# CAP819-GAME TOOL-II

## To : Sangam Agarwal Sir

## CA-1

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Steps:

1.Create a 3d project on the project list.

2.Create an Plane and scale it accordingly

3.Create a cube and some cylinders just to understand the motion properly.

4. Go to window and click rendering and go to environment and change the skybox.

5. Create a component and make it a c sharp file and write the code for motion of the object and assign it to cube and camera.

6.Go to game tab and click arrows for movement.

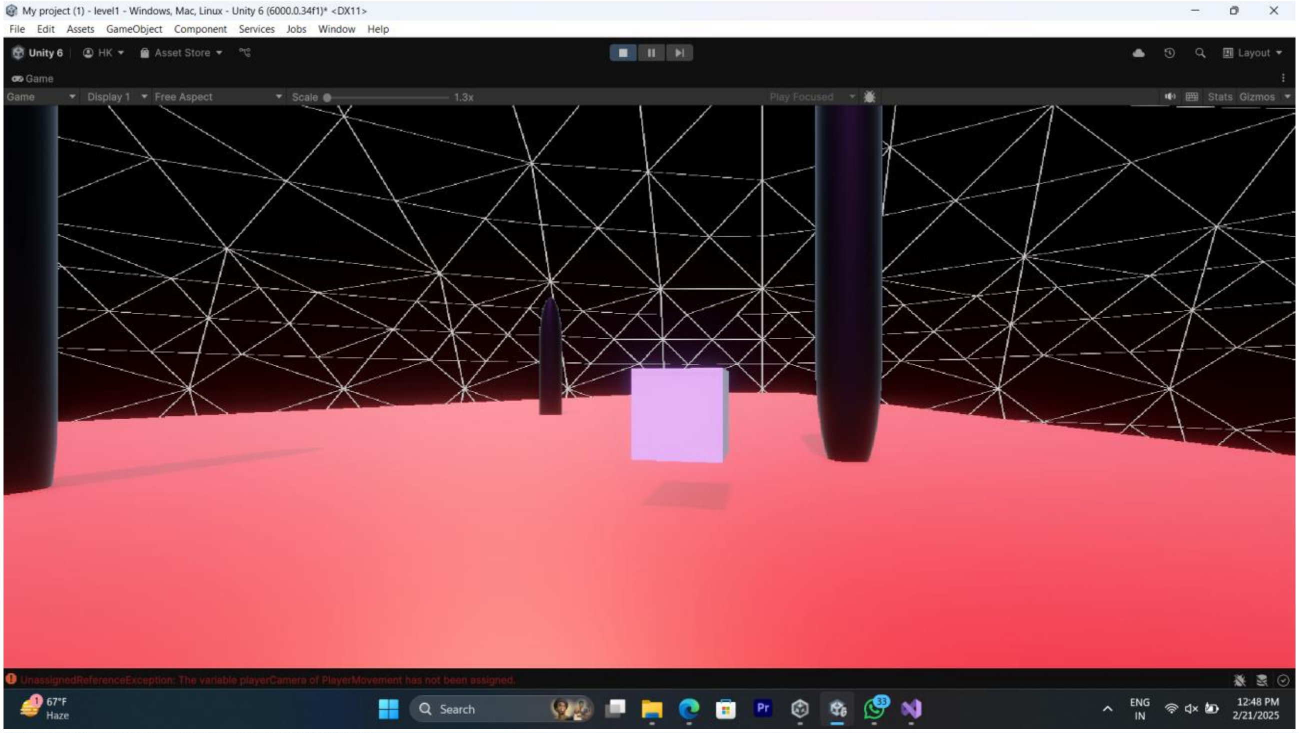
Code:

```
using System.Collections;

using System.Collections.Generic;

using UnityEngine;


[RequireComponent(typeof(CharacterController))]

public class PlayerMovement : MonoBehaviour

{

    public Camera playerCamera;

    public float walkSpeed = 6f;

    public float runSpeed = 12f;
public float jumpPower = 7f;
public float gravity = 10f;
public float lookSpeed = 2f;
public float lookXLimit = 45f;
public float defaultHeight = 2f;
public float crouchHeight = 1f;
public float crouchSpeed = 3f;

private Vector3 moveDirection = Vector3.zero;
private float rotationX = 0;
private CharacterController characterController;

private bool canMove = true;

void Start()
{
    characterController = GetComponent<CharacterController>();
    Cursor.lockState = CursorLockMode.Locked;
    Cursor.visible = false;
}

void Update()
{
    Vector3 forward = transform.TransformDirection(Vector3.forward);
    Vector3 right = transform.TransformDirection(Vector3.right);

    bool isRunning = Input.GetKey(KeyCode.LeftShift);
    float curSpeedX = canMove ? (isRunning ? runSpeed : walkSpeed) * Input.GetAxis("Vertical") : 0;
    float curSpeedY = canMove ? (isRunning ? runSpeed : walkSpeed) * Input.GetAxis("Horizontal") : 0;
    float movementDirectionY = moveDirection.y;
    moveDirection = (forward * curSpeedX) + (right * curSpeedY);

    if (Input.GetButton("Jump") && canMove && characterController.isGrounded)
```

```
{
    moveDirection.y = jumpPower;
}
else
{
    moveDirection.y = movementDirectionY;
}

if (!characterController.isGrounded)
{
    moveDirection.y -= gravity * Time.deltaTime;
}

if (Input.GetKey(KeyCode.R) && canMove)
{
    characterController.height = crouchHeight;
    walkSpeed = crouchSpeed;
    runSpeed = crouchSpeed;

}
else
{
    characterController.height = defaultHeight;
    walkSpeed = 6f;
    runSpeed = 12f;
}

characterController.Move(moveDirection * Time.deltaTime);

if (canMove)
{
    rotationX += -Input.GetAxis("Mouse Y") * lookSpeed;
    rotationX = Mathf.Clamp(rotationX, -lookXLimit, lookXLimit);
```

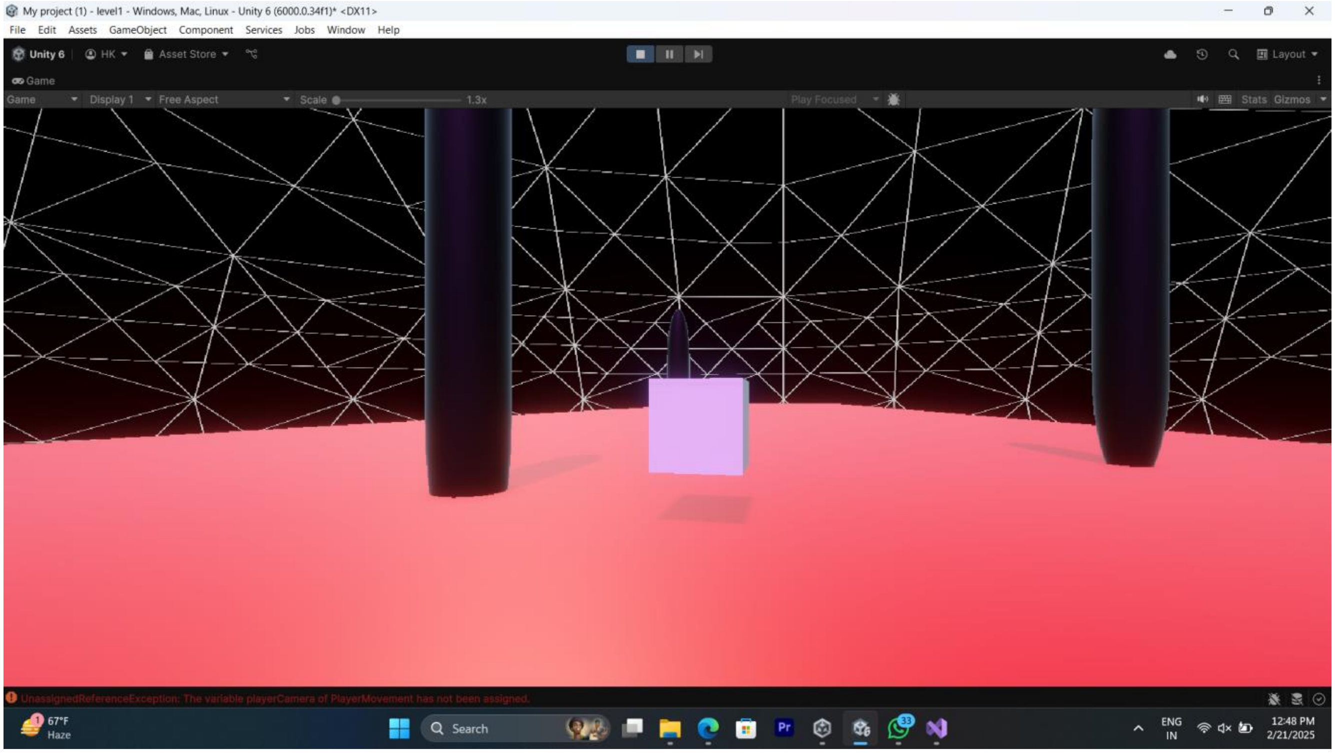
```
            playerCamera.transform.localRotation = Quaternion.Euler(rotationX, 0, 0);

            transform.rotation *= Quaternion.Euler(0, Input.GetAxis("Mouse X") * lookSpeed, 0);

        }

    }

}
```

PICS:



My project (1) - level1 - Windows, Mac, Linux - Unity 6 (6000.0.34f1)* <DX11>

UnassignedReferenceException: The variable playerCamera of PlayerMovement has not been assigned.



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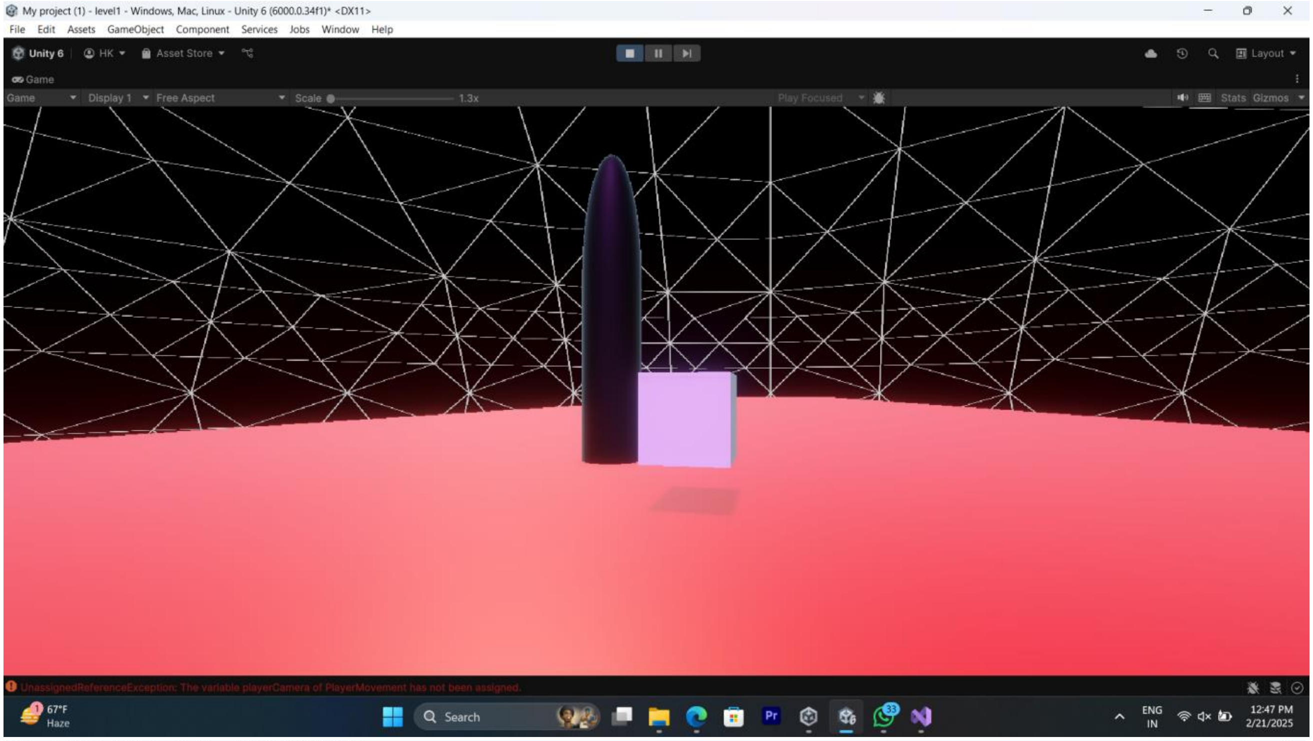

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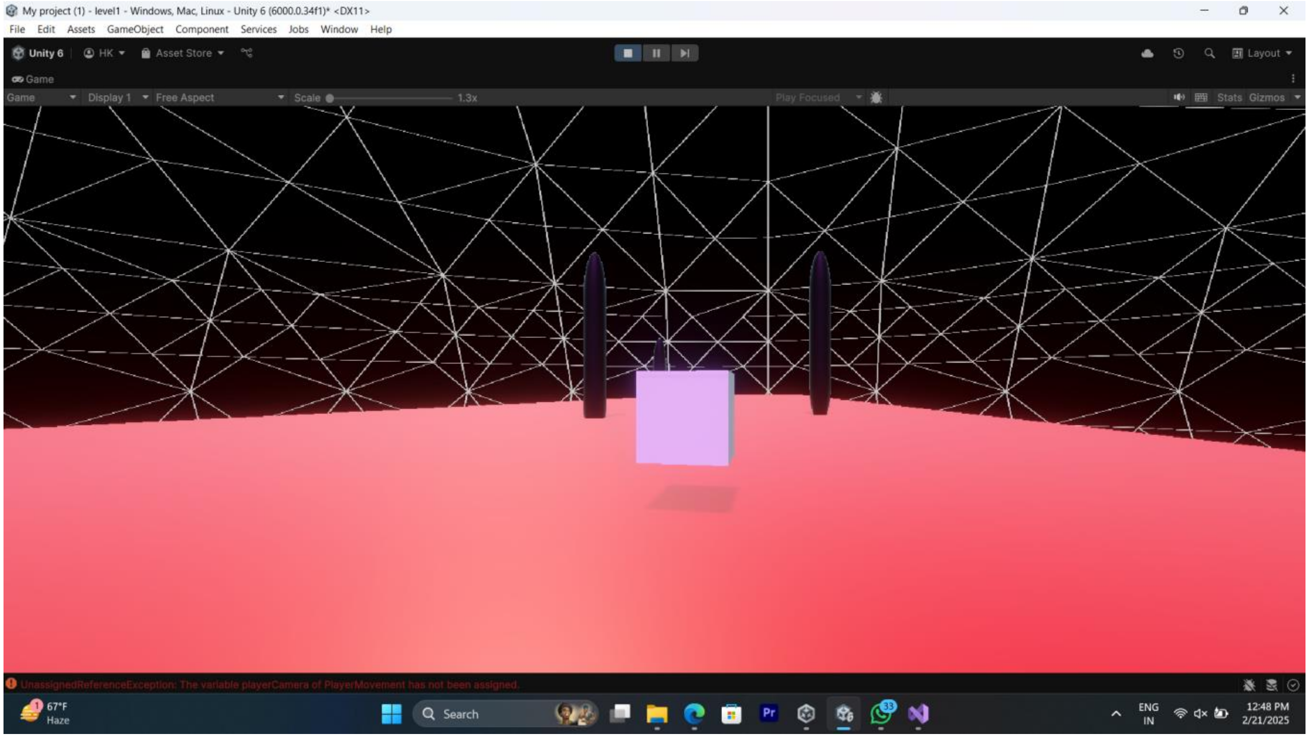

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Drive link:

https://drive.google.com/file/d/1RquiESTUhQATlr8ubyaFMk8HztEZCZjZ/view?usp=sharing

Github link:

https://github.com/Hanish01/first