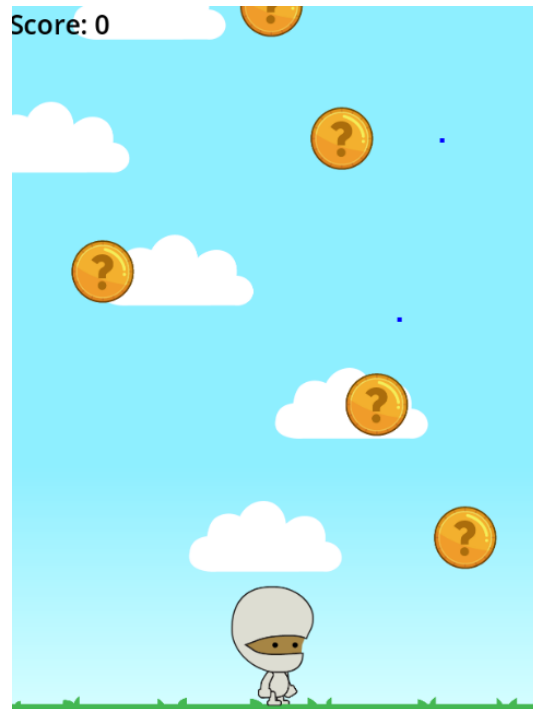




Activity 05 Prove Yourself: Coin Hop

PROVE YOURSELF: COIN HOP

For this Prove Yourself, **Cloud Hop** will be updated to include **Screen Wrapping**, **Rain Particle Effects**, and **Coins** for added **Score**. This includes position manipulation, **CPUParticles2D**, and Object Instantiation



Open the **Cloud Hop** project and navigate to the **Main** scene. First, explore screen wrapping to allow the player to move from one side of the screen to the other:

- 1 Navigate to the **player.gd** script.
- 2 Declare a new **export xBounds** variable of type **float**. Assign the variable an initial value of **310**. This is the x-position of the right boundary of the screen.
- 3 Inside the **_physics_process()** method, above **move_and_slide()**, add an **if** statement to check if the player's x-position is less than the negative value of **xBounds**.
 - a. What does the negative value of **xBounds** represent?
 - b. Which values should be used in the **if** statement?
- 4 If so, move the player to the right side of the screen **-10** to create a buffer.
 - What value should **position.x** be assigned?
 - Which value should **10** be subtracted from?
- 5 Add an **if** statement to check if the player's x-position is greater than **xBounds**. If so, move the player to the left side of the screen **+10**.
 - a. What does the value of **xBounds** represent?
 - b. What value should **position.x** be assigned?

Play the game! The **Player** will wrap around the screen when too far left or right.

EXTRA CHALLENGE 1:

Explore how to add Rain particle effects to the project.

1

Open the **Main** scene.

2

Locate the **rain.tscn** scene in **FileSystem**. Add **rain.tscn** as a child node to **Camera2D** node in the **Main** scene. This will ensure the rain particles will follow the camera.

3

In **Scene**, select the **Rain** node. Select the **2D** workspace, then press **w** to expose arrows for the **Rain** node.

4

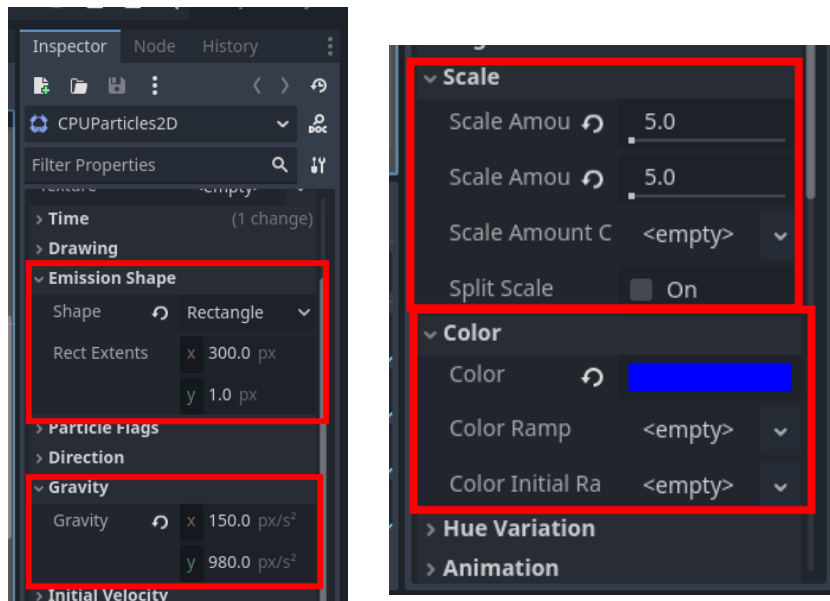
In **Scene**, drag the **Rain** node above **Background**. This will have the effect of the rain starting at the top of the screen as opposed to the middle.

5

Open the **rain.tscn** scene. Click on the **CPUParticles2D** node, then customize the particle behaviors in the **Inspector**.

6

Tinker with the different settings in the **Emission Shape**, **Gravity**, **Scale**, and **Color** menus to adjust the particle effects.



Play the game! **Rain** will be falling from the top of the screen.

EXTRA CHALLENGE 2:

Add coins to be collected for extra score.

- 1 Open the **Main** scene.
- 2 Locate the **cloud.tscn** scene in **FileSystem**, and add to **Main** as a child node (right below **Coin** is fine)
- 3 In the **2D** workspace, move the coin below the environment. This will ensure the original coin is not tampered with.
- 4 Add a **Node2D** as a child node to **Main**. Rename the node **CoinSpawner**, then drag it above the **Coin** node.
- 5 Attach the **coin_spawner.gd** script to **CoinSpawner**.
- 6 Open **coin.gd** and uncomment line 13 `ScoreSystem.add_coin(1)`
- 7 In **Inspector** for **CoinSpanwer**, assign the **Coin**, **Player**, and **Camera** exports.

Play the Game! Adjust the **CoinSpawner** export variables to customize how the coins spawn.

Congratulations on completing **SB Activity 05: Cloud Hop** and **Prove Yourself: Coin Hop** in Godot – **You Rock!** You are now ready to save this project and submit it.

Continue your exploration with Godot by opening the **SB Activity 06: Evil Fortress of Dr. Worm Ninja Guide**.