In-class assignment 1

Controls

W – move forward

A – move to the left

S – move backwards

D – move to the right

E – save position

R – load position

This Unity projects allows you to move a player around the scene through obstacles using a player movement script from our GDW game. The original script is for a first-person camera view and movement however, I have edited it for a static camera and removed the mouse movement as it is not need here. With the press of the "E" button users can save their current location of the player and with "R" you can load that position from anywhere in the scene, the "R" key will snap the player back to any previously saved positions.

The save and load functionality is achieved by using a dll plugin and a scrip applied to the player object that allows for the saving and loading of positions. The dll plugin is done by using a simple class header that initiates the save and load functions, with the save function signature containing three parameters for the x,y,z axis. In the wrapper header we use a plugin api for both the save and load functions. In the simple class cpp is where we create the text file that C++ uses to set and get the x,y,z values. In the wrapper cpp we create a definition for the save and load plugin api that returns the values of the functions.

In the C# script is where we set the keywords for the save and load which in this case is "E" and "R". So when you press the save button (E) the local position of the x,y,z are then set to float values of x,y,z and those values are then set and saved in the save function. Then once you press the load button (R) the load function is then set to a vector 3 variable "location" that takes in the x,y,z values that come from the load function. So after using the load function to assign the x,y,z values to "location" we then set the current local position of the player to the vector 3 variable "location" which at this point is equal to the previous x,y,z positions which then causes the player to snap back to the previous position.

```
void Update()
{
    if (Input.GetKeyDown(KeyCode.E))
    {
        float x = transform.localPosition.x;
        float y = transform.localPosition.y;
        float z = transform.localPosition.z;

        save(x, y, z);
    }

    if (Input.GetKeyDown(KeyCode.R))
    {
        location = load();
        transform.localPosition = location;
    }
}
```

C# Script