**Unity Certification Preparation:**

**C# Programming**

**Orlando Unity3d Development Meetup**

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# **The Default Execution Order functions : Void Start() & Void Update()**

Now we've gone over the basics of how variables work. Let's start talking about The Default execution order functions in terms of 1)What they are, and 2)What they do ? **A function is a block of reusable code (statements) which can be called (usually from the program main) repeatedly to perform tasks in the program.**

At this point. One thing to understand about C#. As well as being an Object Orientated Programming Language (i.e. where the program is structured into classes and objects). **C# is also an “imperative language”. Meaning inside the "function block" the code or statements are still executed in the order they are written.**

In unity functions are also referred to as methods. The difference between a method and a function is that **a function is a method that exists inside of a class**. **A function is a function that exists outside of a class**.

Now, when you create a new script in unity. By default, you will be given two standard functions (or methods) void Start() & void Update(). Start() & Update() are known as default execution order event functions.

The **void Start()** function is called only once during the lifetime of your script. Whereas **void Update()** is called at each and every frame. Now a **“Frame”** is a screen update. The processing your CPU does to draw an image to your screen. The Start function always, always gets called before the update function...because logically the starting event has to occur at least once, before the frame can be updated

The only other function that gets called before the Start function is the Awake function, which will talk about shortly.

The update is the most commonly used function to implement any kind of game behaviour.

To show this…In our script, you call the void Start() & void Update() functions. And using Debug.Log output "some message content" to the unity console window.

|  |
| --- |
| using System.Collections; |
| using System.Collections.Generic; |
| using UnityEngine; |
|  |
| public class NewScript : MonoBehaviour |
| { |
| // Use this for initialization |
| **void Start ()** |
| **{** |
| **Debug.Log("I have started !");** |
| **}** |
|  |
| // Update is called once per frame |
| **void Update ()** |
| **{** |
| **Debug.Log("I am updating !");** |
| **}** |
| }//End of NewScript |

|  |
| --- |
| using System.Collections; |
| using System.Collections.Generic; |
| using UnityEngine; |
| public class Move : MonoBehaviour |
| { |
| **public float speed = 0.01f;** |
|  |
| // Use this for initialization |
| void Start () |
| { |
| } |
|  |
| // Update is called once per frame |
| **void Update ()** |
| **{** |
| **transform.Translate(speed,0, 0);** |
| **}** |
| } |

# **The Awake Function (Void Awake)**

Why do we use the Awake function ? **The Awake is used to initialize any variables or game state before the game gets started**. The Start function can only be called in the same frame as the Awake function if the script has been enabled in the Inspector. Like the Start function. The Awake function gets called “once” during the lifetime of the script.

**The Awake function always get called “first” before the Start function.** **The Start function always occurs "after" the Awake function.** An important point to note is that **the Awake function gets called whether or not the script is activated (enabled ) or Not in the inspector**. By activated we mean the script has a check mark against it in the inspector.

|  |
| --- |
| using System.Collections; |
| using System.Collections.Generic; |
| using UnityEngine; |
|  |
| public class NewScript : MonoBehaviour |
| { |
| **void Awake()** |
| **{** |
| **Debug.Log("1st event - I am awake !");** |
| **}** |
|  |
| // Use this for initialization |
| void Start () |
| { |
| //Debug.Log("2nd Event - I have just started once !"); |
| } |
|  |
| // Update is called once per frame |
| void Update () |
| { |
| Debug.Log("3rd Event - I am updating every frame !"); |
| } |
|  |
| }//End of NewScript |

/End