

# Introduction to C# programming and Unity

## Week 3 - Exercise 14

### Jump that game object

The **Time** class in the unity is an important aspect in designing the games since it involves properties to fetch the various timing details. This exercise makes use of **Time.deltaTime** which returns the completion time in seconds for the last frame i.e., the time between the current frame and previous frame.

#### 1. Add a new game object

Sprites are created in the appropriate folder in the Project window.

#### 2. Write a script (moving the object for every second)

The minimum and maximum values of the coordinates in the 2d game space are noted and added to the script which defines the next location of the object for every second. The script holds 2 float variables

- The totalJumpDelaySeconds - basically a timer set to one.
- The ElapsedJumpDelaySeconds - the time in seconds so far in the current frame since the game started.

The ElapsedJumpSecond is calculated for every frame (that is why it's included in **Monobehaviour.Update** section) by accessing **Time.deltaTime**. When the Elapsed time exceeds the timer value, it's reset back to minimum possible value ( subtracting the timer value from the elapsed time ) and shifted to a random position.

```
void Update()
{
    ElapsedJumpDelaySeconds += Time.deltaTime;
    if(ElapsedJumpDelaySeconds >= TotalJumpSeconds)
    {
        ElapsedJumpDelaySeconds -= TotalJumpSeconds; //subtracting both is more accurate than setting to zero
        transform.position = new Vector3(Random.Range(minX, maxX), Random.Range(minY, maxY), 0);
    }
}
```