**Game Optimisation: Task 2**

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**Proposed Changes chosen:**

**(2)** – I was able to delete the raindrops using the VisibilityNotifier along with queue\_free() however that was not my intent. I could not work out how to apply the remove\_child function. I was still able to remove the raindrops and I tried the add\_child function to respawn the node but it did not work either. It certainly did improve the FPS as previously it would cause my computer to stall from all the lag caused from the undeleted raindrops beyond the viewport.

**(4)** – This was fairly simple and made more sense to do so because a raindrop is by no means a square shape so a circular shape suited the raindrop.

**(a)** – Disabling the collision meant it did not collide with each other so it looked more realistic as raindrops are not solid, rather they are liquid and would mesh together or overlap.

**(i)** – I created the five sprites via duplication with the same speed and divided the raindrop count by 5 so that we still have the same number of raindrops

**(5)** - Instead of the pseudocode provided to simulate gravity I was able to increase the “acceleration” via project settings by modifying the 2D physics to 200.

**Summary**

I believe in retrospect I would keep all the changes made but the one that I would change is the queue\_free() function which removes all the raindrops. If I was able to figure out how to remove simply the node itself and then to add it back I believe it would’ve been just fine. It was interesting to see in the Output window how the FPS began so poorly at around 2 FPS as the raindrops start dropping down and then back to 60 FPS when it all disappears within a few seconds. There was also a few frames shaved off with changes such as shape and removal of collision.

**Output – Last 14 lines:**

avg FPS: 51.614132, min FPS: 6.666666

current FPS: 60

current FPS: 60

current FPS: 60

current FPS: 60

current FPS: 60

current FPS: 60

avg FPS: 52.531893, min FPS: 6.666666

current FPS: 60

current FPS: 60

current FPS: 60

current FPS: 60

current FPS: 60

20 seconds