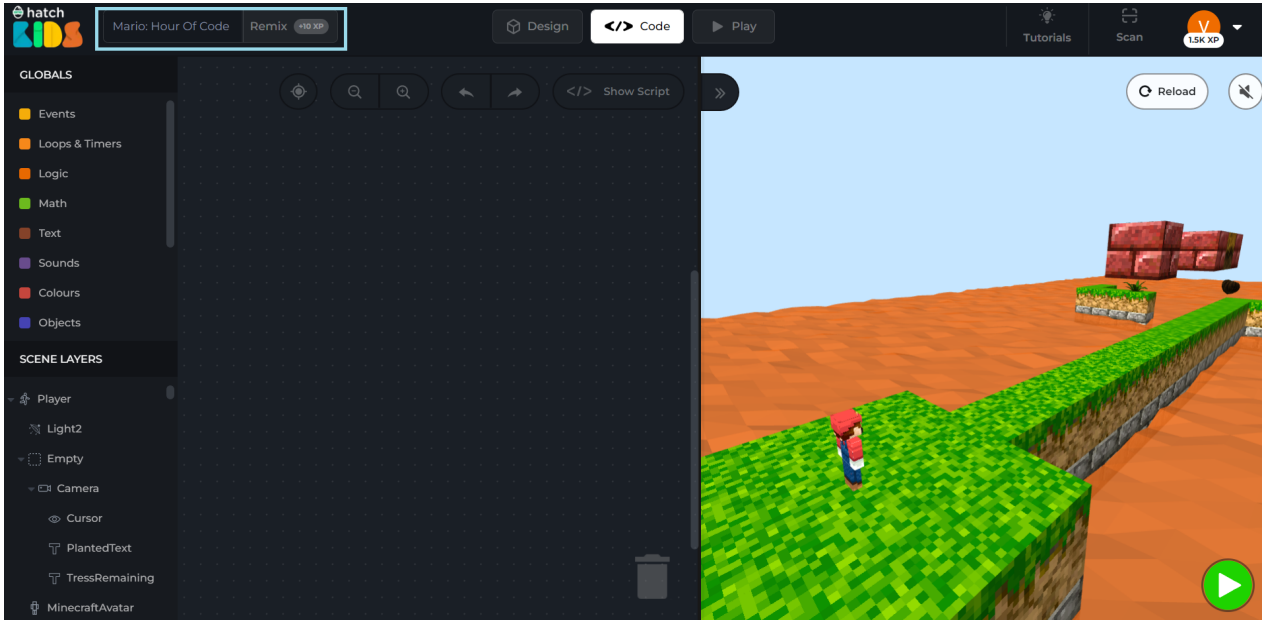
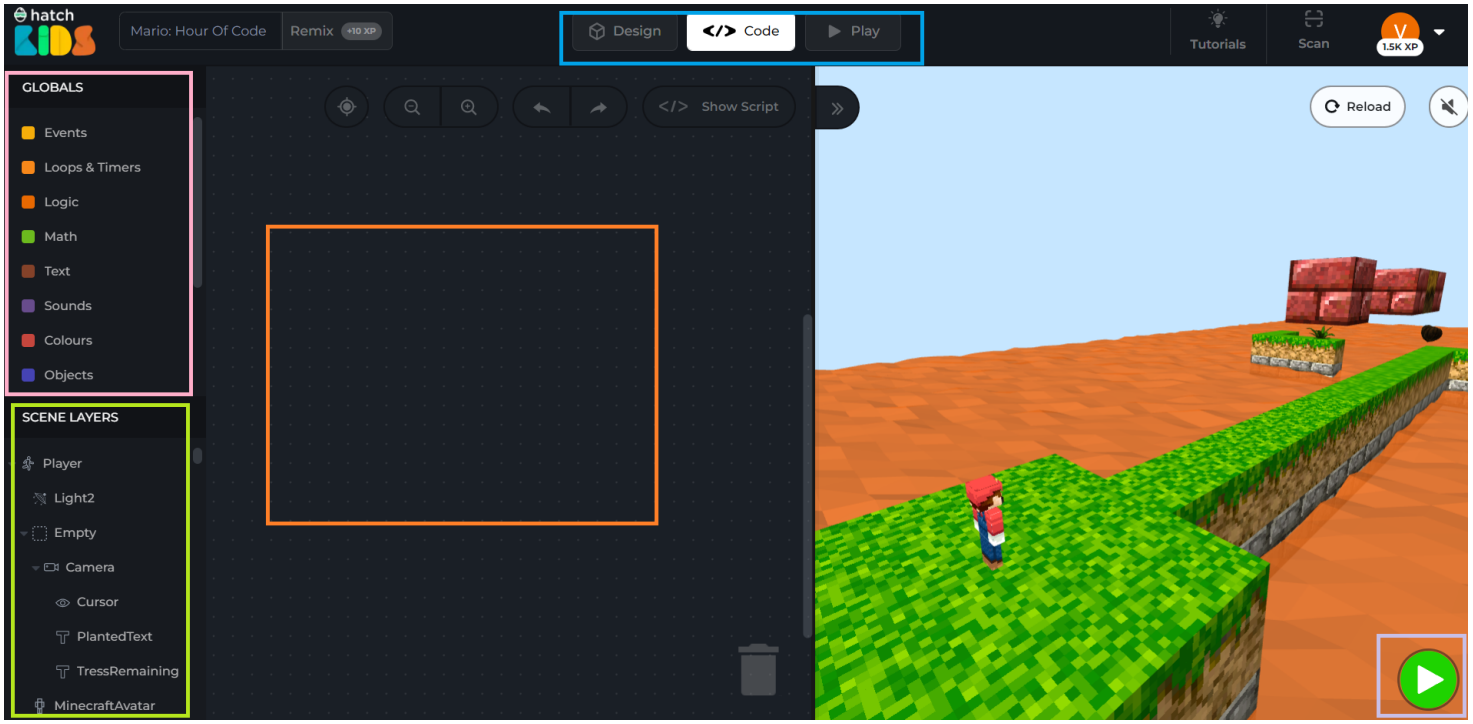
Course	Hour of Code
Workspace	Hatch Kids
Coding Concept	1. Boolean values 2. Counter variables 3. Modifying object properties.
AR/VR/Concept	1. Add environment in 3D workspace 2. Modify environment properties in 3D work space 3. Collision in 3D environment.
Project Link	Climate Change: Plant Trees.
Learning Outcomes	1. Create a script that modify visibility,color property of an object 2. Create a script that uses variables to store and modify data.

On the platform, you will be able to see your hatch workspace that looks like this. We have already added all components required for this activity. But the code blocks are not added yet. We will learn how to add code blocks to this project

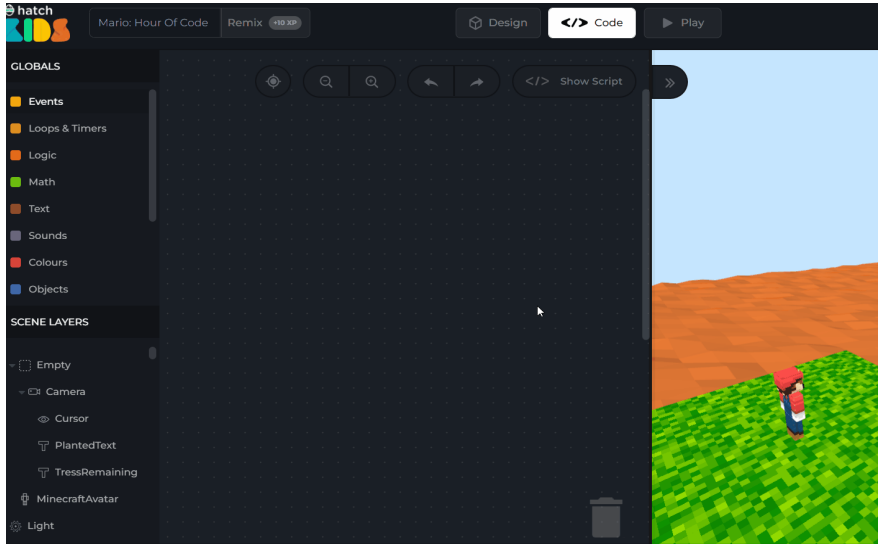




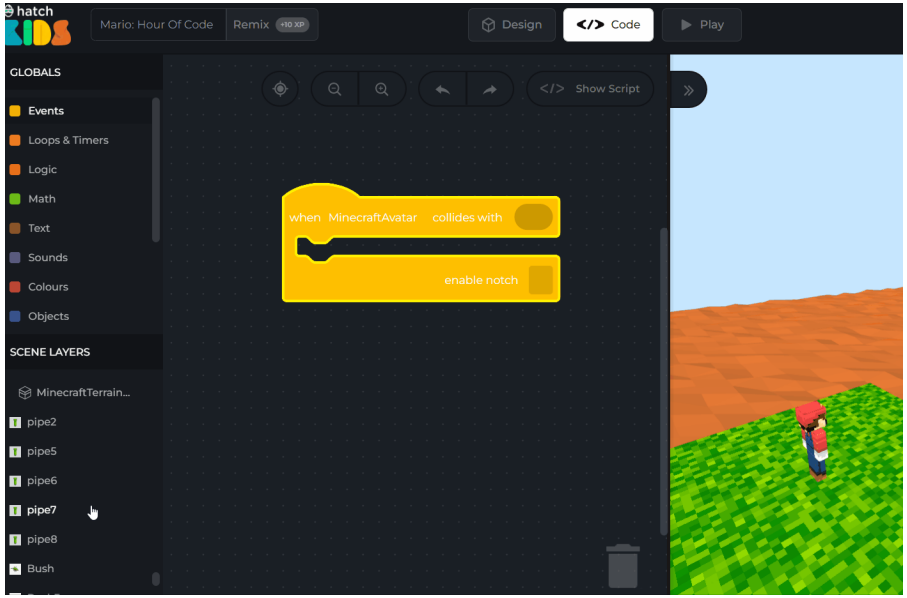
1. On the left hand side, the section highlighted with pink color is called the “Global” section. You will find all the coding blocks in this section.
2. Below the “Global” section, highlighted with green color is called “Scene Layer”. You will find all the design components such as player, camera, characters etc in this section.
3. On top, highlighted with blue color is called “Tab”. Tabs help you to switch between design,code and play sections.
4. In the center, highlighted in orange, is the coding workspace. This is where we place the code blocks.
5. On the right, you will see the output area and a green button.

Now, you know all about your hatch workspace. Let’s start with coding.

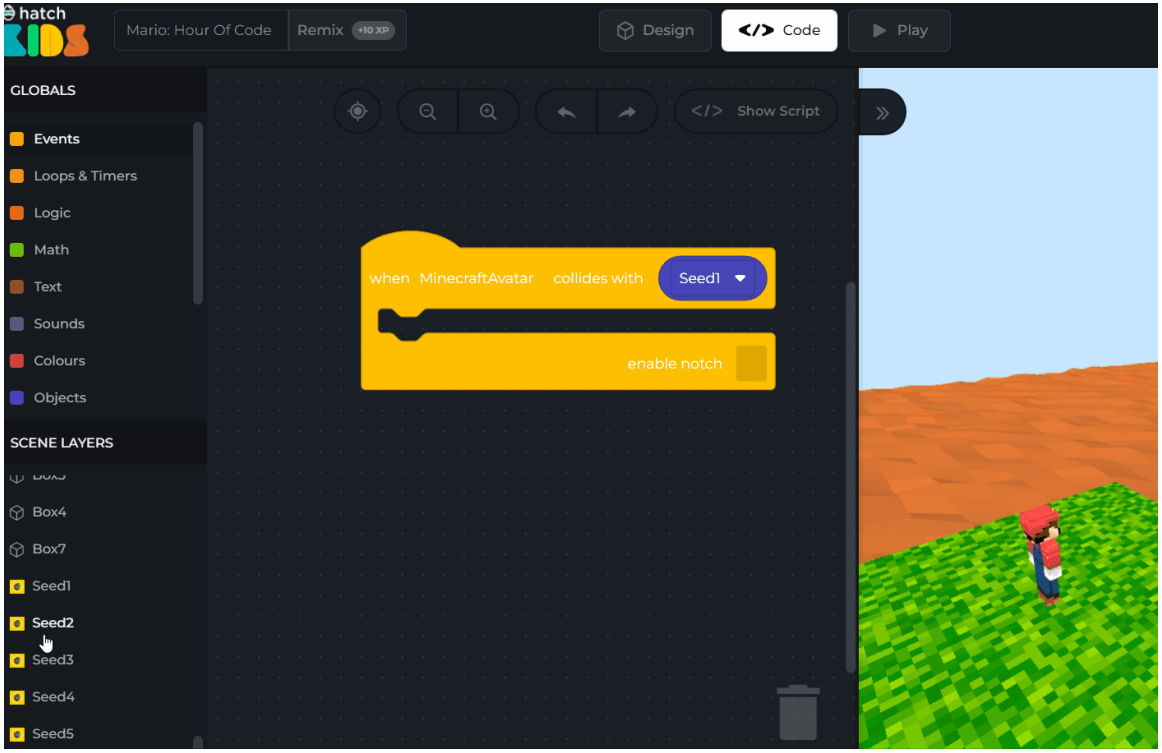
Amazing! Now that we know what collision means, let’s discuss the game. In our game when Mario collides with the seed a new tree is planted and clouds are visible in the sky. Let's use code blocks to achieve this.



Step 1: Select the “Code” tab. Click on MinecraftAvatar in the Scene Layer section and select ***the “When MinecraftAvatar collides with”*** block.

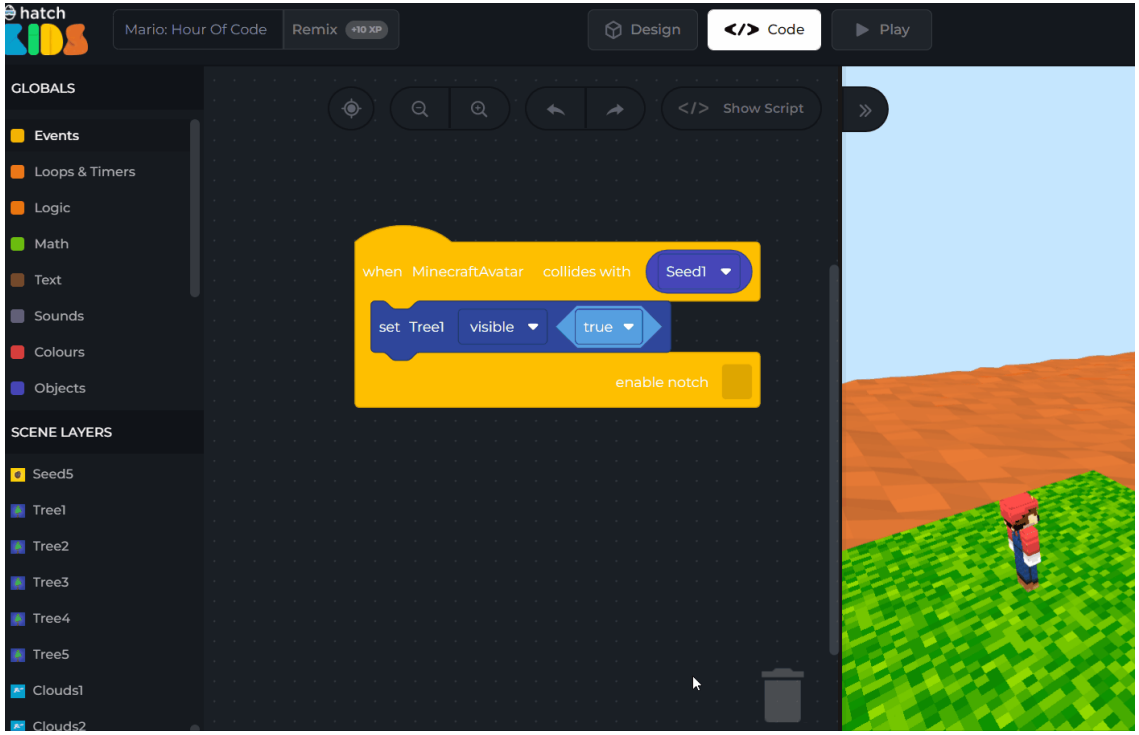


Step 2: Select the ***"seed1"*** block and place it in the empty space in the ***"when MinecraftAvatar collides with"*** block.



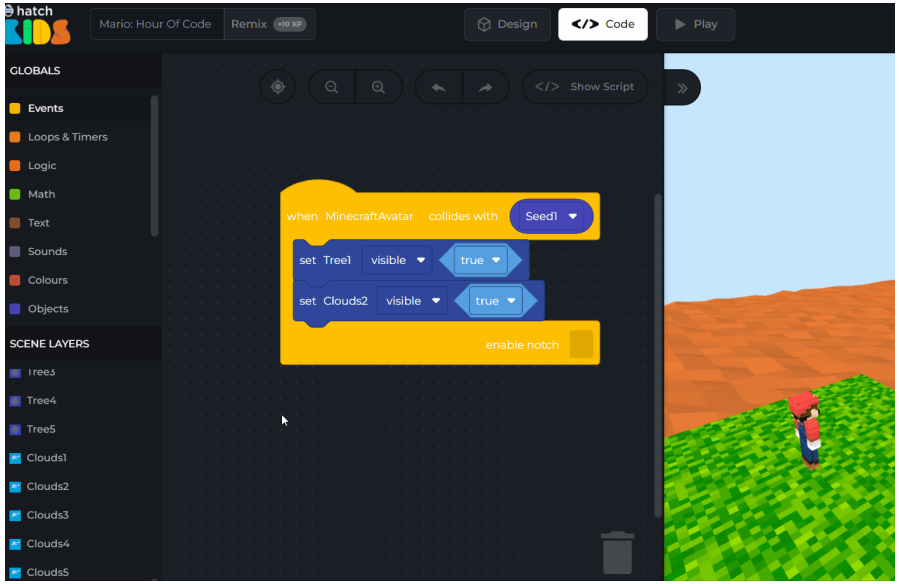
Step 3: Click on the "Tree" component and select the ***"set Tree Visible"*** block from the list. Place this block inside the ***"When MinecraftAvatar Collides"*** block.

Challenge 1:
Make "clouds" visible when Mario collides with the seed
Solution:



Step 4: Click on the clouds option and select ***"set cloud visible"*** block. Place this block inside the ***"when the Minecraft Avatar collides"*** block. Test the game in the output window after performing this step.

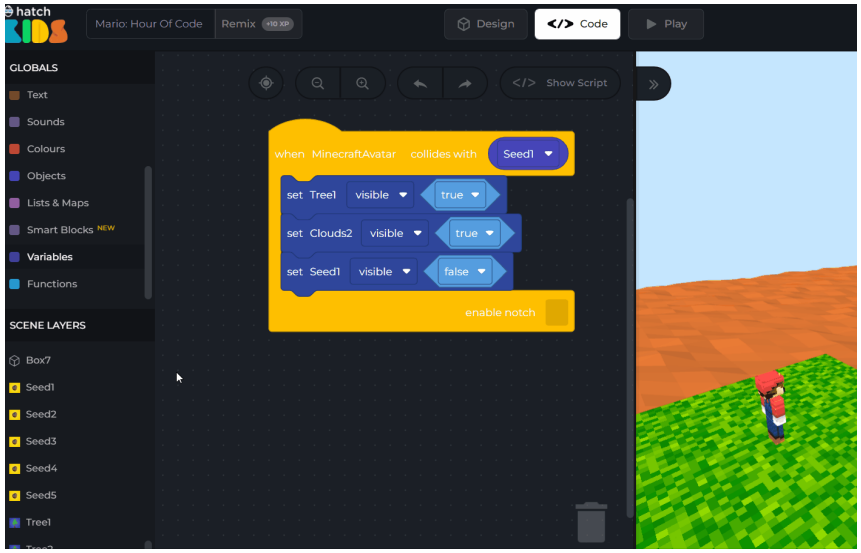
Amazing! Clouds and the Tree are visible now but the "seed" should disappear when the tree is planted and the clouds are visible.



***Step 5**: Click on the "seed" component and select the **"set seed1 visible"** block. Place this block below the previous block. **"Set seed1 visible"** to false.*

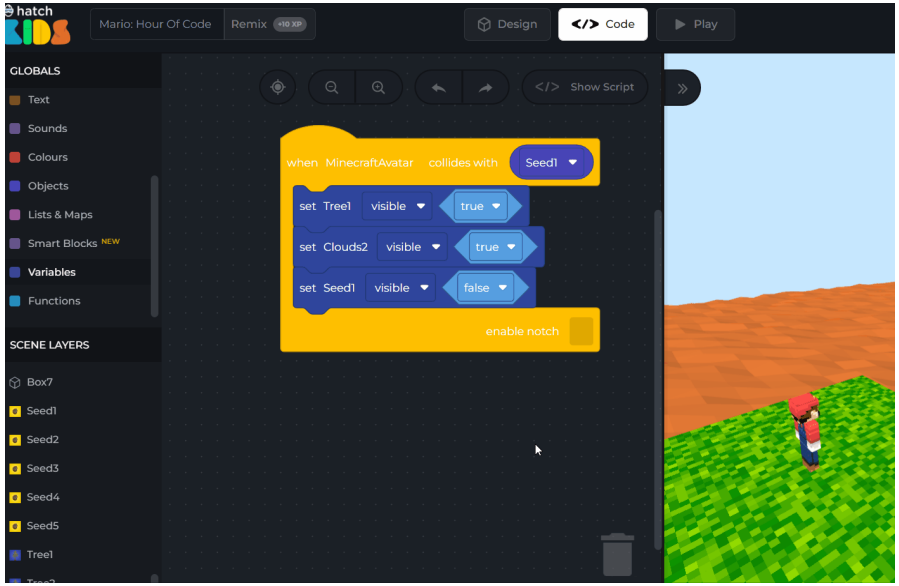
Test your game in the play tab after performing the steps.

Now, you know what variables are, let's use them in our activity. To use variables in our activity we have to first create them and set some default value. Let’s see how to create a variable in the next step.



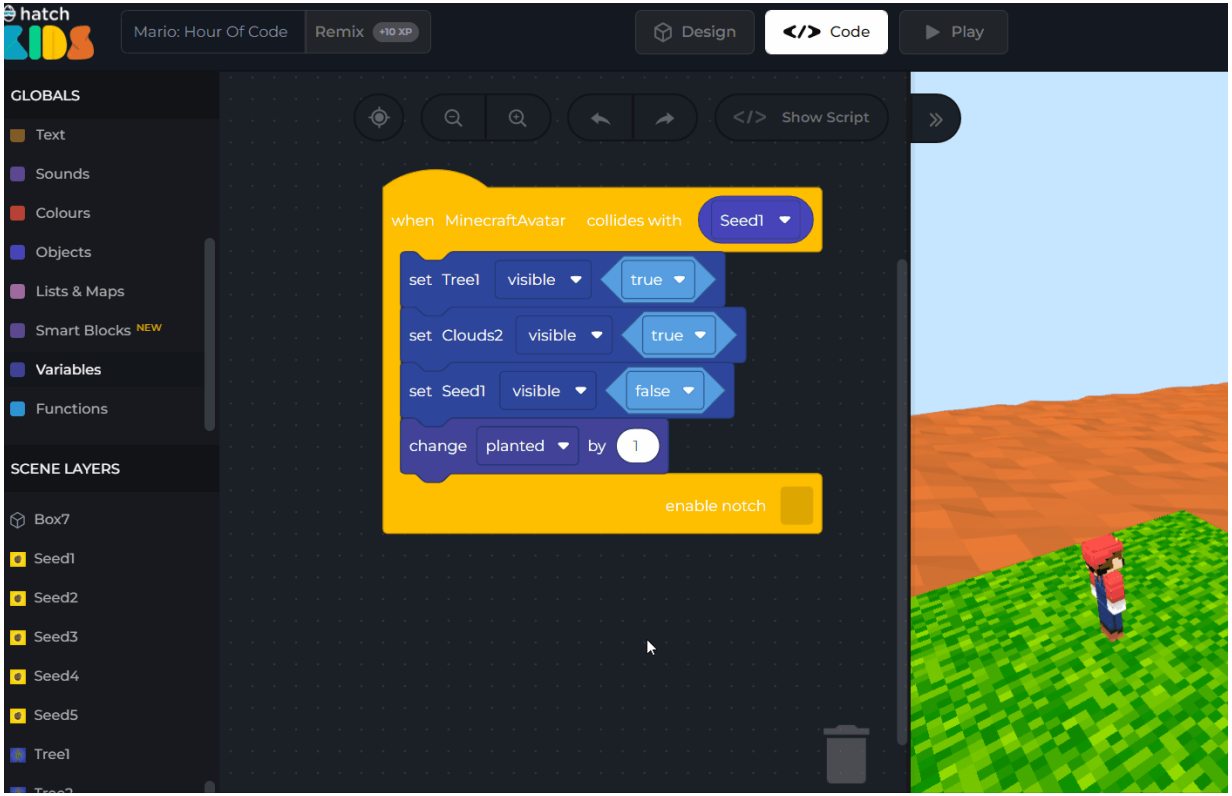
Step 8: Go to Variable blocks and click on ***“Create New Variable”.*** Enter the variable name as “planted” in the pop-up window and click Create.

Let’s change the *planted* count by positive 1 in our code.



Step 9: Go to variables blocks, select ***"change planted"*** block and place it below the previous block as shown in the image.

Challenge 2: Create variable name "remaining" and change seed count by negative 1.

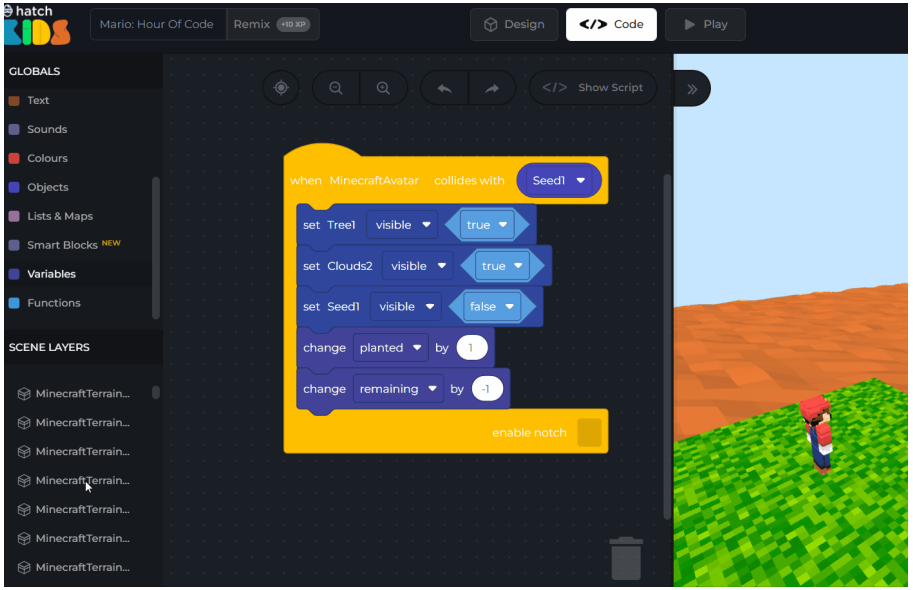


Solution:

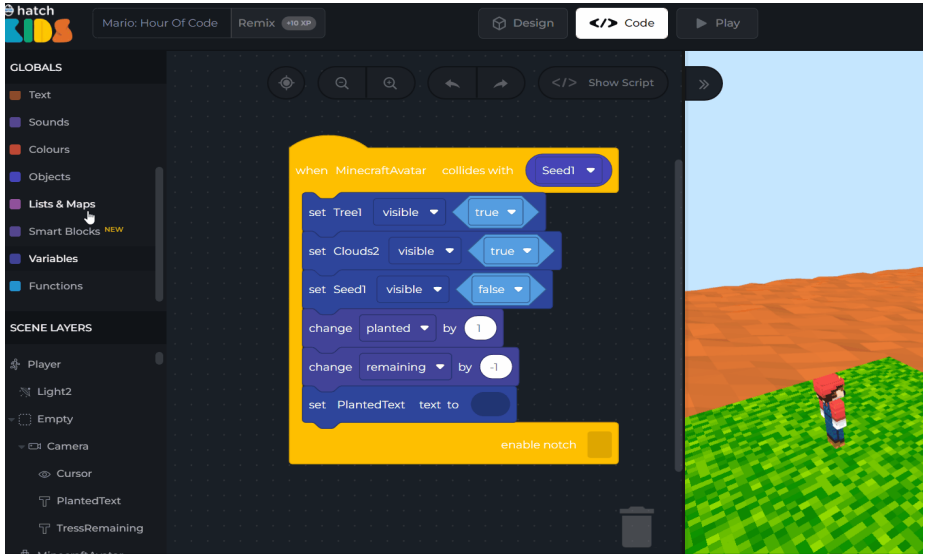
Step 2.1 : Goto variable blocks. Create a new variable and name it as "remaining".

Step 2.2 : Goto variable blocks. Select ***"Change remaining"*** block by 1 and place it below the previous block.

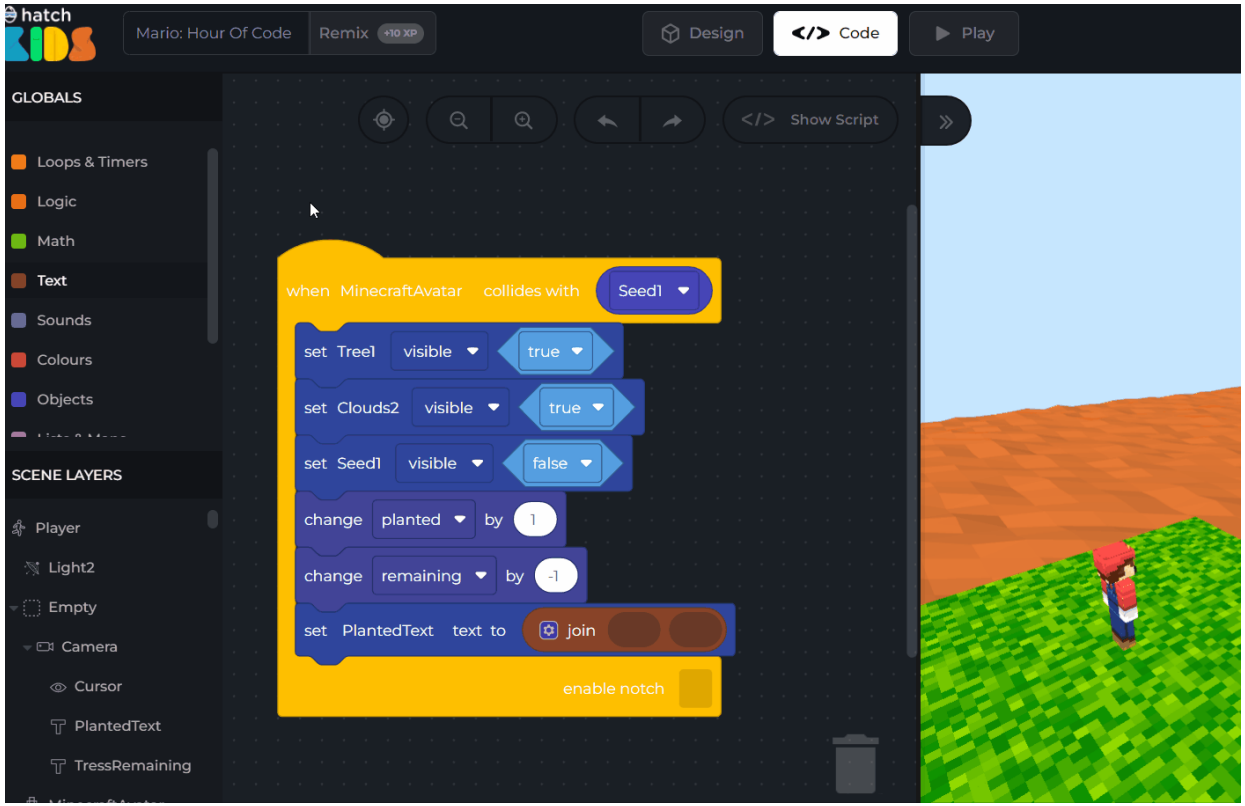
Step 2.3 : Change positive 1 to negative 1 in the ***"Change remaining"*** block.



Step 10: Click on the TressPlanted component on the left of the screen. Select ***"set PlantedText text to"*** block and place it below the previous block.



Step 11: Click on Text blocks and select the ***"join"*** block. Place it inside the ***"PlantedText"*** block.



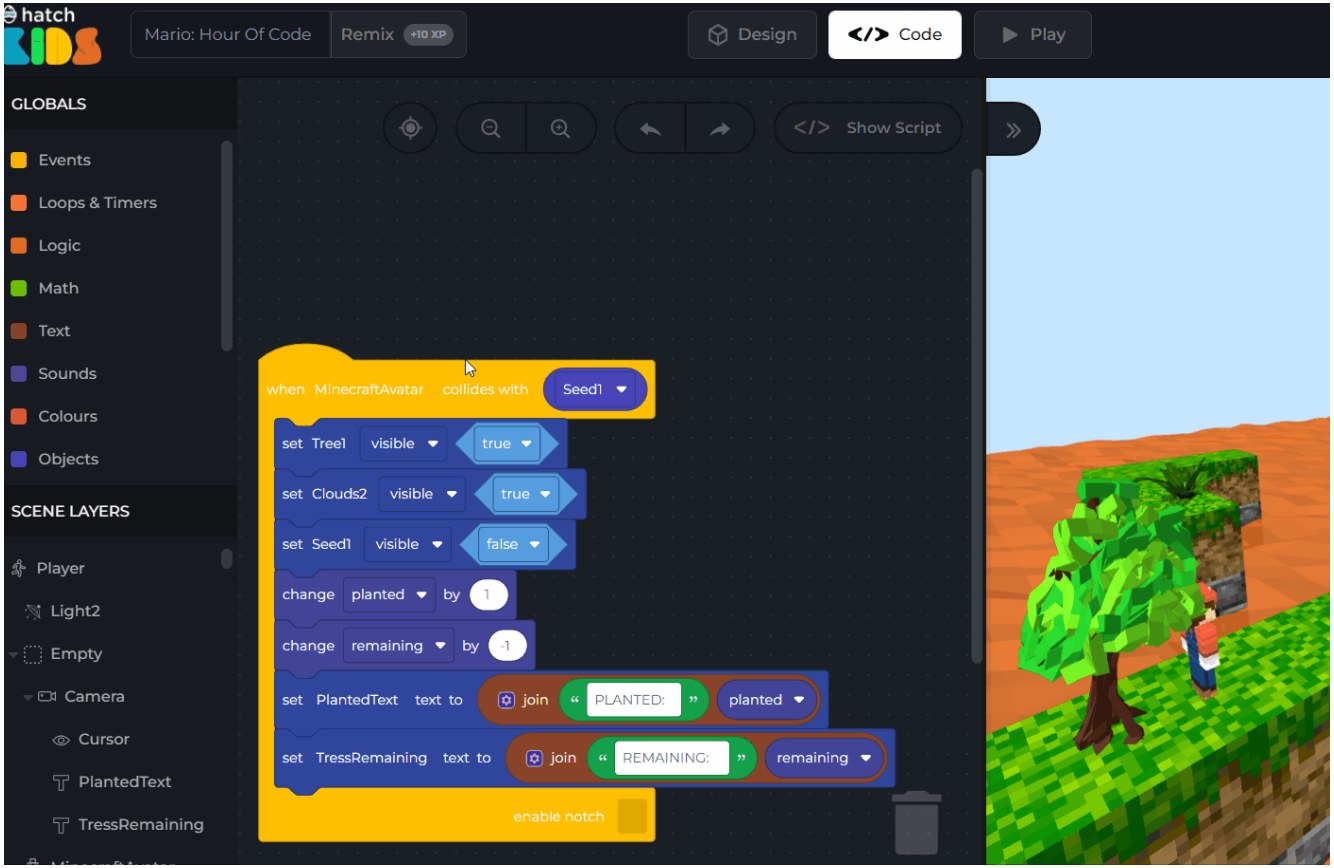
Step 12: Goto Text blocks, Select the ***"empty text"*** block , and place it inside the join block.

Type "Planted" in the empty text block.

Goto Variables and select the ***"planted"*** variable block and place it inside the join block.

Step 13: Repeat steps 11 and 12 to change the "remaining" text on the screen.' You have 2 minutes to complete this activity.

Test the activity in the play Tab after performing the above steps.



Step 14: Goto variable blocks and select the ***"set random count"*** block. Place it above the event block and from the dropdown select the "remaining" variable.

Goto math blocks and select the ***"0" number*** block. Place the number block inside the remaining block and set the value to 5.

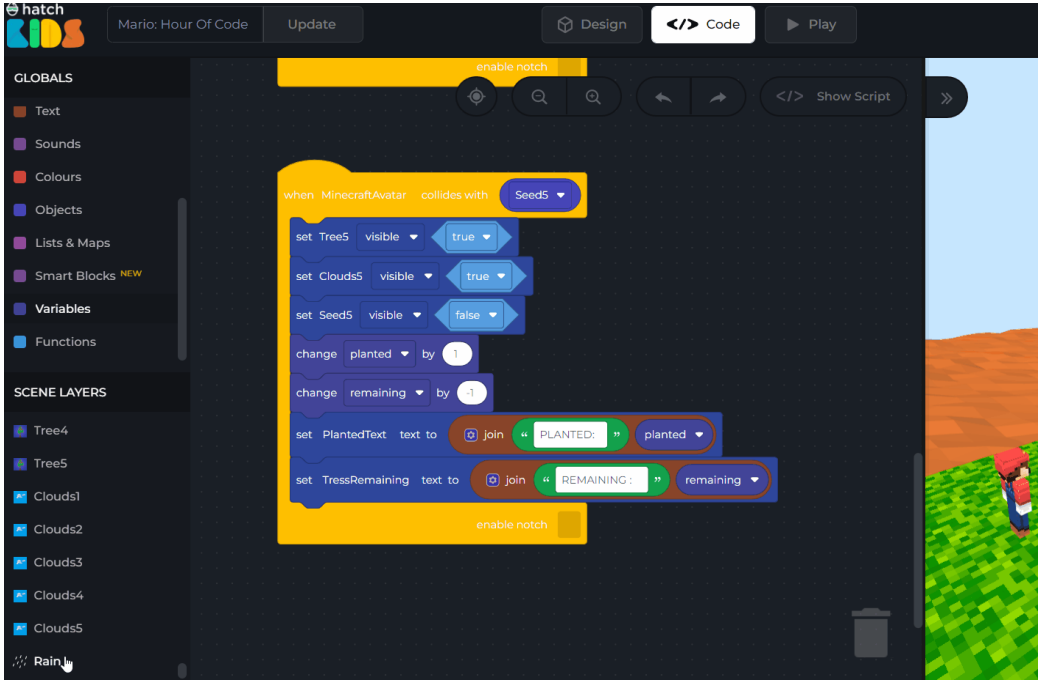
Test the game after performing the above steps.

Congratulations, you have successfully completed the activity for 1 seed. Now let's go ahead and perform the same steps for all 5 seeds.

Challenge 3:

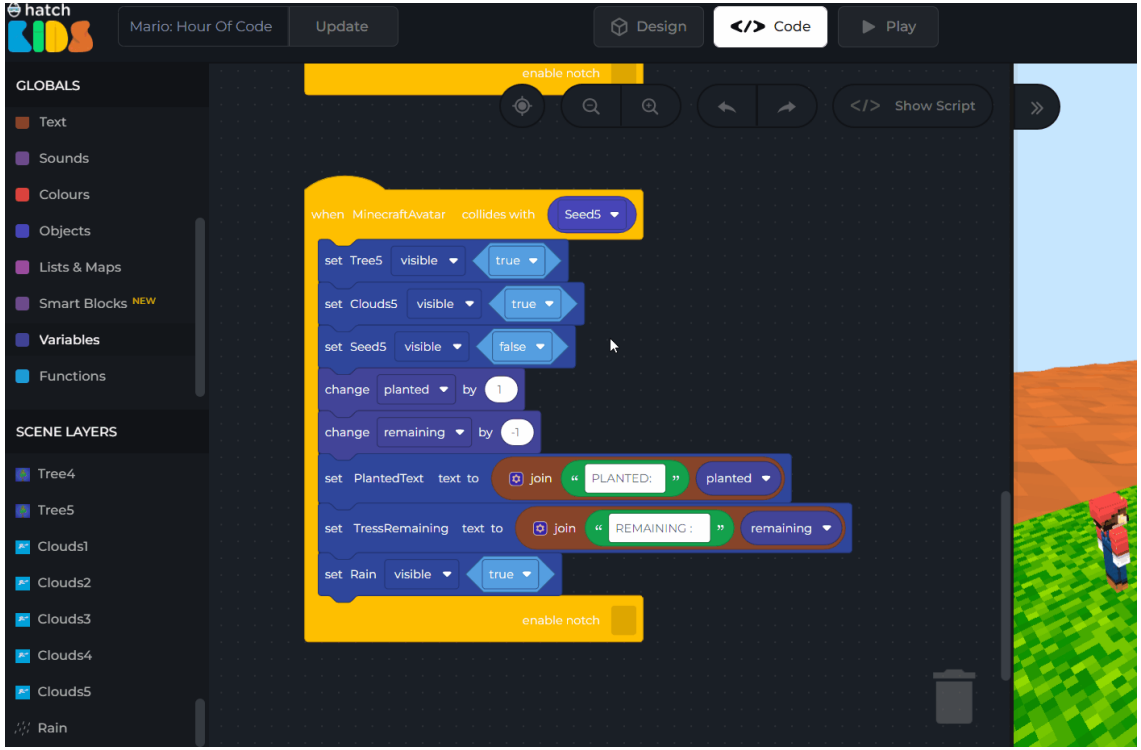
1. **Set Rain Component Visible to "True" when Mario Collides with Seed5**
2. **Set Ocean Color to "Blue" when Mario Collides with Seed5**

Solution :



Steps:

Click on the Rain component and select ***"set Rain visible to "*** block.
Place it below the previous block as shown in the image.



Steps:

1. Click on Ocean block. Select set Ocean visible block.

2. Remove the true block and dispose the ***"true"*** block in the garbage can.

3. Goto Colours block and select ***blue*** color. Place the blue color block inside the ***"set Ocean color"*** block.

Guide students to place blocks correctly as shown in the image. *Test the game after performing the above steps*.

Use the following link to refer to the final sequencing of code blocks for this project.

Final Project Link