Component 4 - Powerups

This is a simple component which allows the player to pick up two different powerups, one which alters their speed and one which alters their jump force.

How it works
The player movement in this script is only used as a tool to showcase how the powerups work, and more information on this can be found in my first component - player movement. Both of the powerups work firstly by using the OnTriggerEnter2D function, where an if statement checks if the collided object has either the "Speed Power" or "Jump Power" tag. If so, this collision then begins a coroutine (called either "SpeedPowerUp" or "JumpPowerUp") that will last for 2 seconds. Within the coroutine for a speed powerup the script firstly creates a new float called "speedPowerTime" which is set at 2 seconds, and another called "timer" which is set to 0. Then a while statement declares that while the timer is less than the speedPowerTime speed is set to 14f (double its usual value) and the timer counts up in seconds. Then at the end of this coroutine speed is set back to 7f. Then once this coroutine is finished the game object which caused the collision is destroyed, causing the powerup to disappear. The same applies to the jump powerup, just the speed values are changed to jump force instead.

How to modify
- The tags that are given to the powerups could be changed to any name.
- The time that the powerups last for can be changed by simply changing the time that the coroutine runs for.
- The script can be applied to any object.
- Any other value could be powered up by simply substituting it instead of speed or jump force.
- The amount that each value is increased can be changed freely, it could even be decreased by simply substituting a new value into the coroutine.
- The original values for speed and jump force can be changed both at the top of the script and within the Unity inspector.

How I implemented into my game
To implement this component into my game I simply added the player movement script as an asset into my prototype project and copied and pasted the relevant parts from the component player movement script into the prototype player movement script. I then just had to create game objects for the speed boosts and jump boosts and give them the appropriate tags.