

# HELLO WORLD: YOUR FIRST PROGRAM

# Topics

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- **Creating a Unity Project**
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- **Attaching Scripts to GameObjects**
- **Start() and Update()**
- **GameObject Prefabs and Instantiation**

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- **Creating a Unity Project**
  - **The Unity Project Folder**
- **MonoDevelop: Unity's Code Editor**
- **Attaching Scripts to GameObjects**
- **Start() and Update()**
- **GameObject Prefabs and Instantiation**
- **The HelloWorld Project**

# Hello World?

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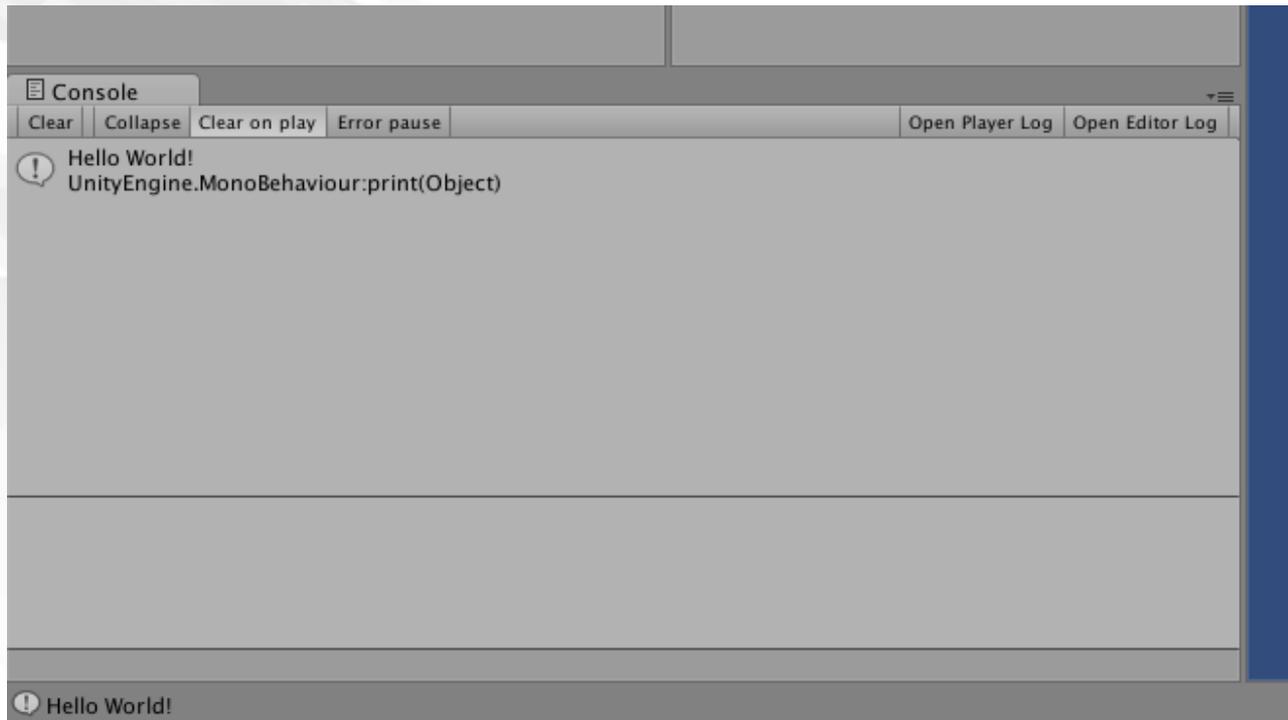
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# Hello World?

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```
HelloWorld.cs *
HelloWorld > Start ()
1 using UnityEngine;
2 using System.Collections;
3
4 public class HelloWorld : MonoBehaviour {
5
6     // Use this for initialization
7     void Start () {
8         print("Hello World!");
9     }
10
11    // Update is called once per frame
12    void Update () {
13
14    }
15 }
```

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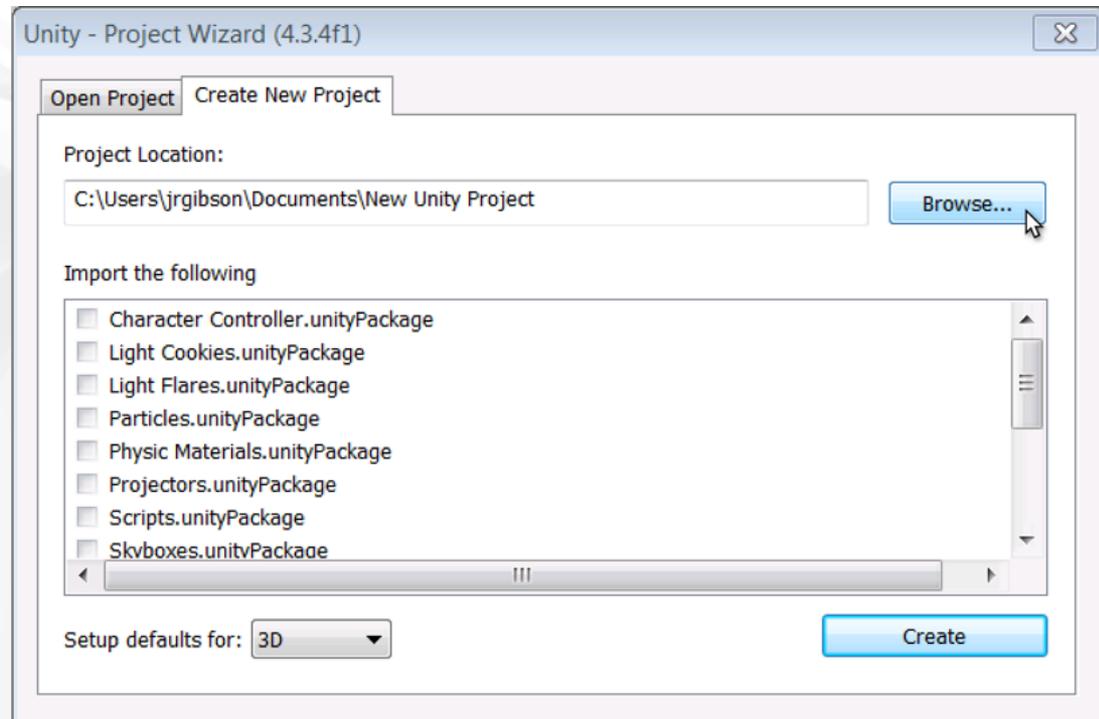
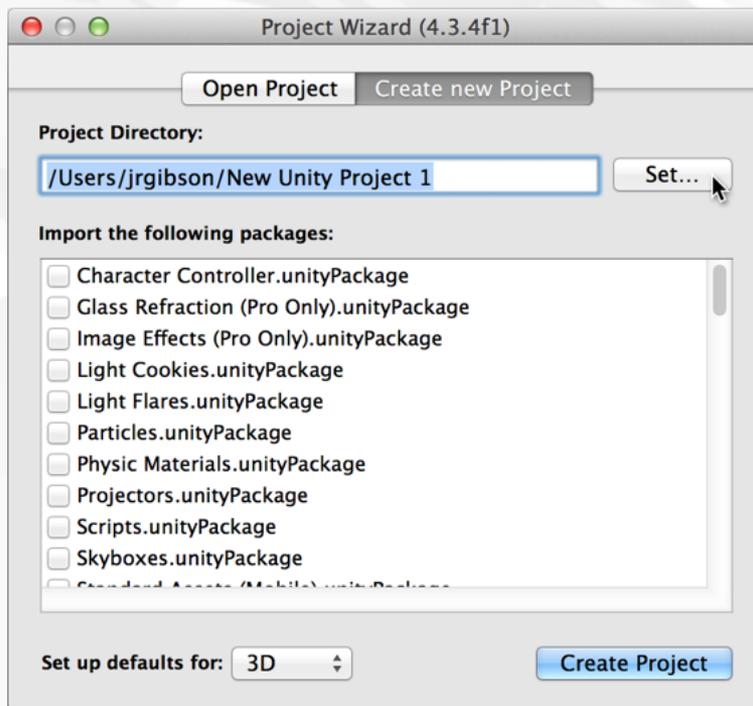
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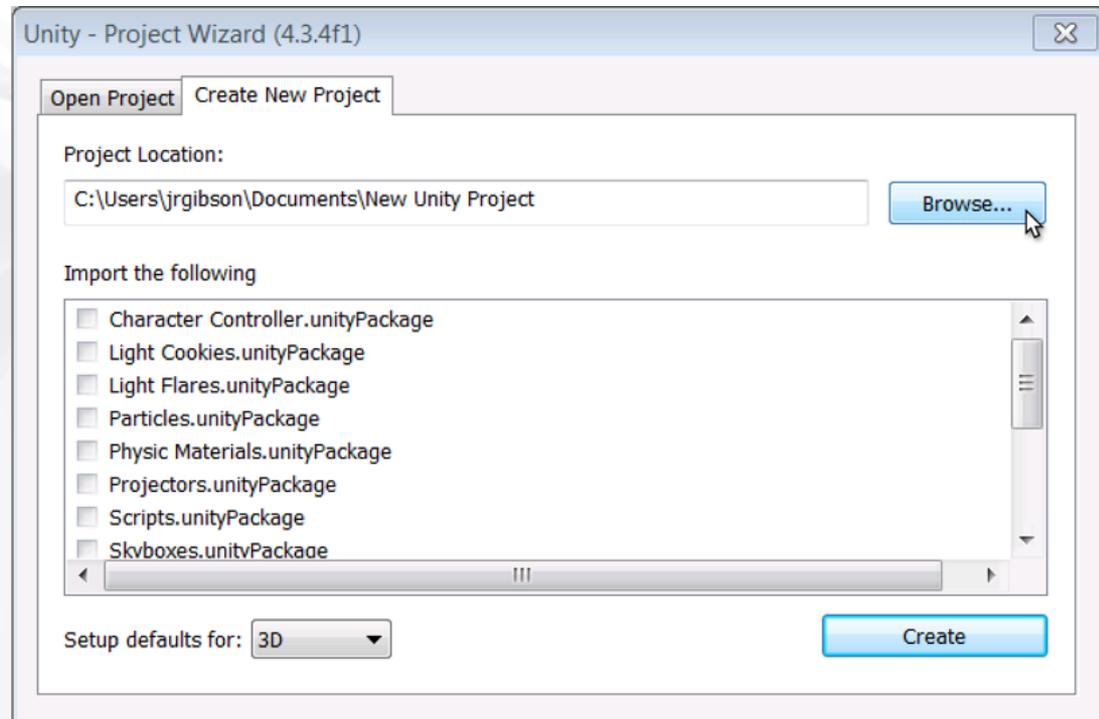
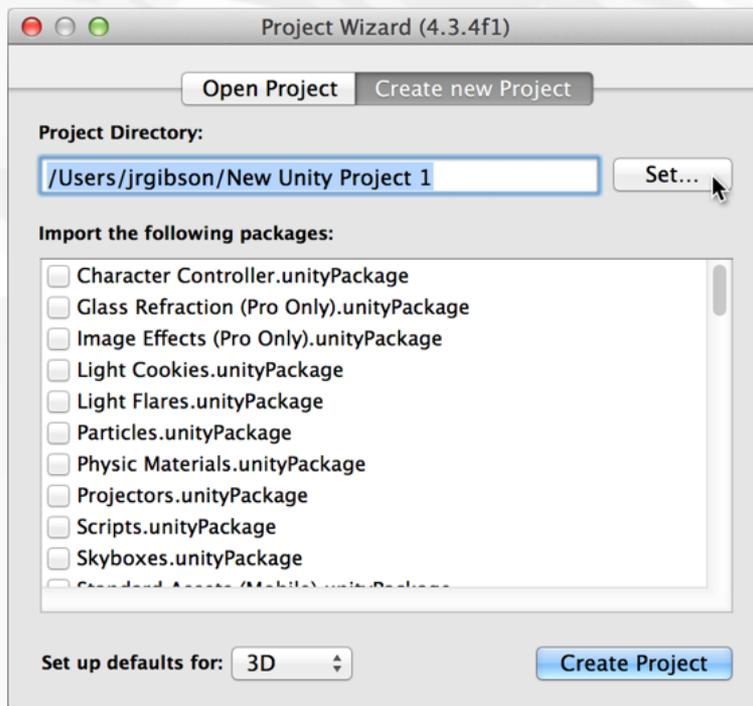
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    - Click the **Select Folder** button

# Creating a Unity Project



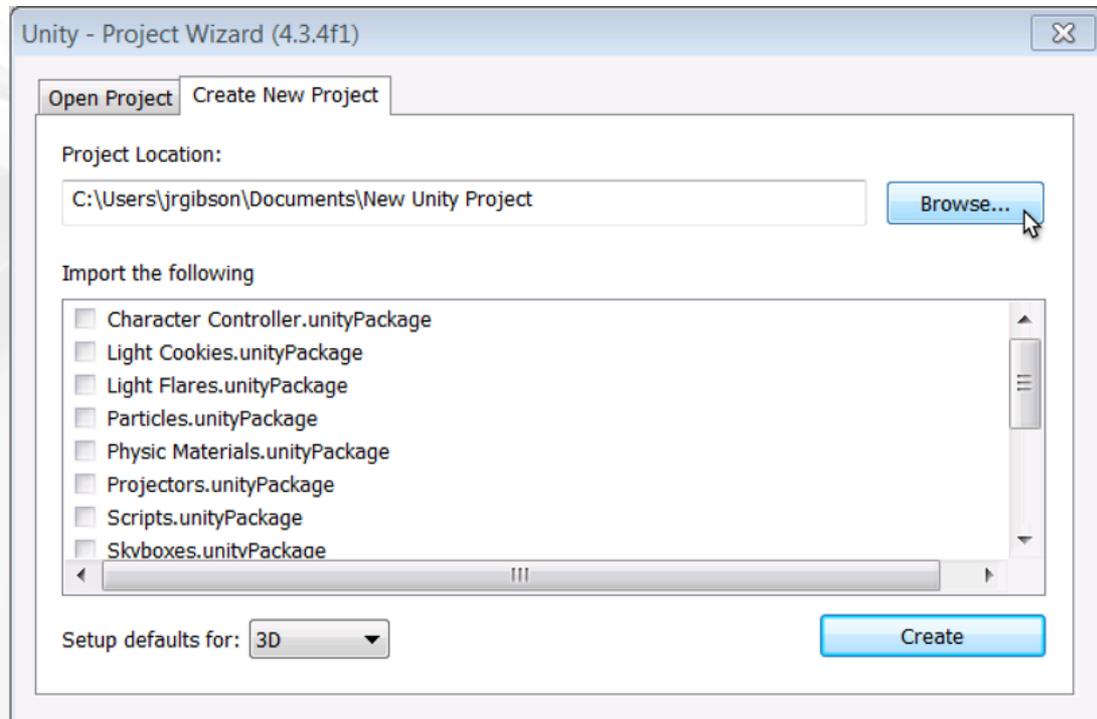
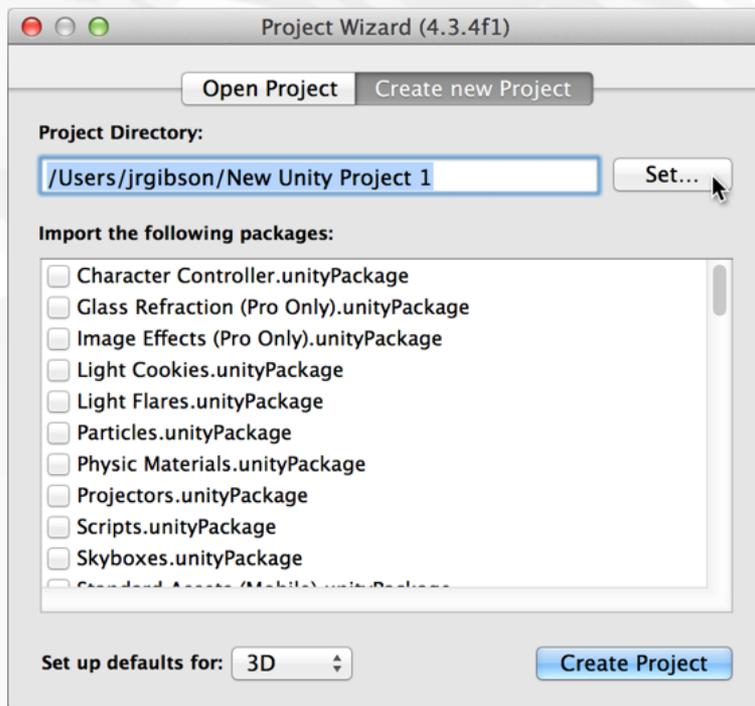
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- Set up defaults for 3D



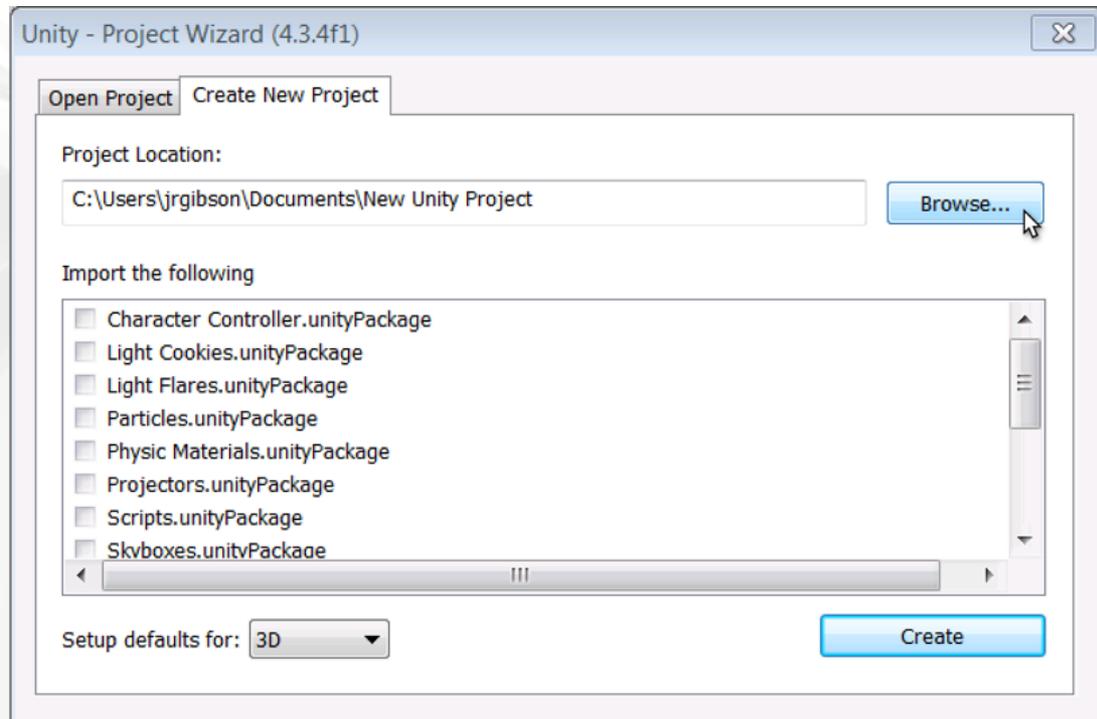
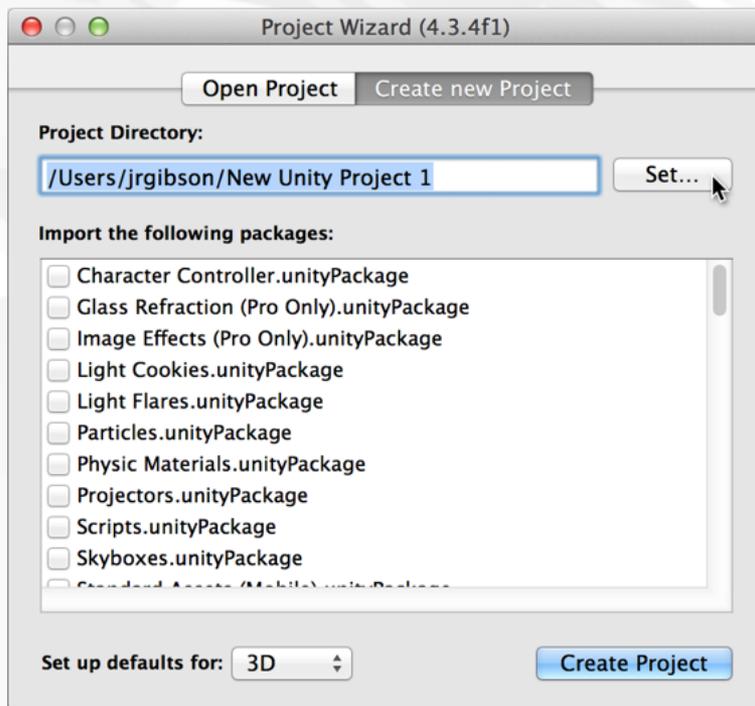
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- Appendix A contains detailed instructions



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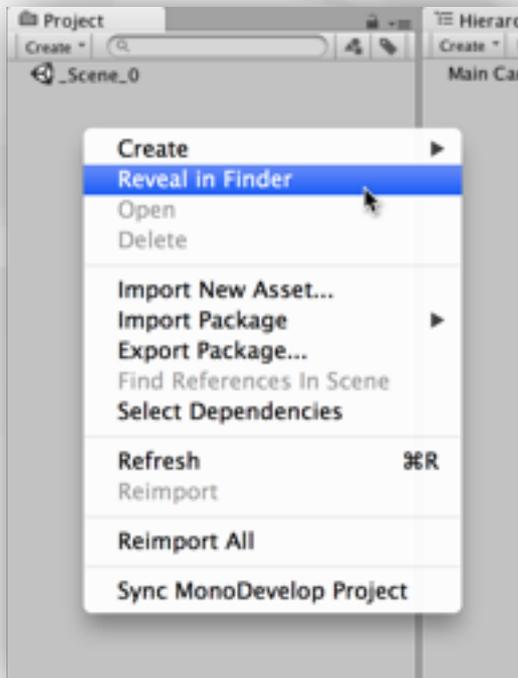
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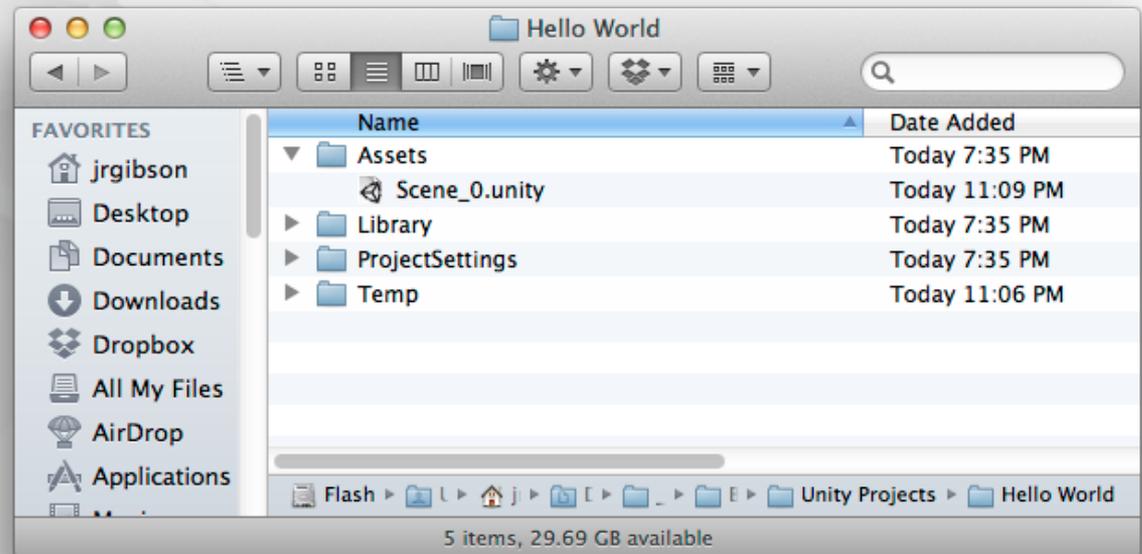
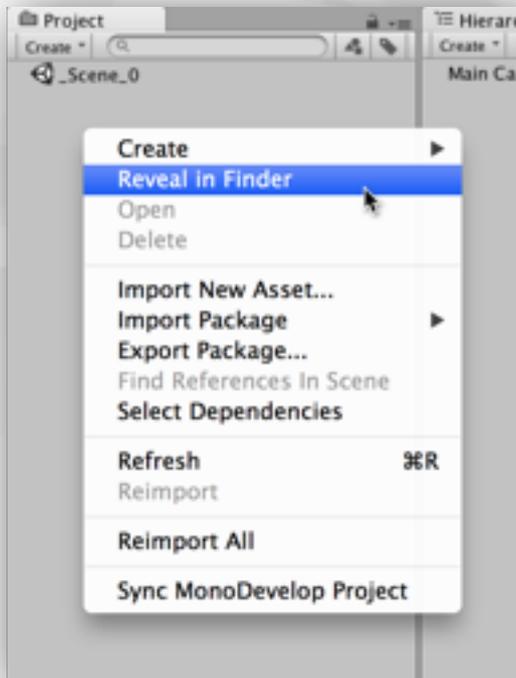
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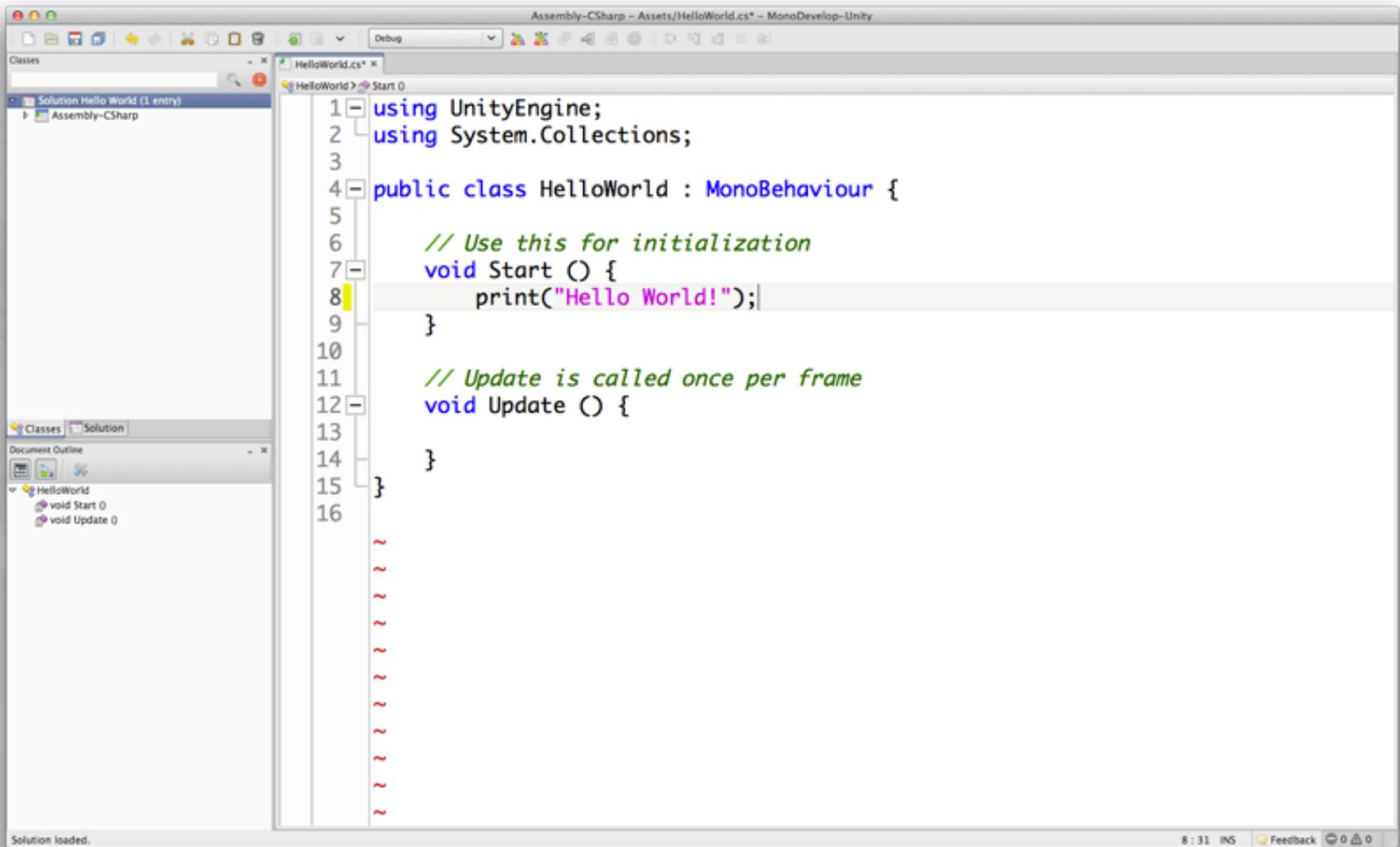
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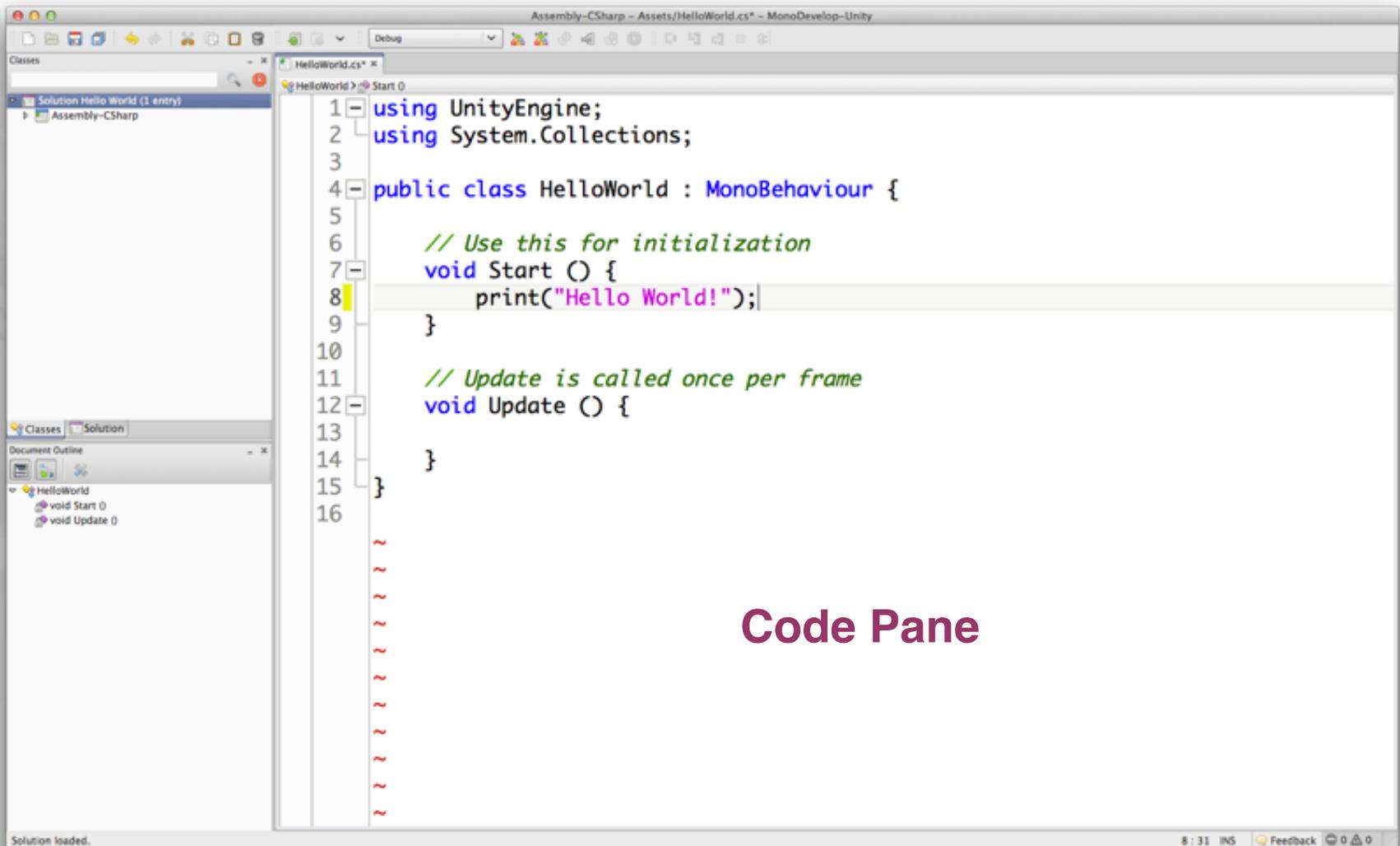
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  - Instructions for this can be found online

# MonoDevelop: Unity's Code Editor



## The MonoDevelop Window

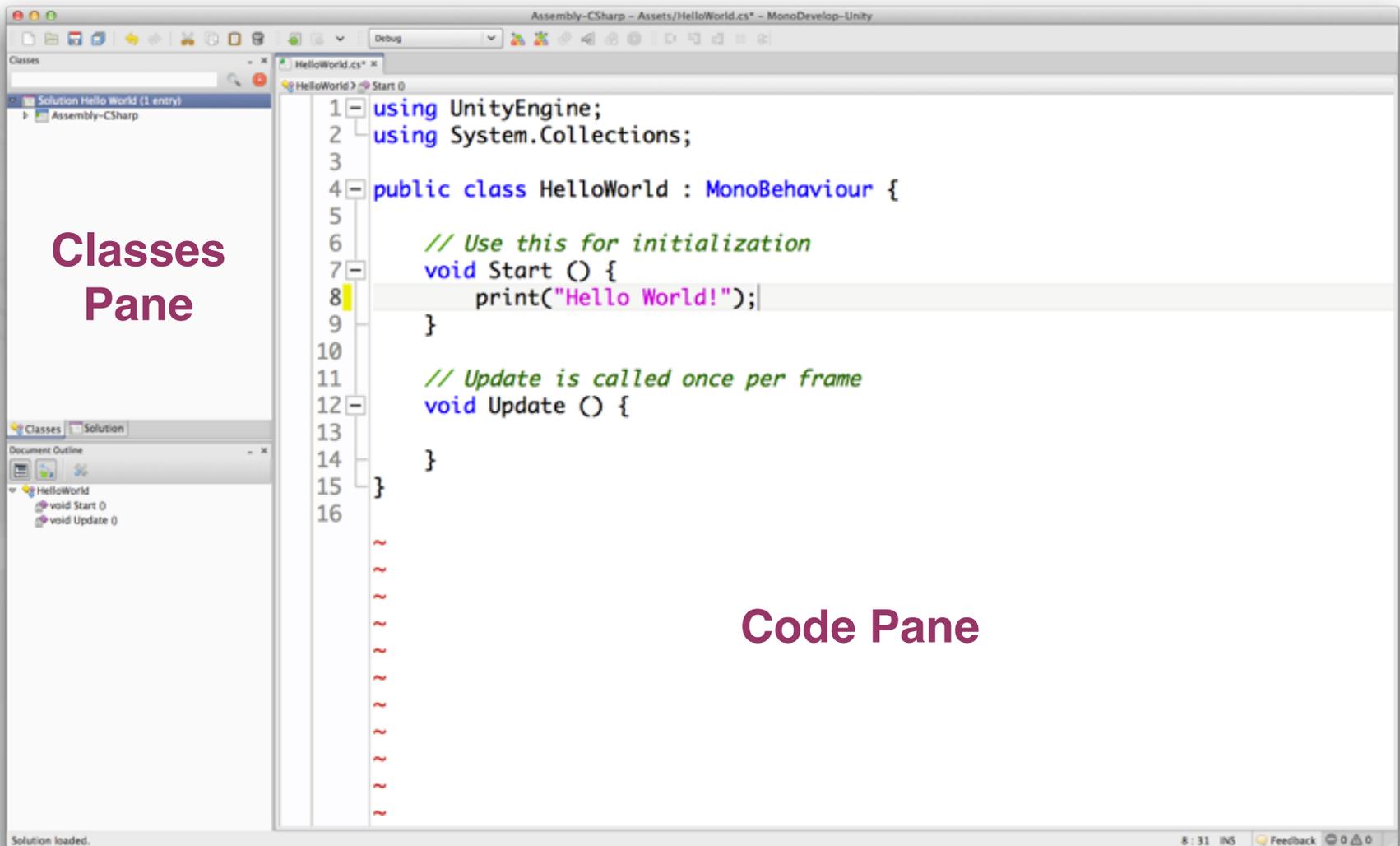
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Code Pane

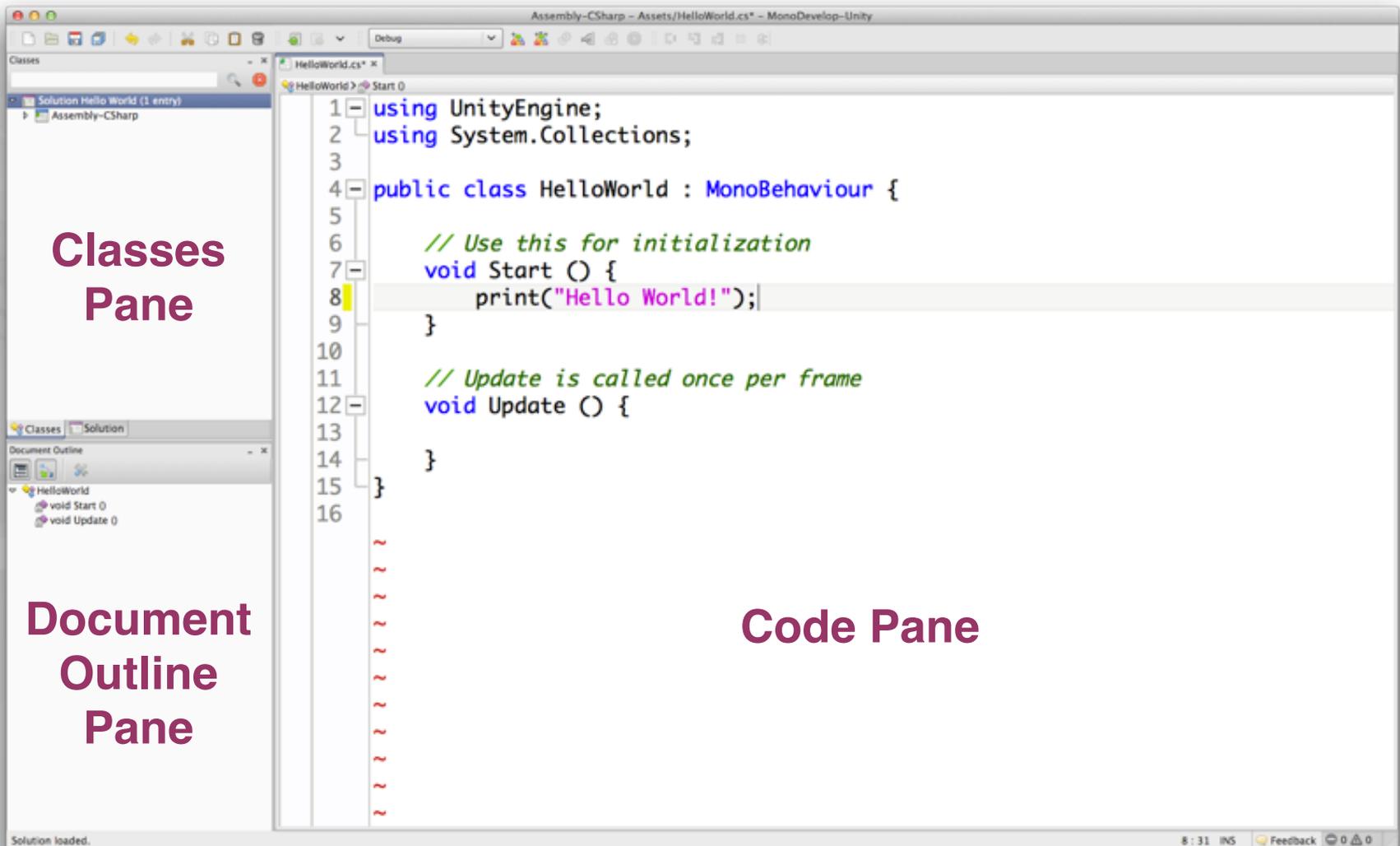
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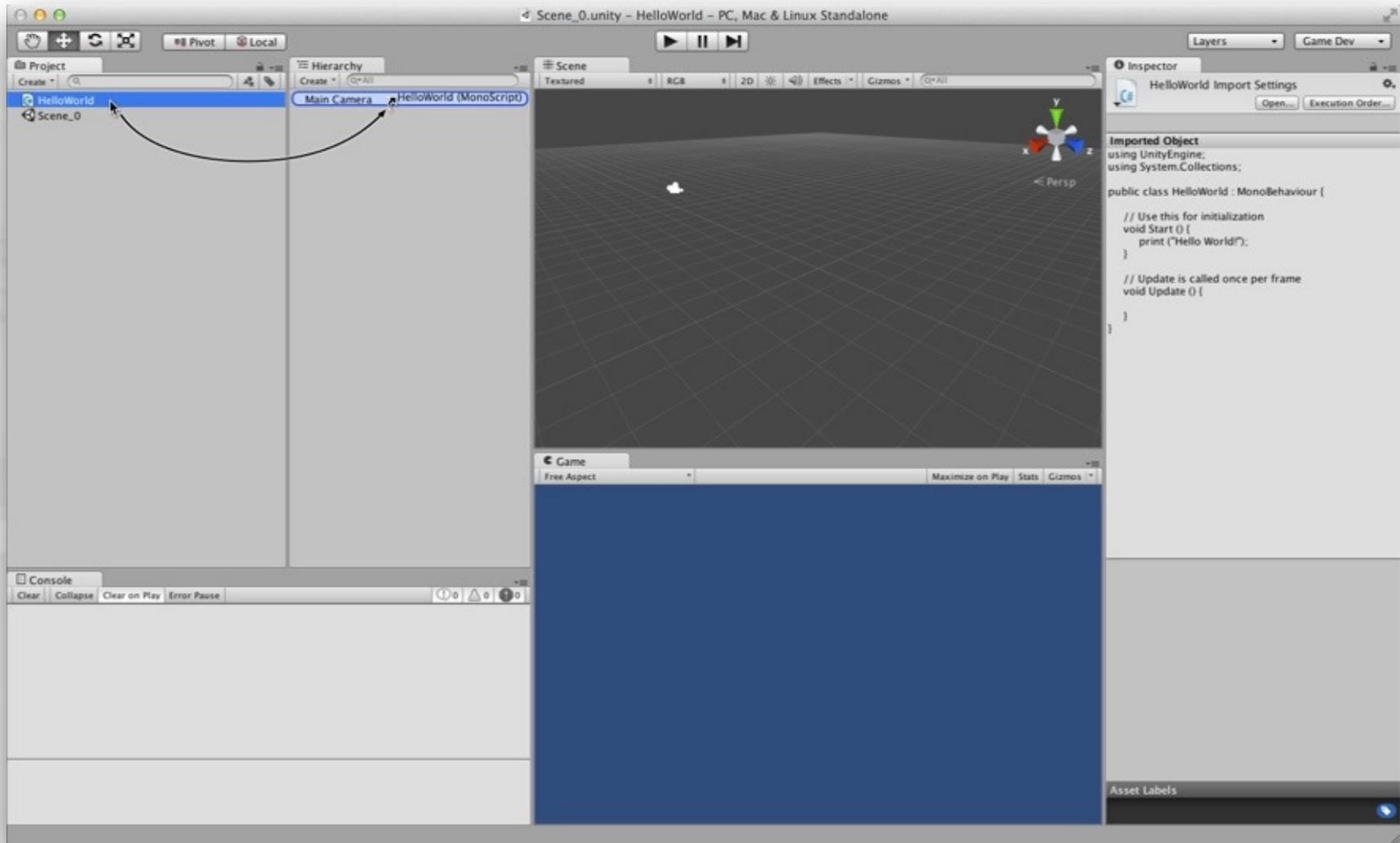
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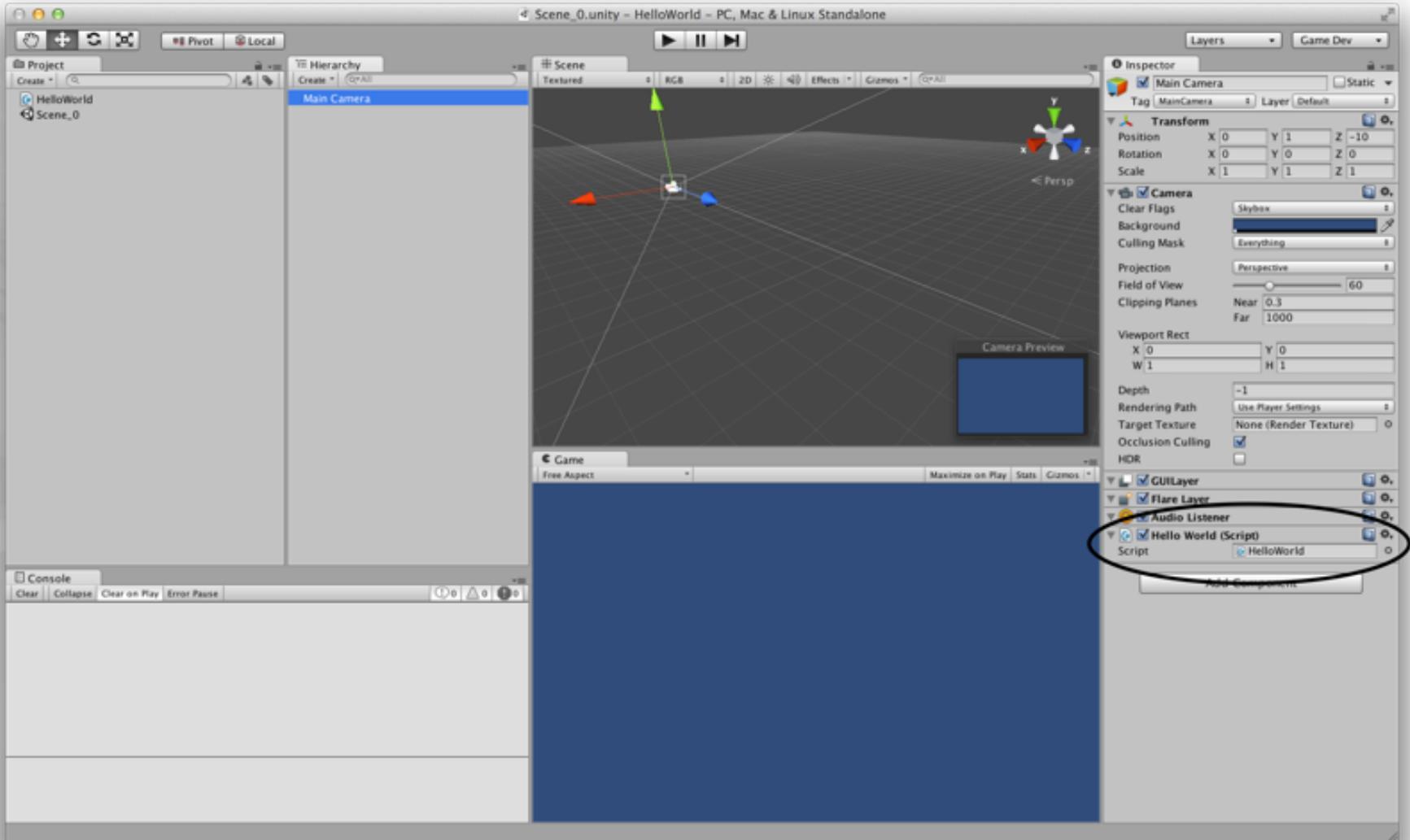
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# Attaching Scripts to GameObjects



To work in Unity, a C# script must be *attached* to a GameObject

# Attaching Scripts to GameObjects



This makes the script a *component* of the GameObject

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    - Guaranteed to be called before Start()

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    - `public GameObject      gameObjectPrefab;`
  - Then, an instance of the prefab can be created in code
    - `Instantiate( gameObjectPrefab );`
- **This is used in *HelloWorld* to create thousands of instances of a *Cube GameObject* prefab**

# The HelloWorld Project

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- Output "Hello World!" to the Console pane

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- **Output "Hello World!" to the Console pane**
  - **Once using Start()**

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- **Output "Hello World!" to the Console pane**
  - Once using `Start()`
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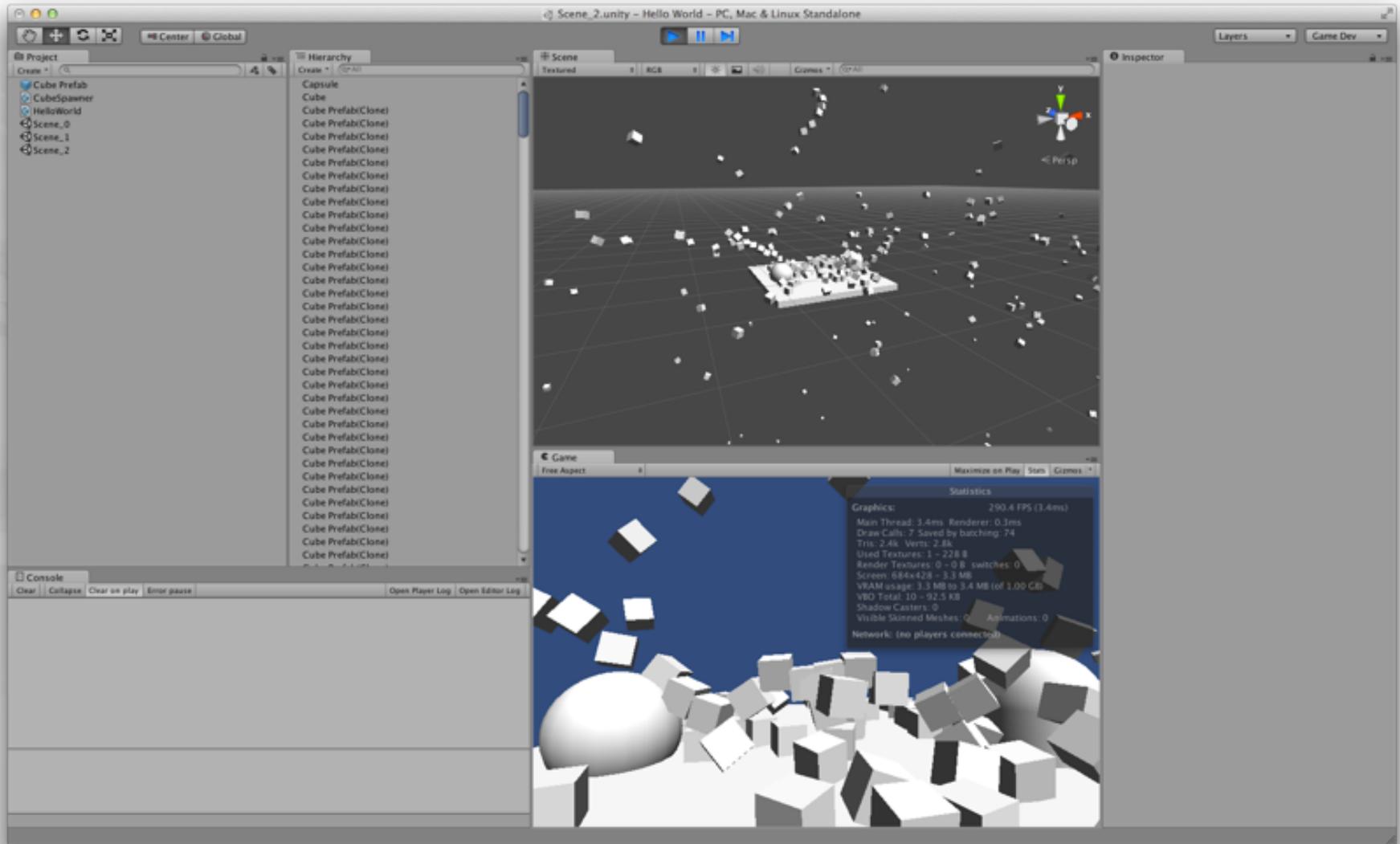
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    - This will create a cascade of thousands of Cube instances

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  - Many times using Update()
    - This will create a cascade of thousands of Cube instances
  - **Over other physically-modeled objects**

# The HelloWorld Project



The final HelloWorld scene

# Chapter 18 – Summary

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- **MonoDevelop is used to edit code for Unity**
- **Scripts must be attached to GameObjects to run**
- **Start(), Update(), and Awake() are called at different times and have different uses**
- **GameObject prefabs can be instantiated many times**