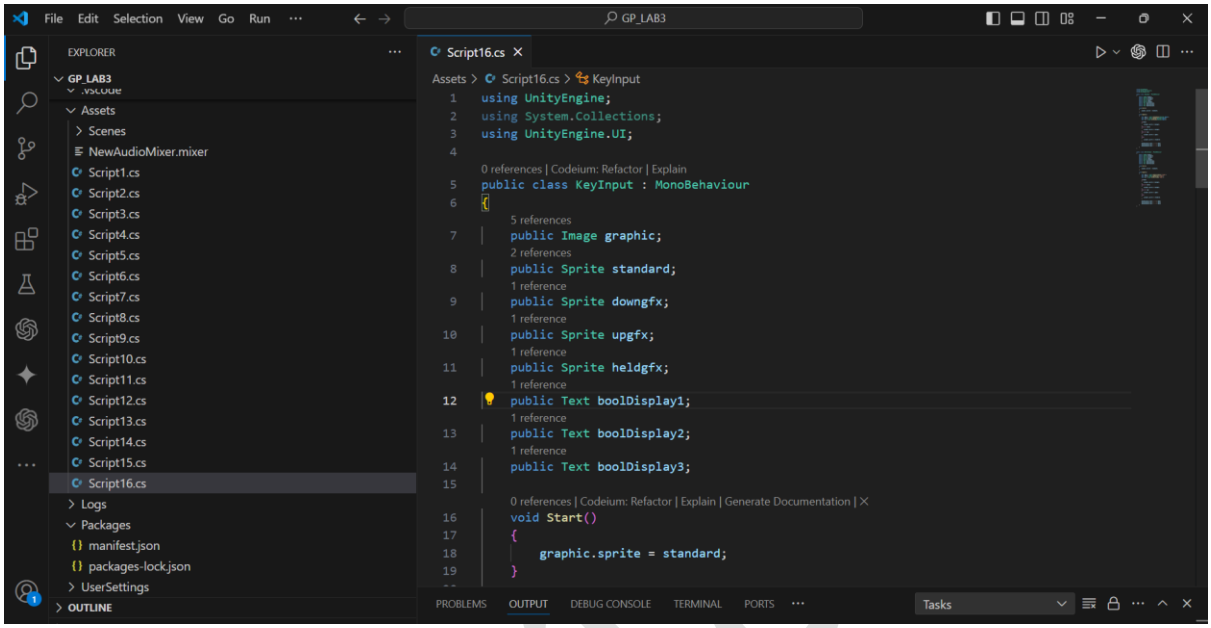
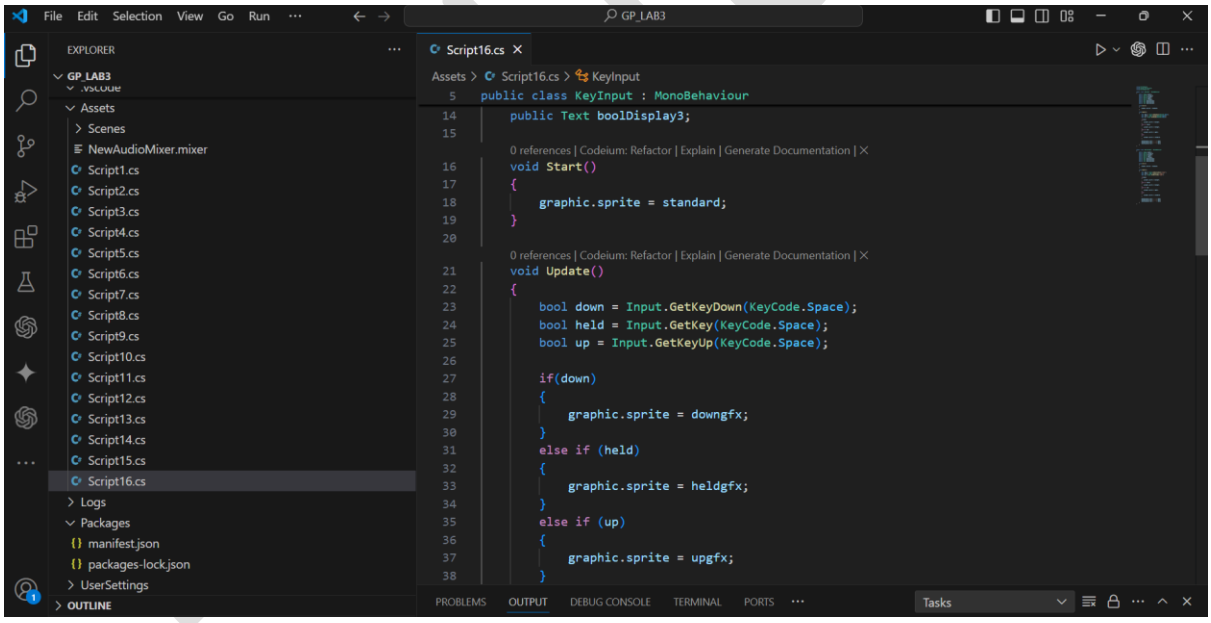
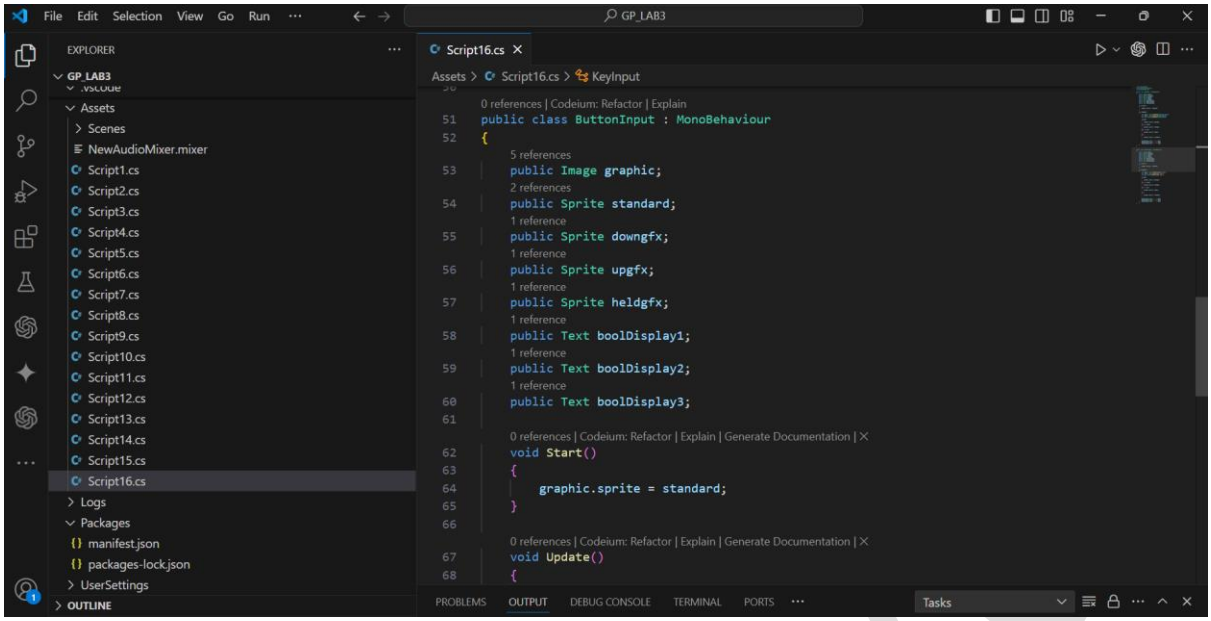
Script10.cs
Script11.cs
Script12.cs
Script13.cs
Script14.cs
Script15.cs
Logs
Packages
manifest.json
packages-lock.json
UserSettings
Assembly-CSharp.csproj
OUTLINE
Script15.cs
Assets > Script15.cs > ...
using UnityEngine;
using System.Collections;
0 references | Codeium: Refactor | Explain
public class DestroyBasic : MonoBehaviour
{
0 references | Codeium: Refactor | Explain | Generate Documentation |
void Update ()
{
if(Input.GetKey(KeyCode.Space))
{
Destroy(gameObject);
}
}
}
0 references | Codeium: Refactor | Explain
public class DestroyOther : MonoBehaviour
{
1 reference
public GameObject other;
0 references | Codeium: Refactor | Explain | Generate Documentation |
void Update ()
{
if(Input.GetKey(KeyCode.Space))
{
Destroy(other);
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
Tasks

3. GetButton and GetKey:






File Edit Selection View Go Run
GP_LAB3
EXPLORER
Script16.cs
Assets > Script16.cs > KeyInput
0 references | Codeium: Refactor | Explain
public class ButtonInput : MonoBehaviour
{
5 references
public Image graphic;
2 references
public Sprite standard;
1 reference
public Sprite downgfx;
1 reference
public Sprite upgfx;
1 reference
public Sprite heldgfx;
1 reference
public Text boolDisplay1;
1 reference
public Text boolDisplay2;
1 reference
public Text boolDisplay3;
0 references | Codeium: Refactor | Explain | Generate Documentation |
void Start()
{
graphic.sprite = standard;
}
0 references | Codeium: Refactor | Explain | Generate Documentation |
void Update()
{
GP_LAB3
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NewAudioMixer.mixer
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Script3.cs
Script4.cs
Script5.cs
Script6.cs
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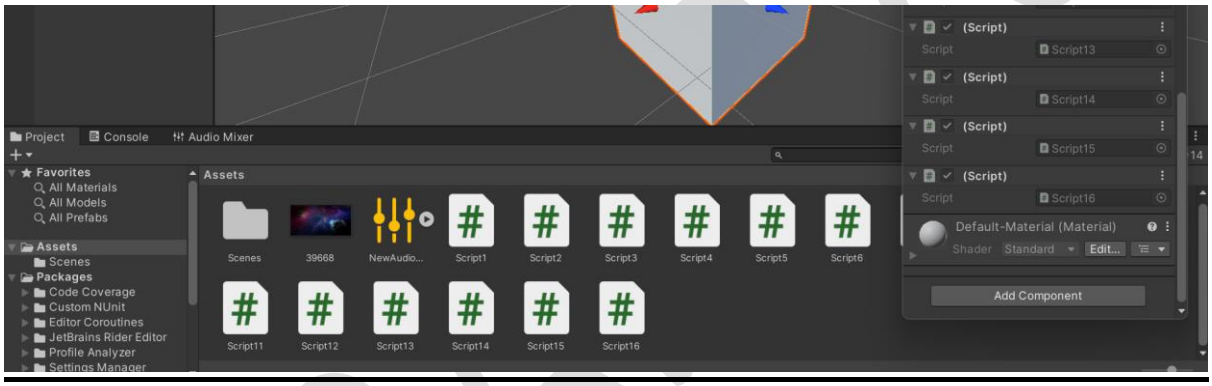
Script10.cs
Script11.cs
Script12.cs
Script13.cs
Script14.cs
Script15.cs
Script16.cs
Logs
Packages
manifest.json
packages-lock.json
UserSettings
OUTLINE
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
Tasks


Project
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Script
Script15
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Script
Script16
Default-Material (Material)
Shader
Standard
Edit...
Add Component

> 4.GetAxis

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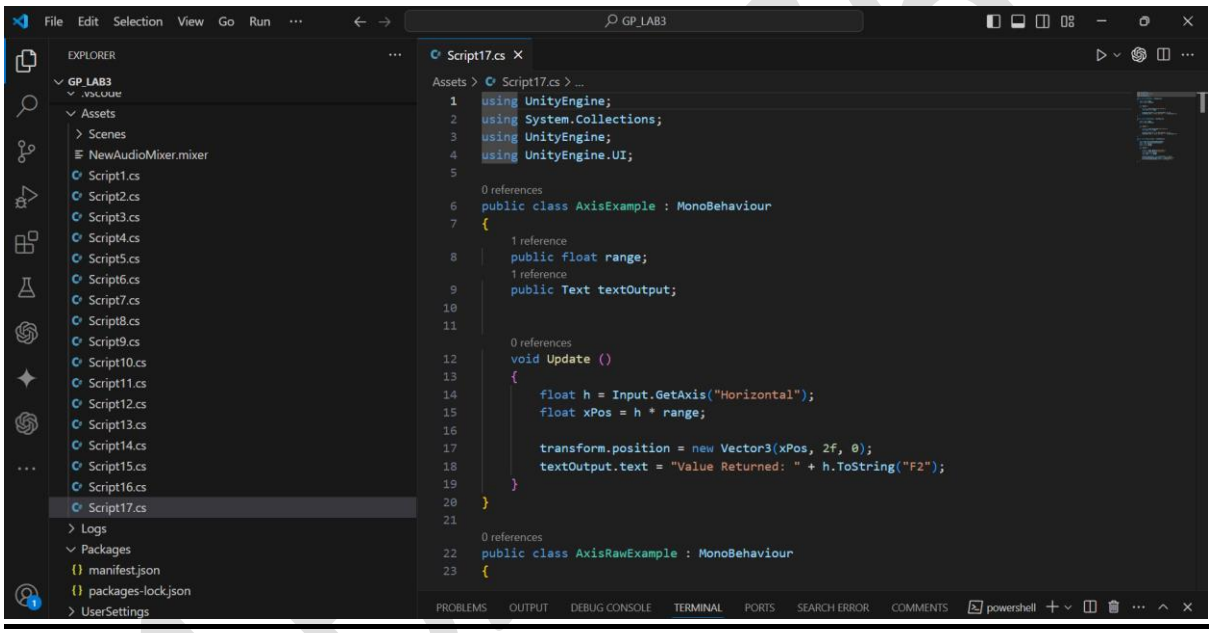
Default-Material (Material)
Shader
Standard
Edit...
Add Component


File Edit Selection View Go Run
GP_LAB3
EXPLORER
GP_LAB3
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Scenes
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Script1.cs
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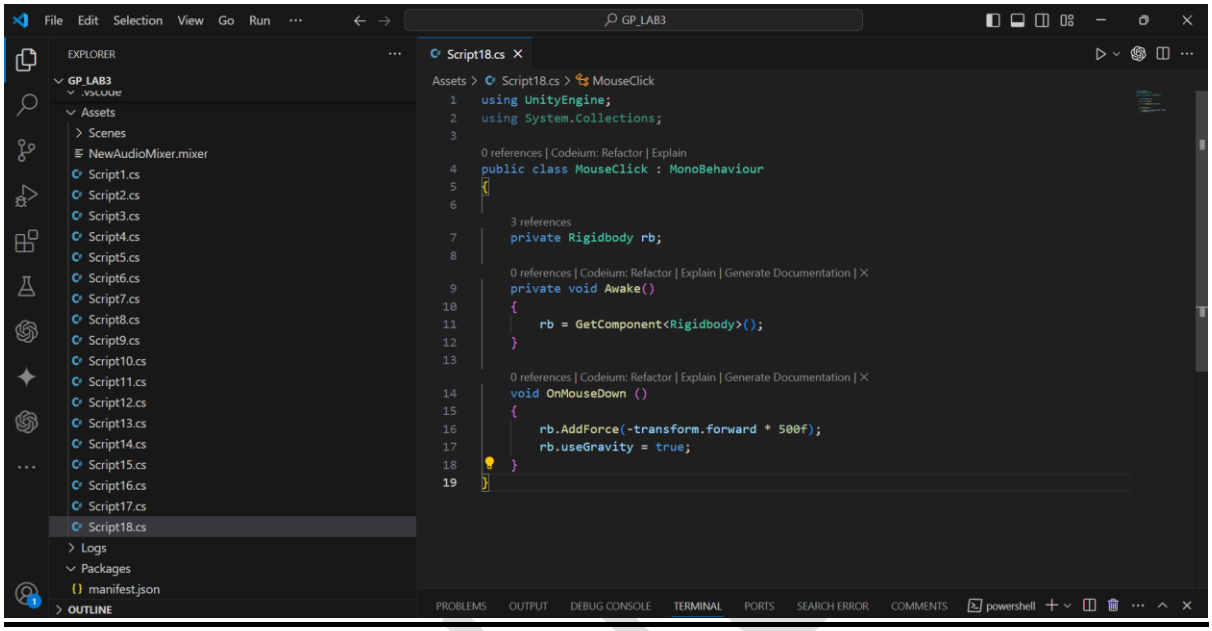
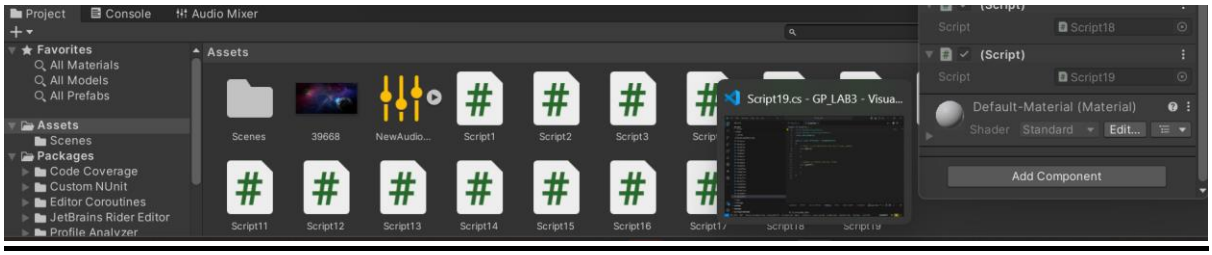
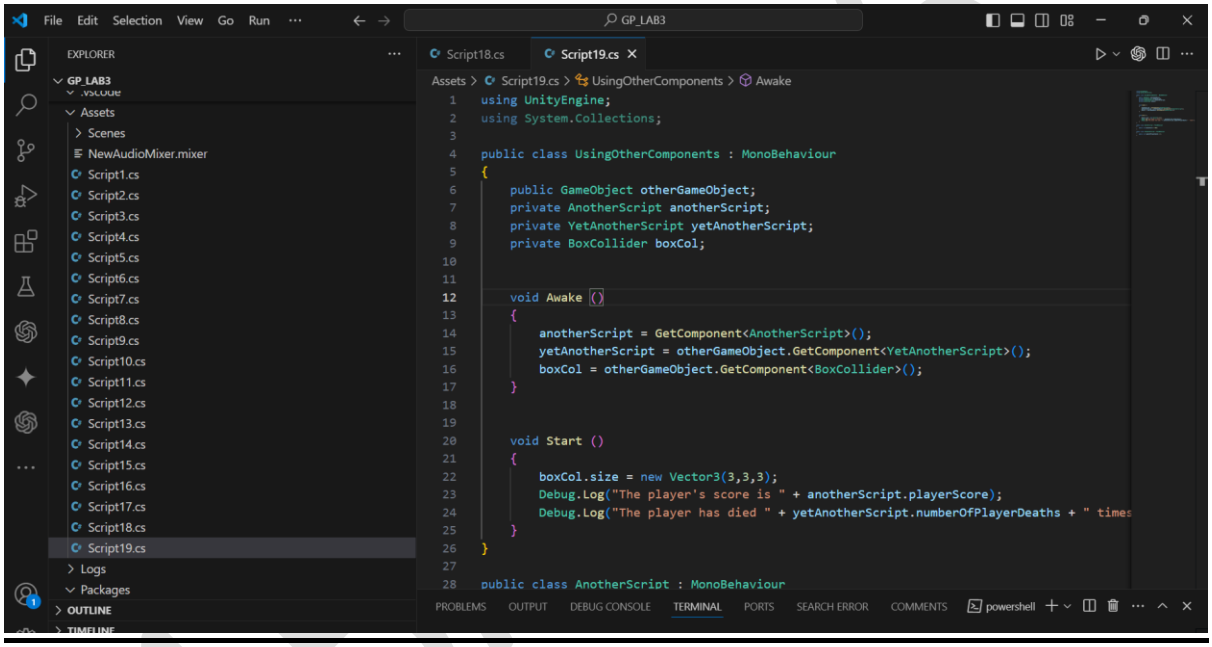
Script12.cs
Script13.cs
Script14.cs
Script15.cs
Script16.cs
Script17.cs
Logs
Packages
manifest.json
packages-lock.json
UserSettings
Script17.cs
Assets > Script17.cs > ...
using UnityEngine;
using System.Collections;
using UnityEngine;
using UnityEngine.UI;
0 references
public class AxisExample : MonoBehaviour
{
1 reference
public float range;
1 reference
public Text textOutput;
0 references
void Update ()
{
float h = Input.GetAxis("Horizontal");
float xPos = h * range;
transform.position = new Vector3(xPos, 2f, 0);
textOutput.text = "Value Returned: " + h.ToString("F2");
}
}
0 references
public class AxisRawExample : MonoBehaviour
{
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
SEARCH ERROR
COMMENTS
powershell

➔ 5. OnMouseDown

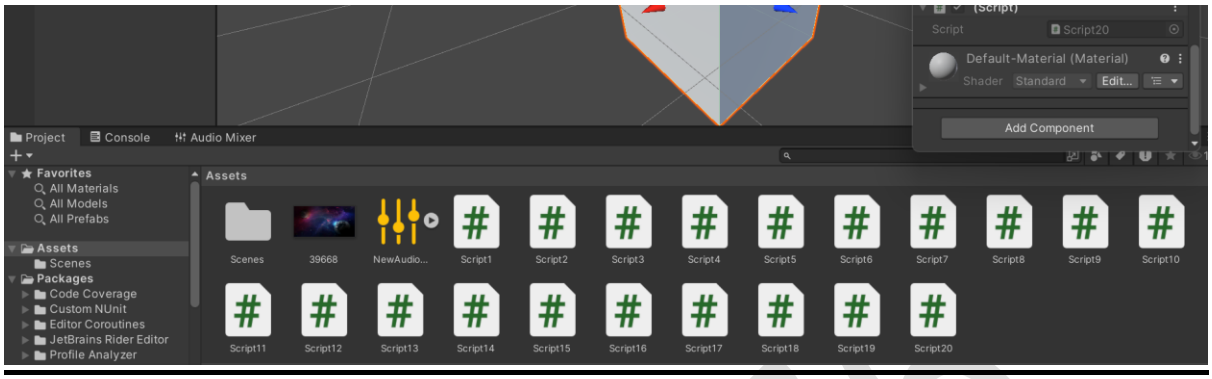


➔ 6. GetComponent





➔ 7. Delta Time


Project
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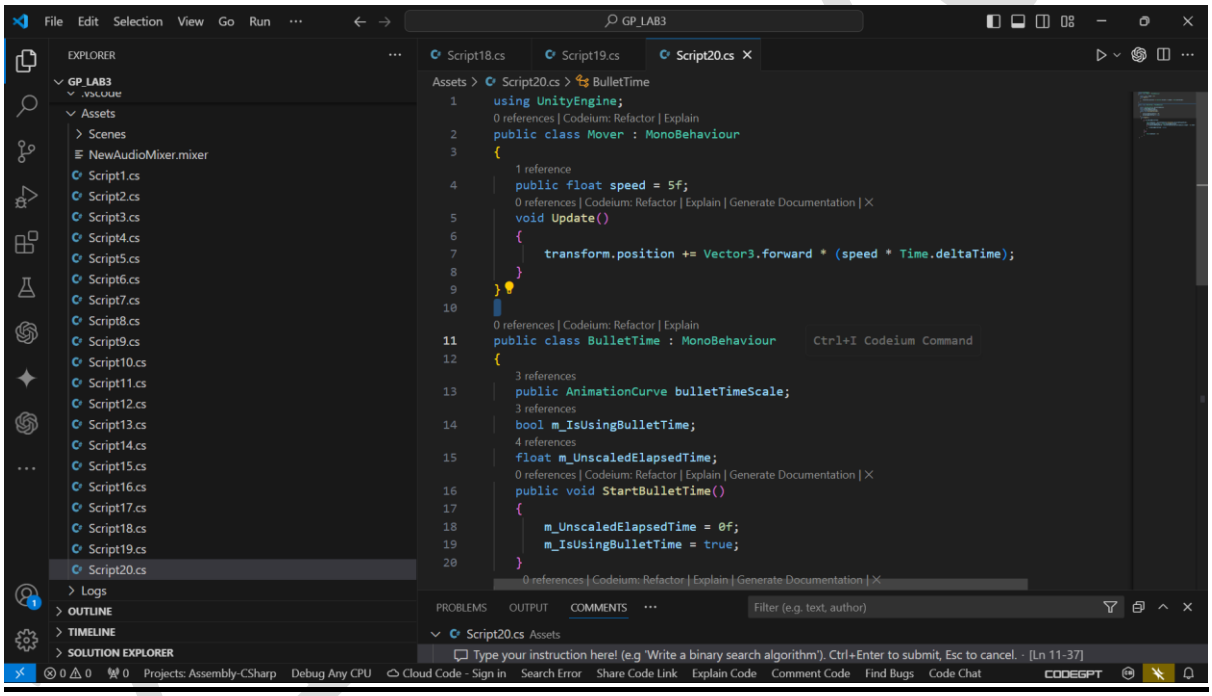
Script20
Default-Material (Material)
Shader
Standard
Edit...
Add Component


File Edit Selection View Go Run
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Script18.cs
Script19.cs
Script20.cs
Logs
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TIMELINE
SOLUTION EXPLORER
Script18.cs
Script19.cs
Script20.cs
Assets > Script20.cs > BulletTime
using UnityEngine;
0 references | Codeium: Refactor | Explain
public class Mover : MonoBehaviour
{
1 reference
public float speed = 5f;
0 references | Codeium: Refactor | Explain | Generate Documentation |
void Update()
{
transform.position += Vector3.forward * (speed * Time.deltaTime);
}
}
0 references | Codeium: Refactor | Explain
public class BulletTime : MonoBehaviour Ctrl+I Codeium Command
{
3 references
public AnimationCurve bulletTimeScale;
3 references
bool m_IsUsingBulletTime;
4 references
float m_UnscaledElapsedTime;
0 references | Codeium: Refactor | Explain | Generate Documentation |
public void StartBulletTime()
{
m_UnscaledElapsedTime = 0f;
m_IsUsingBulletTime = true;
}
0 references | Codeium: Refactor | Explain | Generate Documentation |
PROBLEMS
OUTPUT
COMMENTS
Filter (e.g. text, author)
Script20.cs Assets
Type your instruction here! (e.g 'Write a binary search algorithm'). Ctrl+Enter to submit, Esc to cancel. · [Ln 11-37]
Projects: Assembly-CSharp
Debug Any CPU
Cloud Code - Sign in
Search Error
Share Code Link
Explain Code
Comment Code
Find Bugs
Code Chat
CODEGPT

➔ 8. DataTypes

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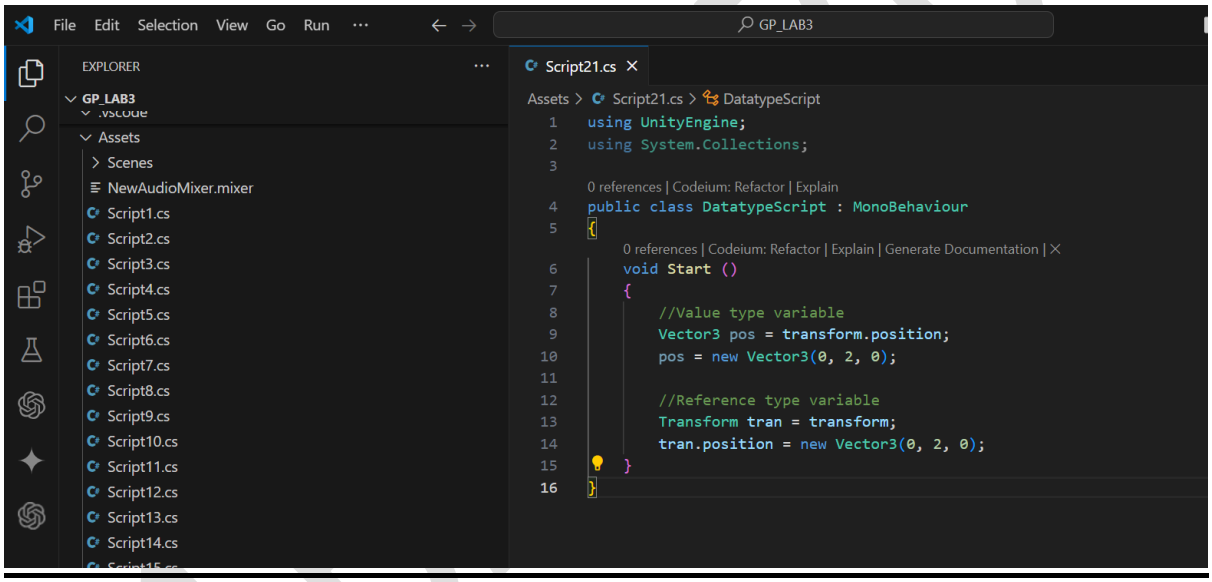
Script21
Default-Material (Material)
Shader
Standard
Edit...


File
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Selection
View
Go
Run
GP_LAB3
EXPLORER
GP_LAB3
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NewAudioMixer.mixer
Script1.cs
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Script6.cs
Script7.cs
Script8.cs
Script9.cs
Script10.cs
Script11.cs
Script12.cs
Script13.cs
Script14.cs
Script21.cs
Assets > Script21.cs > DatatypeScript
0 references | Codeium: Refactor | Explain
public class DatatypeScript : MonoBehaviour
0 references | Codeium: Refactor | Explain | Generate Documentation |
void Start ()
//Value type variable
Vector3 pos = transform.position;
pos = new Vector3(0, 2, 0);
//Reference type variable
Transform tran = transform;
tran.position = new Vector3(0, 2, 0);

➔ 9. Classes

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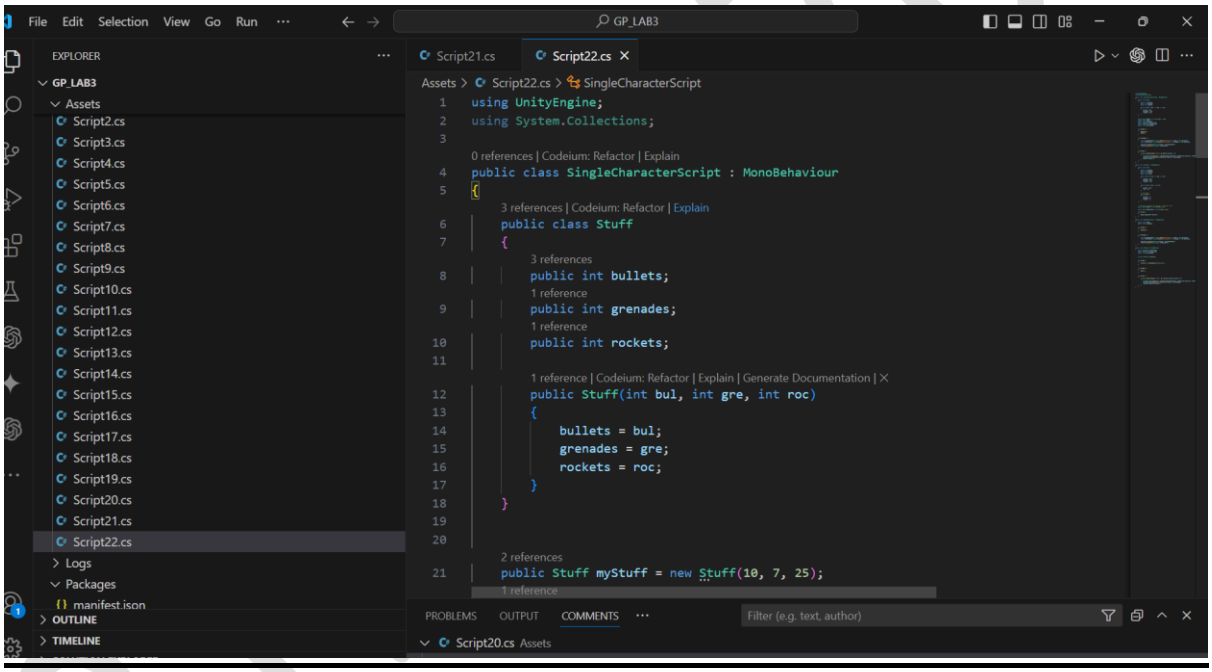
File Edit Selection View Go Run
GP_LAB3
EXPLORER
GP_LAB3
Assets
Script2.cs
Script3.cs
Script4.cs
Script5.cs
Script6.cs
Script7.cs
Script8.cs
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Script14.cs
Script15.cs
Script16.cs
Script17.cs
Script18.cs
Script19.cs
Script20.cs
Script21.cs
Script22.cs
Logs
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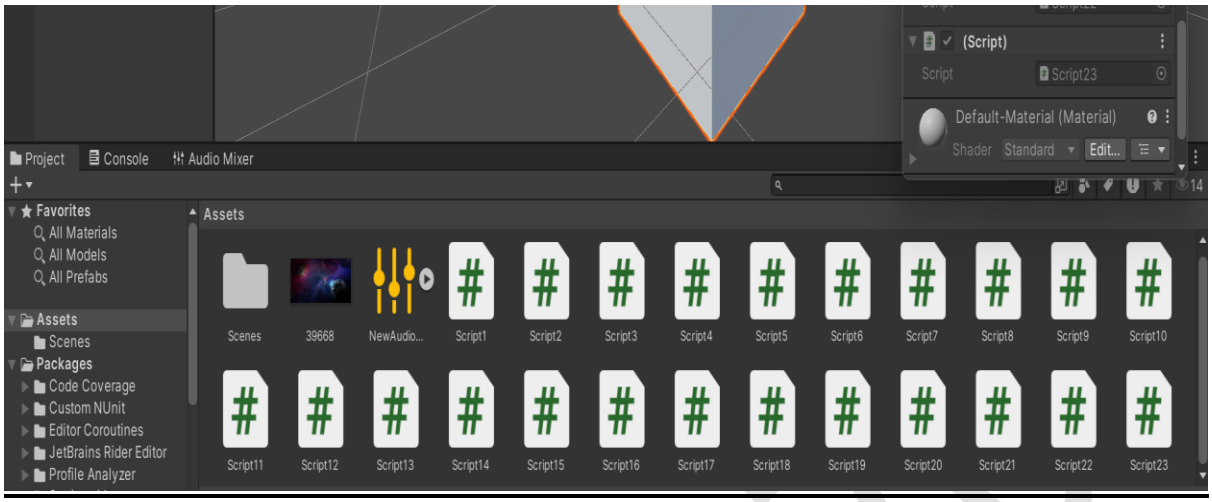
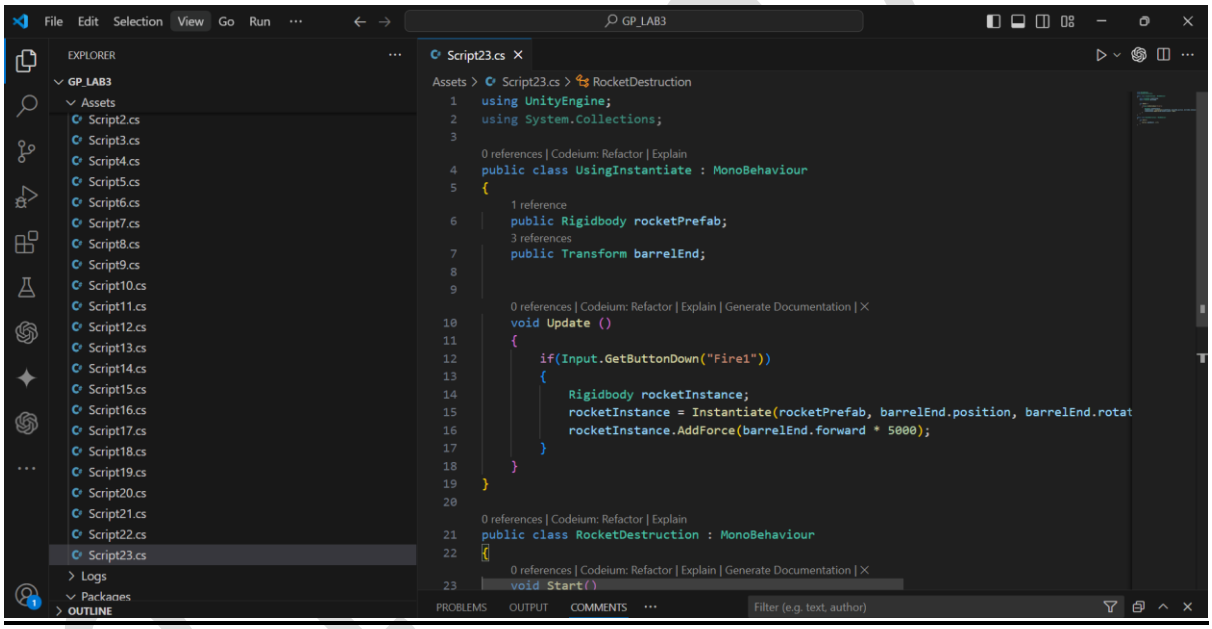
manifest.json
OUTLINE
TIMELINE
Script21.cs
Script22.cs
Assets > Script22.cs > SingleCharacterScript
using UnityEngine;
using System.Collections;
0 references | Codeium: Refactor | Explain
public class SingleCharacterScript : MonoBehaviour
{
3 references | Codeium: Refactor | Explain
public class Stuff
{
3 references
public int bullets;
1 reference
public int grenades;
1 reference
public int rockets;
1 reference | Codeium: Refactor | Explain | Generate Documentation |
public Stuff(int bul, int gre, int roc)
{
bullets = bul;
grenades = gre;
rockets = roc;
}
}
2 references
public Stuff myStuff = new Stuff(10, 7, 25);
1 reference
PROBLEMS
OUTPUT
COMMENTS
Filter (e.g. text, author)
Script20.cs Assets

➔ 10. Instantiate





➔ 11. Arrays

(Script)
Script22
(Script)
Script23
(Script)
Script24
Default-Material (Material)
Shader Standard Edit...
Project
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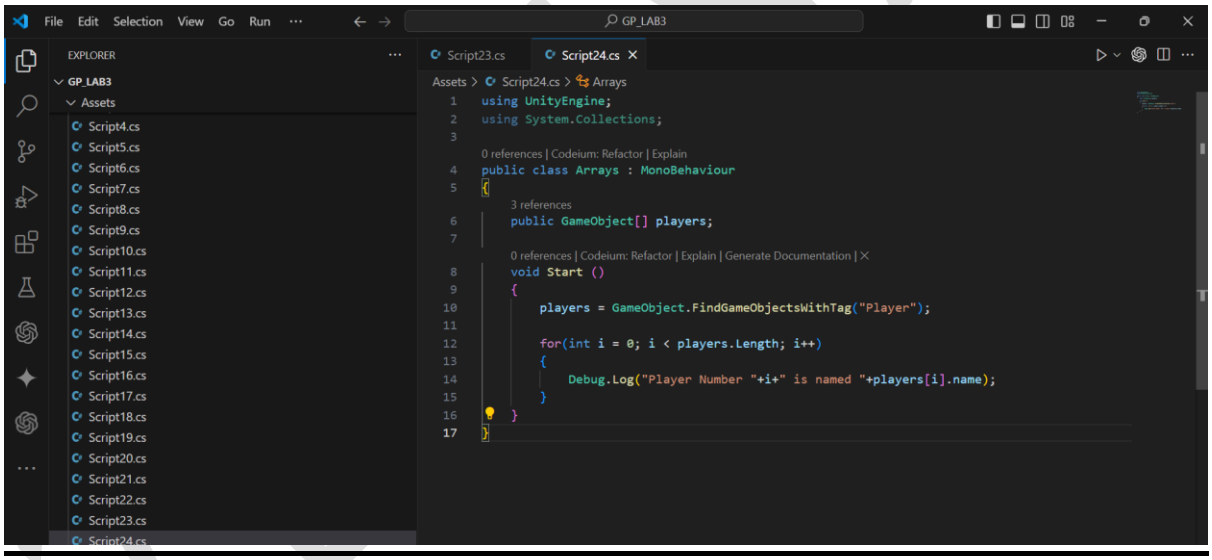
File Edit Selection View Go Run
GP_LAB3
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GP_LAB3
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Script16.cs
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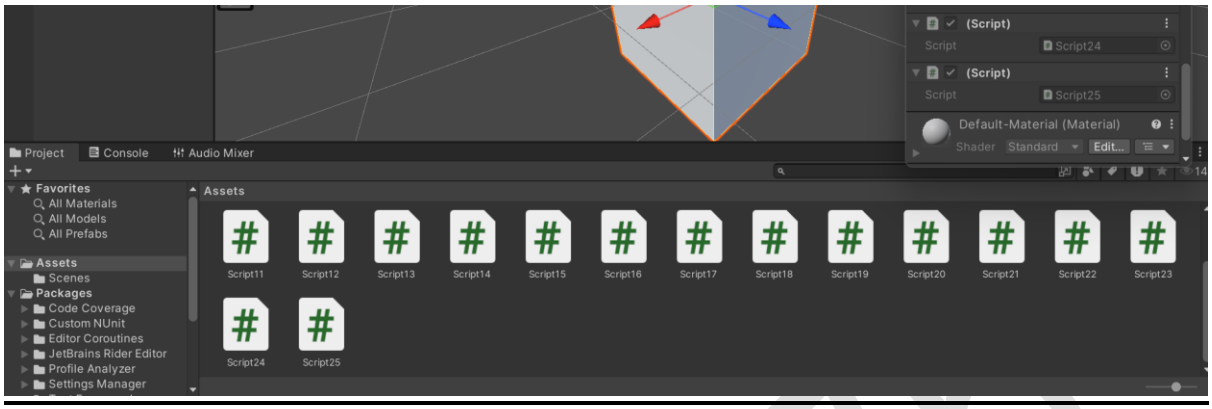
Script19.cs
Script20.cs
Script21.cs
Script22.cs
Script23.cs
Script24.cs
Script23.cs
Script24.cs
Assets > Script24.cs > Arrays
using UnityEngine;
using System.Collections;
0 references | Codeium: Refactor | Explain
public class Arrays : MonoBehaviour
{
3 references
public GameObject[] players;
0 references | Codeium: Refactor | Explain | Generate Documentation |
void Start ()
{
players = GameObject.FindGameObjectsWithTag("Player");
for(int i = 0; i < players.Length; i++)
{
Debug.Log("Player Number "+i+" is named "+players[i].name);
}
}
}

➔ 12. Invoke


(Script)
Script
Script24
(Script)
Script
Script25
Default-Material (Material)
Shader Standard
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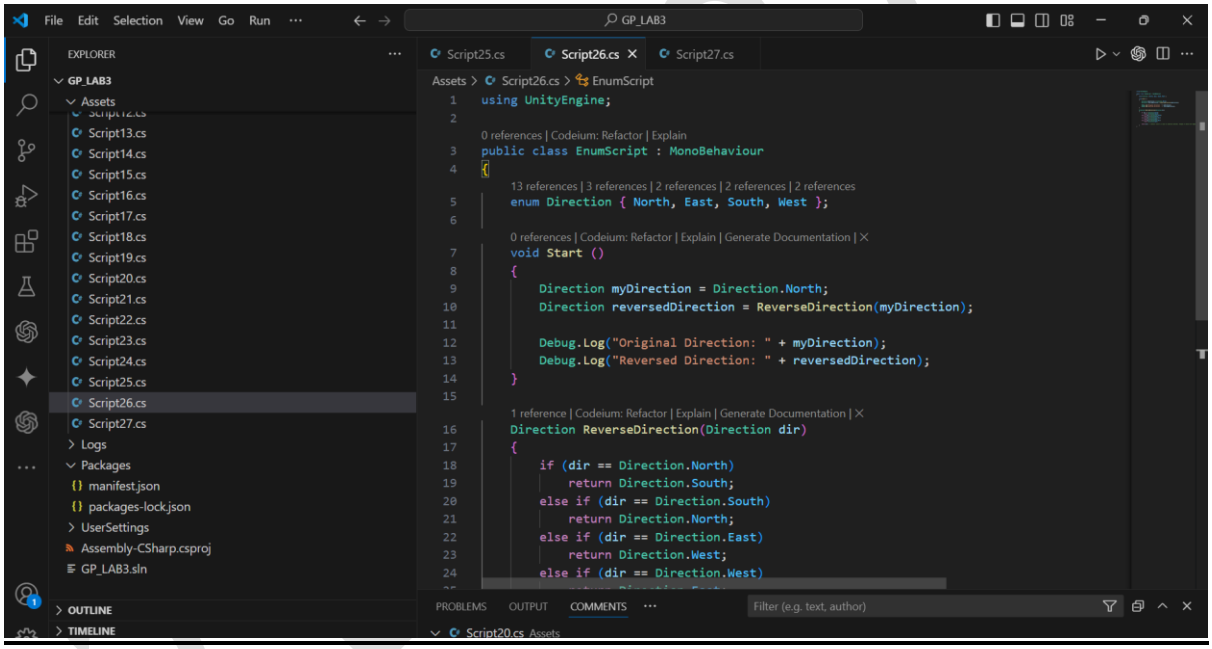
Script25


File Edit Selection View Go Run
GP_LAB3
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GP_LAB3
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Script18.cs
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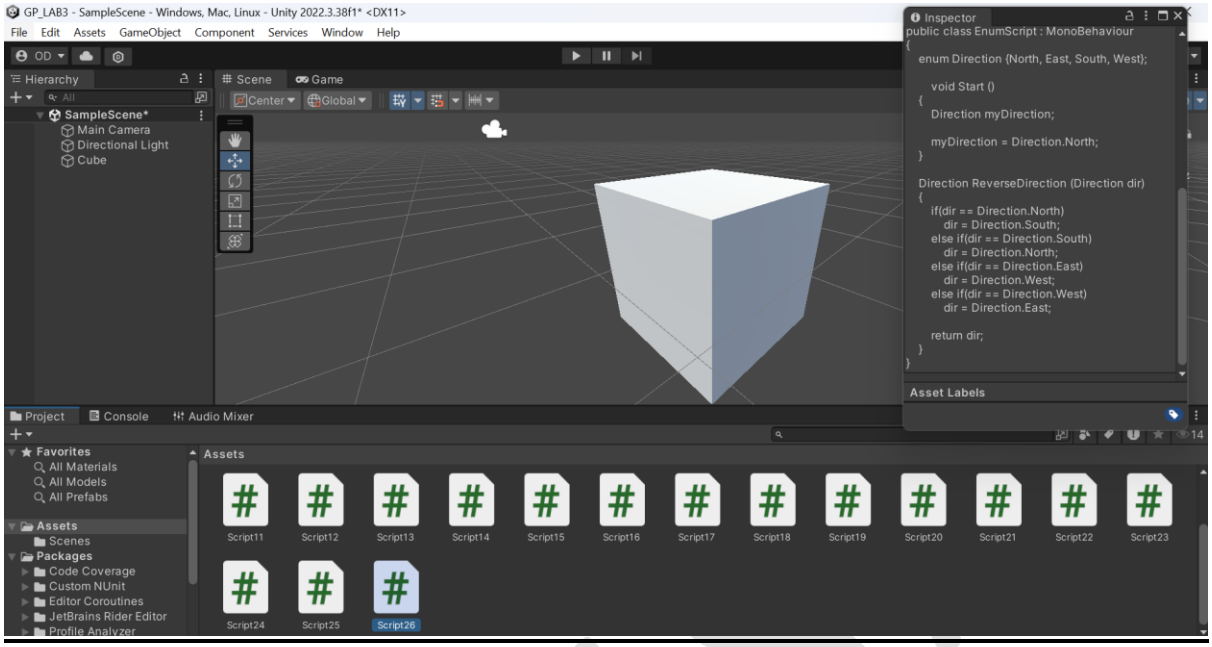
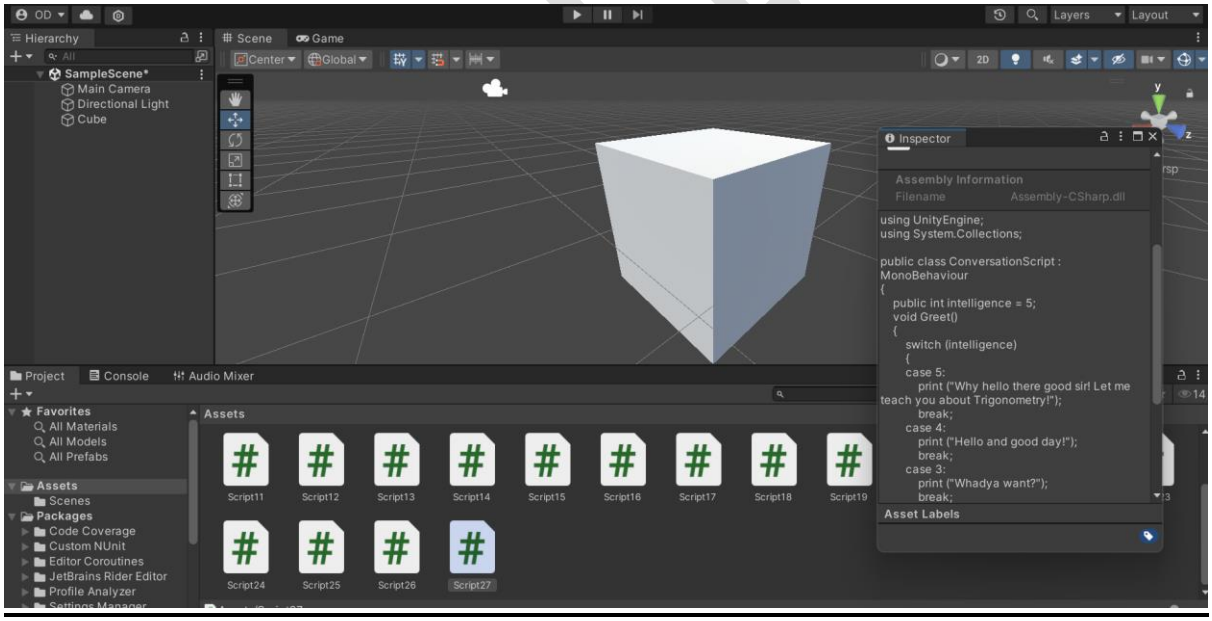
Script20.cs
Script21.cs
Script22.cs
Script23.cs
Script24.cs
Script25.cs
Script26.cs
Script27.cs
Logs
Packages
manifest.json
packages-lock.json
UserSettings
Assembly-CSharp.csproj
GP_LAB3.sln
OUTLINE
TIMELINE
Script25.cs
Script26.cs
Script27.cs
Assets > Script26.cs > EnumScript
using UnityEngine;
0 references | Codeium: Refactor | Explain
public class EnumScript : MonoBehaviour
{
13 references | 3 references | 2 references | 2 references | 2 references
enum Direction { North, East, South, West };
0 references | Codeium: Refactor | Explain | Generate Documentation |
void Start ()
{
Direction myDirection = Direction.North;
Direction reversedDirection = ReverseDirection(myDirection);
Debug.Log("Original Direction: " + myDirection);
Debug.Log("Reversed Direction: " + reversedDirection);
}
1 reference | Codeium: Refactor | Explain | Generate Documentation |
Direction ReverseDirection(Direction dir)
{
if (dir == Direction.North)
return Direction.South;
else if (dir == Direction.South)
return Direction.North;
else if (dir == Direction.East)
return Direction.West;
else if (dir == Direction.West)
PROBLEMS
OUTPUT
COMMENTS
Filter (e.g. text, author)
Script20.cs Assets

➔ 13. Enumerations



➔ 14.Switch Statements: