Scripting Homework (Due 9/13)

In this assignment, you are going to get some extra practice with conditionals and inputs.

Fly Controls

Finish up the fly controls script from class and attach it to the camera. It should:

1. Allow the camera to look around using the mouse - we finished this part in class.
2. Allow forward/backward movement with the `w` and `s` keys - we also finished this part in class.
3. Add strafing movement (left/right) with the `a` and `d` keys. (E.g. if the `a` key is pressed the camera should translate itself left.)
4. Add vertical movement (up/down) with the `q` and `e` keys. (E.g. if the `q` key is pressed the camera should translate itself down.)
5. Use a public field (`Speed`) to control the speed of all these movements. That way, the speed can be tweaked in the inspector. (You will want `Time.deltaTime` for this.)
6. Bonus: add the ability to hold `left shift` to move at 2x speed.

Colored Lights

Your goal is to be able to change the color of a light at runtime based on key presses.

Setup:

1. Create a new scene.
2. Add a plane and cube.
3. Create a new script called LightColorSwitcher.cs and attach it to the directional light in your scene.

Exercise:

The code snippet below demonstrates how to access a light and change its color. The script sets the color of the light to red in `Update`. Your script should change the color of the light only when either the 1, 2 or 3 keys are pressed. Each key should change the light to a unique color. E.g. pressing 1 changes the light's color to purple, pressing 2 changes the light's color to gold, etc.

Bonus:

Can you figure out a way to use the horizontal and/or vertical movement of the mouse to change the RGB color of the light? Hint, think about what we did with the rotation in the fly controls.

```
using UnityEngine;
using System.Collections;

public class LightColorSwitcher : MonoBehaviour {

        private Light LightComponent;

        void Start () {
                // Gets access to the light component on the game object. This only
                // works if the script is attached to a light!
                LightComponent = GetComponent<Light>();
        }

        void Update () {
                // Changes the light's color to red using RGB
                //  - First parameter is the amount of red color (between 0f and 1f)
                //  - Second parameter is the amount of green color (between 0f and 1f)
                //  - Third parameter is the amount of blue color (between 0f and 1f)
                LightComponent.color = new Color(1f, 0f, 0f);
        }
}
```

Submitting the Assignment

Before the start of class on 9/13, direct message me your scripts in Slack. (I'm @mikehadley.) To upload a script file to Slack, simply drag and drop your script from your computer into the direct message window.

(Note: for this assignment, I only need to see your script files! E.g. `FlyControls.cs` and `LightColorSwitcher.cs`)