Maze Game Guide

Sample: https://makecode.com/_budCxq4xFhPo

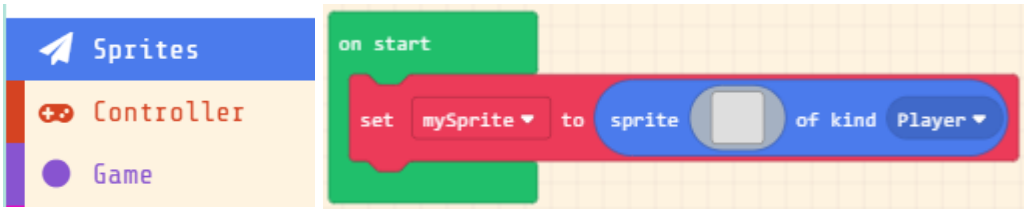
Starting Your Maze Game

Today, you are going to create a maze game. In this style game, characters can move around a maze and try to get through it.

Begin by creating a new project.

Create a Sprite

Go to **Sprites** and select **set mySprite to (sprite [ ] of kind (Player))**



IMPORTANT: Give your sprites a name that is easy to remember and refer to!

Make a **new variable** for your sprite's name. We'll call ours MainCharacter!

Click on the empty box to choose your sprite – it will open the editor.

Click on the grey box and either make a sprite yourself or pick one from the gallery.

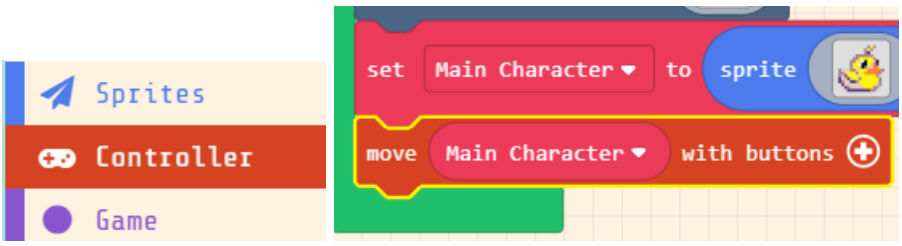
I chose a duck as my sprite.

Now let's add a background. From **Scene** select **set background image () to [ ].**

Click on the grey square and select a background from the gallery or draw your own.

Sprite Movement & Controls

Next step is to make our character move! Go to **Controller** and select **move (mySprite) with buttons +.**



Make sure to select your sprite's name from the drop-down menu. You can now control your main character with the W A S D keys, arrow keys, or the onscreen D-pad.

Try moving your player sprite around! You'll notice that your sprite can leave the playing screen if you go too far in one direction.

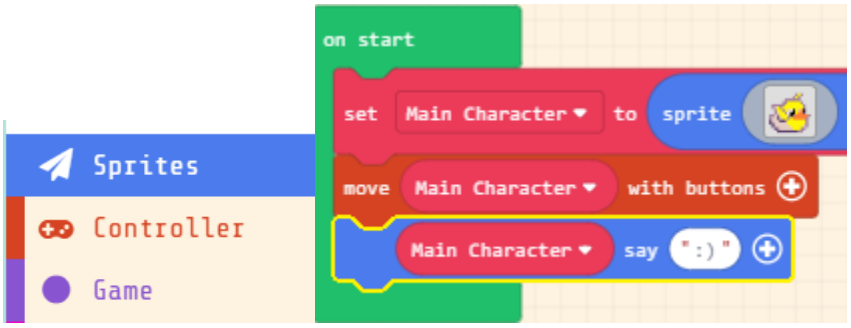
To stop this, go to **Sprites** and drag a **set (mySprites) stay in screen <ON>** into the bottom of the **On start** code block.

Change the **mySprite** variable to your sprite's name. Ensure that the "stay in screen" switch is turned **<ON>!**

Making a Sprite Talk

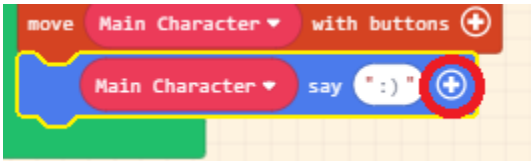
Go to **Sprites** and select a **mySprite say " :) "** block.

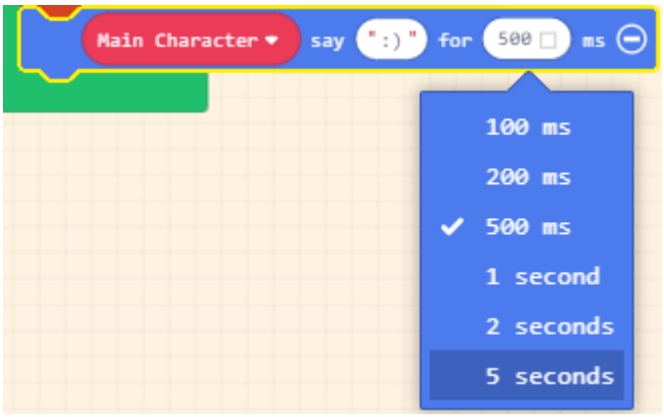
Make sure you set mySprite to your character's name.



You can change the dialogue so the speech bubble with pop up with what you wrote.

If you press on the + sign at the end, you can change the duration of time for which your dialogue appears, giving more or less time for your player to read it.

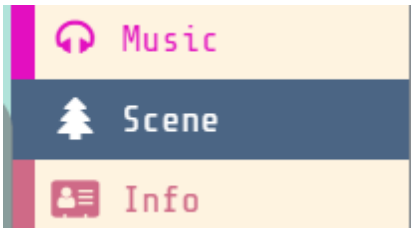


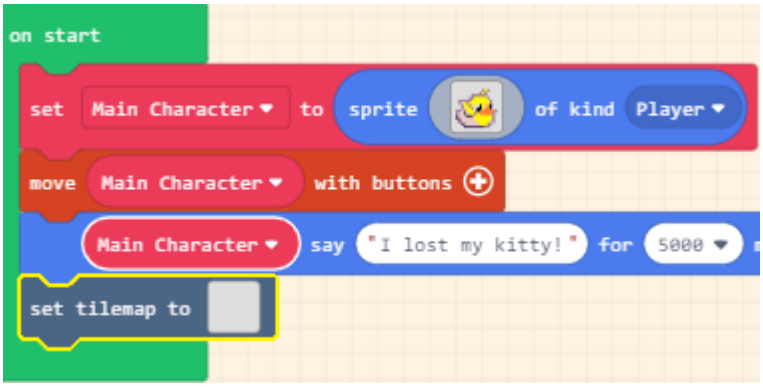


I set mine from 500 ms to 5000 ms (5 seconds) so the player has plenty of time to read!

Tilemap for the Maze

Next, we need to create the maze which our player will move around in.

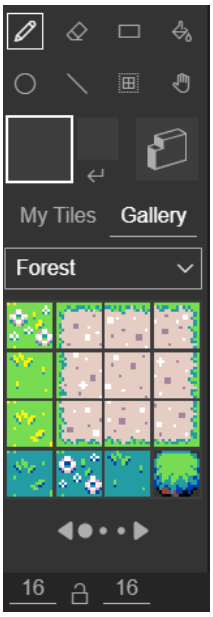




TILEMAPS vs. BACKGROUNDS

Click on the gray square to make our Maze – this is what we call a Tilemap. It is a little different than Backgrounds.

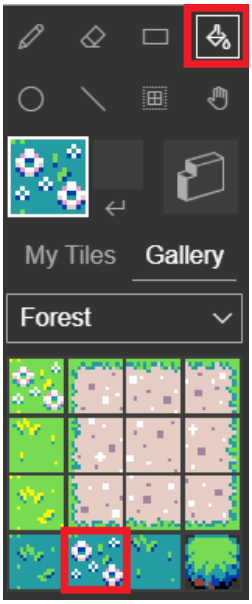
- Tilemap – is a map that can be interacted with and be used with maze games and platformer games
- Backgrounds – it's the splash screen that cannot be interacted with and will be **behind** the tilemap if you create one.

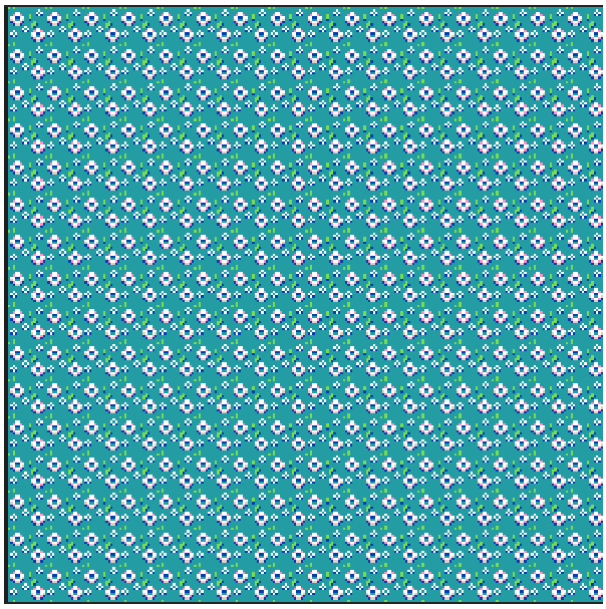


This is the menu for Tilemaps. Let's make a path first. I am going to stay in Forest and use a teal flower trail.

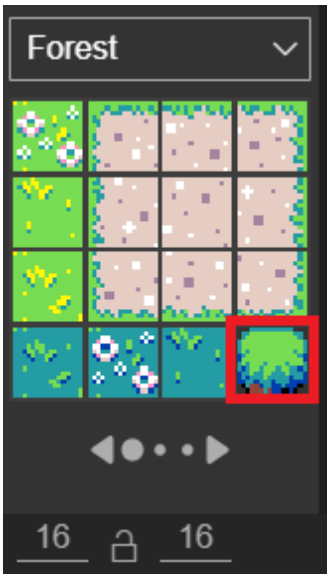
You will see it above My Tiles.

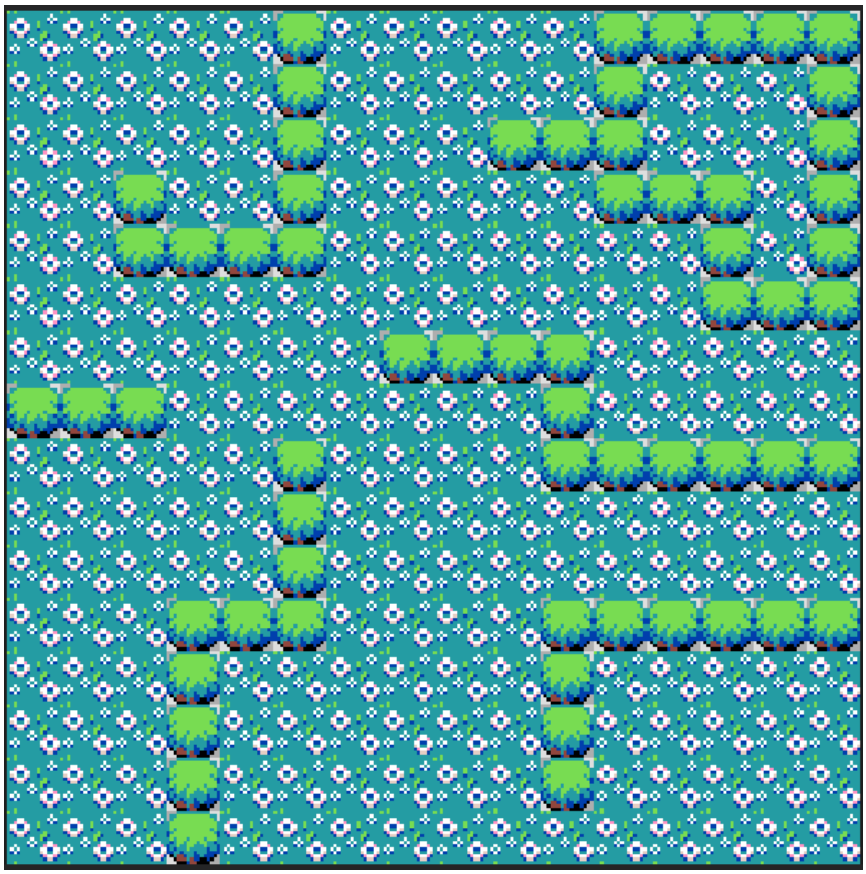
Click on the paint bucket and click on the screen to paint the entire tilemap.



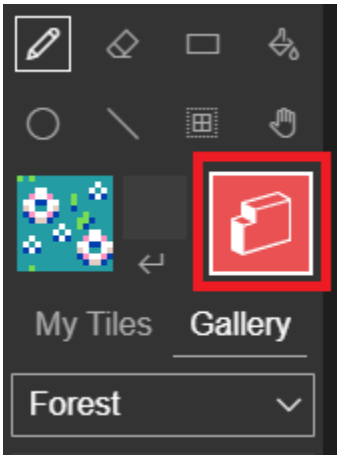


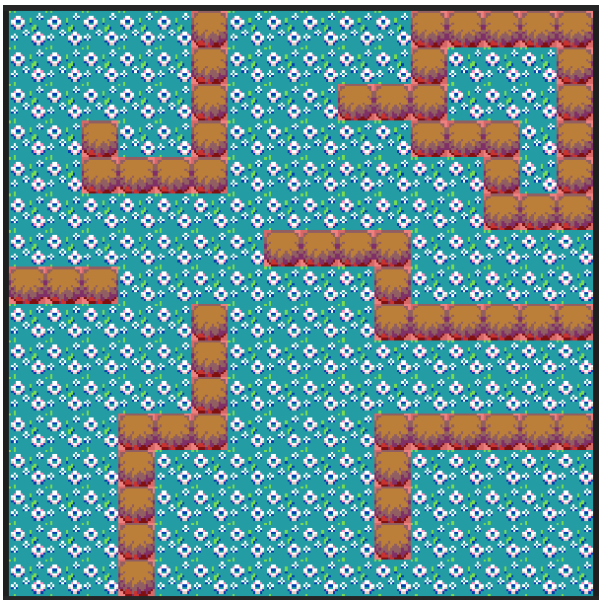
Select another tile to make your walls.





Click on the brick button (see picture below) and highlight your wall tile using the paint bucket tool (to highlight all at once) or the pen tool (to create your wall one block at a time). Your walls should turn red.

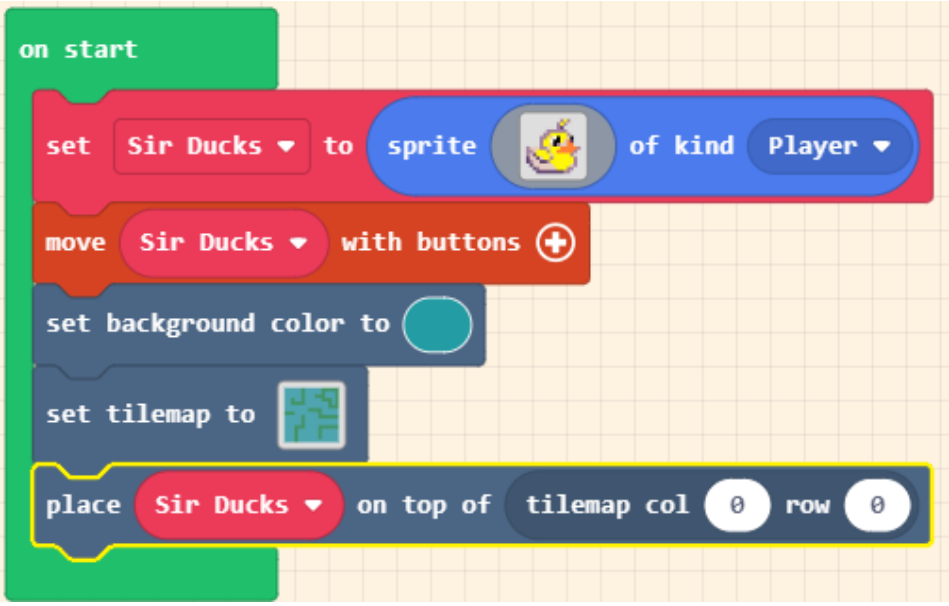




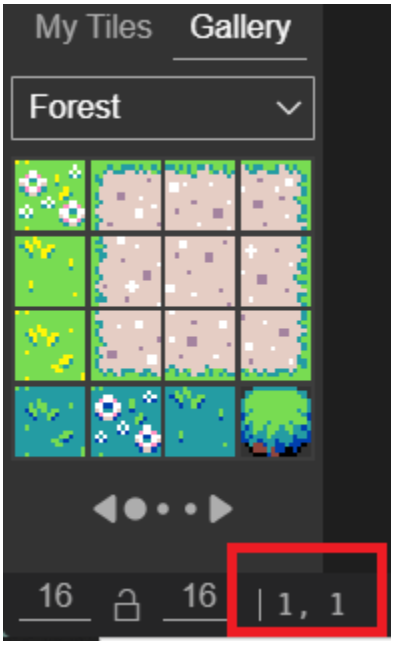
Any block which is tinted red is now unable to be passed through by your player character – in other words, it's a real wall! Press the green **Done** button in the bottom righthand corner when complete. Test your maze to make sure your character is small enough to pass through all of the gaps in the walls.

Placing a Sprite Starting Point

Now we want to choose a starting point for our player sprite. Go to Scene and select **place mySprite on tilemap (col 0 row 0)**

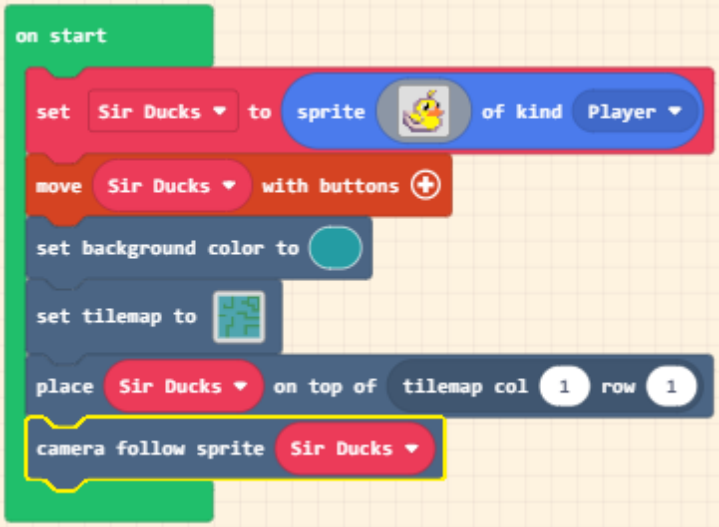


NOTE: To find your coordinates so you don't spawn on a wall, click on your tilemap and check the number at the lower lefthand corner. If you move your cursor around the tilemap, the coordinates will pop up wherever your cursor goes.



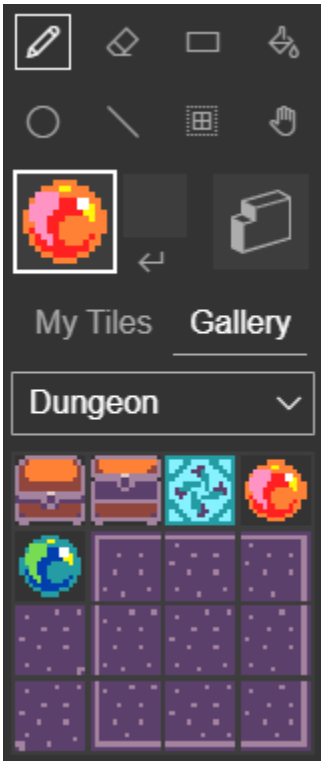
I chose 1, 1 as my starting point so I changed my coordinates in the "**place mySprite on top of tilemap col 0 row 0**" block.

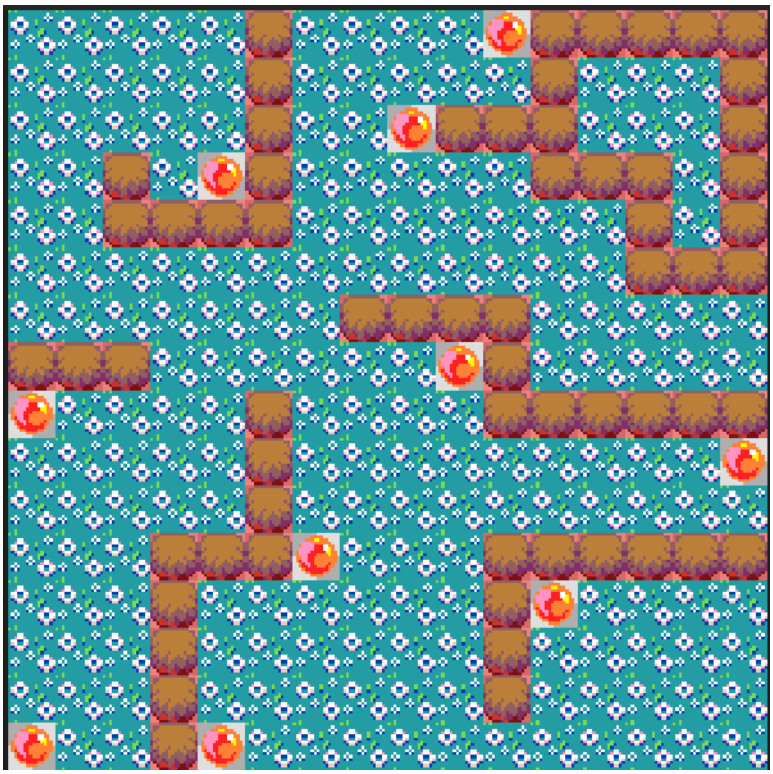
Next, make sure our camera follows our character. Go to **Scene** and select **camera follows sprite.**



Creating Collectables

Next, we want to place some items for our character to collect throughout our maze! Click on your tilemap and add a new tile for your sprite to collect:

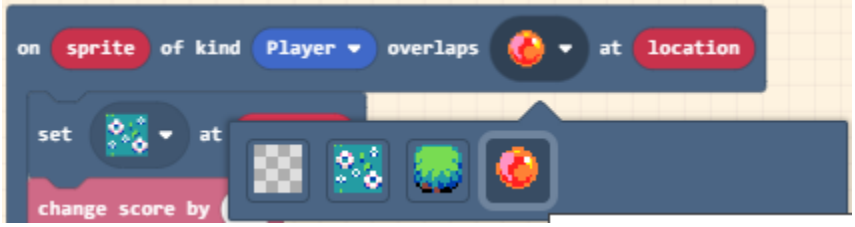




Click **Done** when you're ready.

Next, go to **Scene** and select **on sprite of kind (player) overlaps [] at location.**

Click on the blank square and select the collectable you chose.



Then go to **Scene** and select **set [] at tilemap col 0 row 0.**

Click and drag **(location)** and replace **tilemap col 0 row 0.**

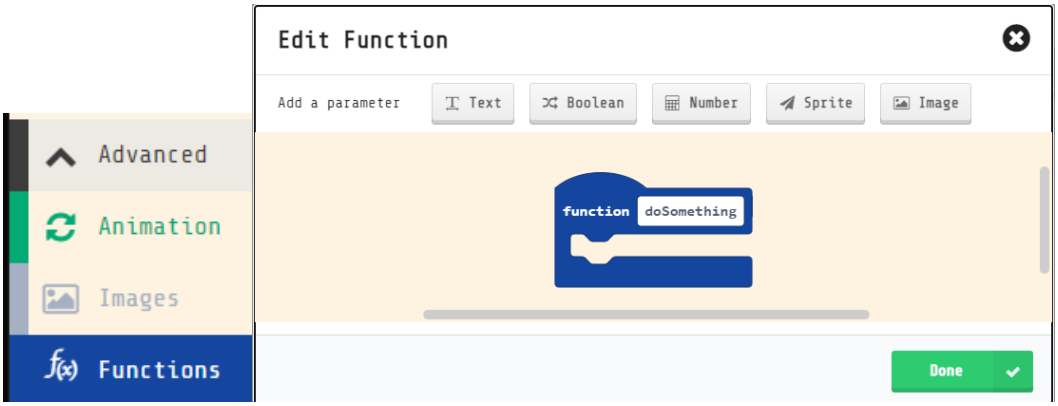
Click on the empty square and select the tile of your floor so it looks like the collectable disappears after you touch it.

Next, go to **Info** and grab a **change score by 1** and put it inside your overlap block. Now our collectables will increase our score!

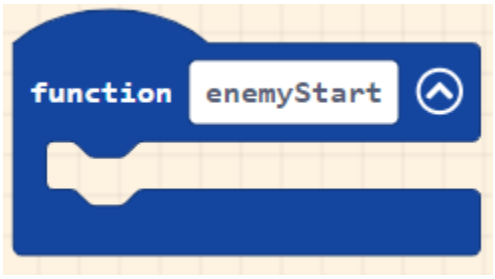
Creating an Enemy

Now we are going to create an enemy using a function. Functions help make our code more readable!

Go to **Advanced** then to **Functions.** Select **Make a Function**.

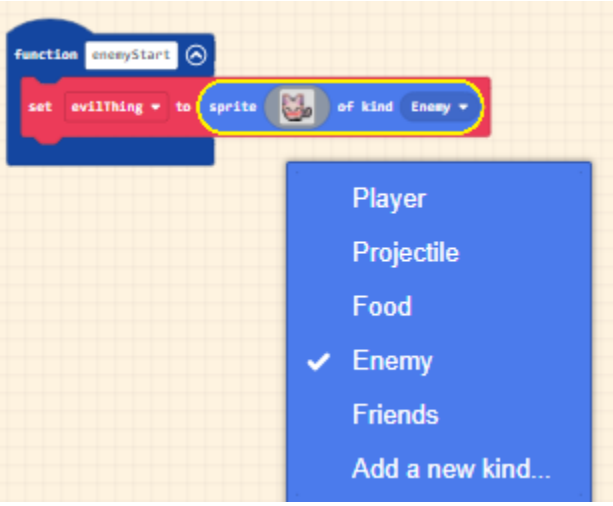


Change **doSomething** to **enemyStart.** Click **Done**.



Next, go to **Sprites** and create an enemy. Grab a **set mysprite to [] of kind ___.** Pull under the enemyStart block,

Change **Player** to **Enemy,** then create a new variable and give your enemy a name. Finally, draw a sprite for your enemy or choose one from the gallery.

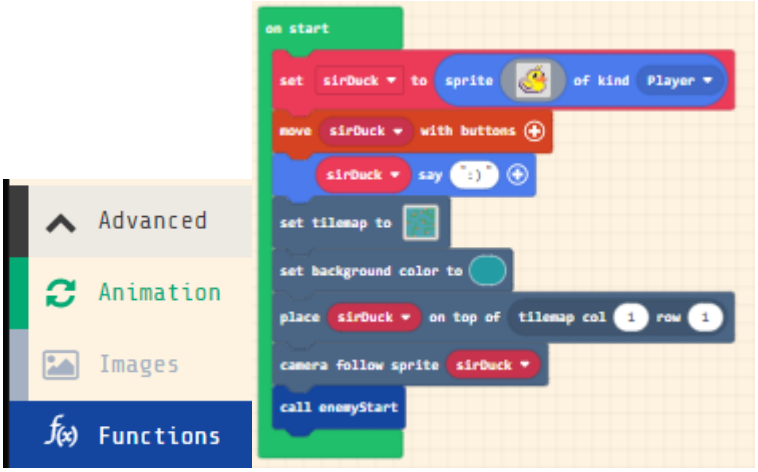


In **Scene** grab a **place mySprite on top of tilemap** block to place your enemy in a specific place. You can also choose **place ( ) on top of random [ ]** to have your enemy spawn in a random place, on a specific type of tile (such as on top of any grass tile). I recommend you avoid spawning your enemy on top of a wall or collectable tile.

REMEMBER: Click on your Tilemap to see your coordinates. I chose column 8, row 5.

Finally, we need to call our function to create our enemy.

Go to **Advanced** then to **Functions.** Select **call enemyStart.** Drag that into the start loop.



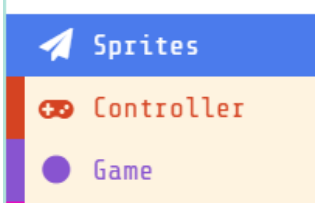
Now you will have an enemy in your maze!

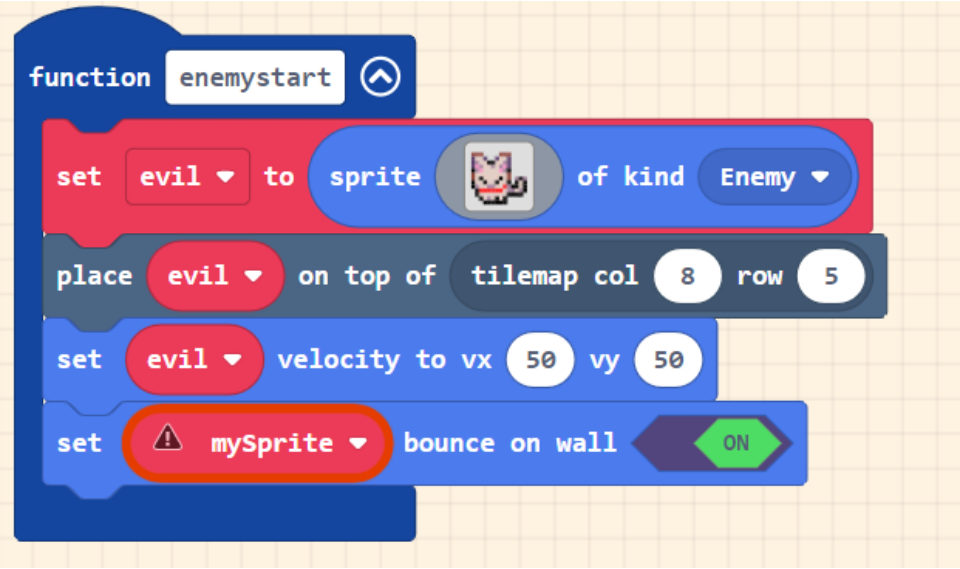
Properties For Enemies

Now we're going to make our enemy move around the maze! Go to **Sprites** and **select a set sprite velocity x 0 y 0.** Pull into your enemyStart function:

Make sure you change 'mySprite' to the name of your enemy to get rid of the error.

Now go to **Sprites** and select a **set mySprite [] bounce on wall <ON>.**

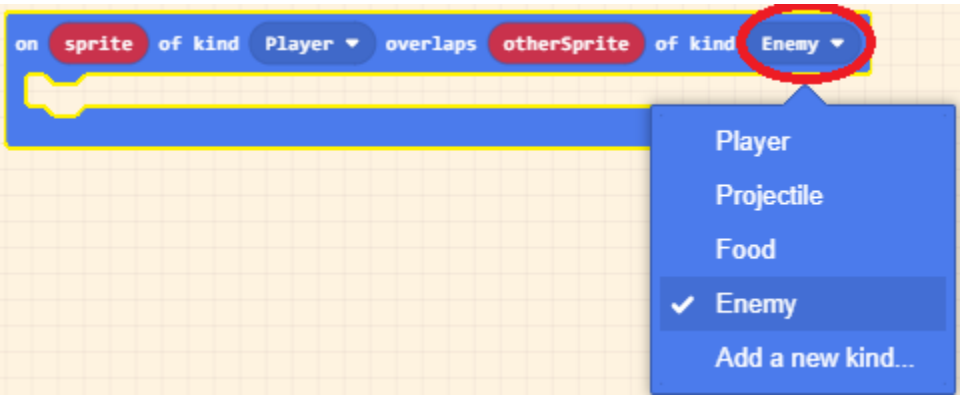




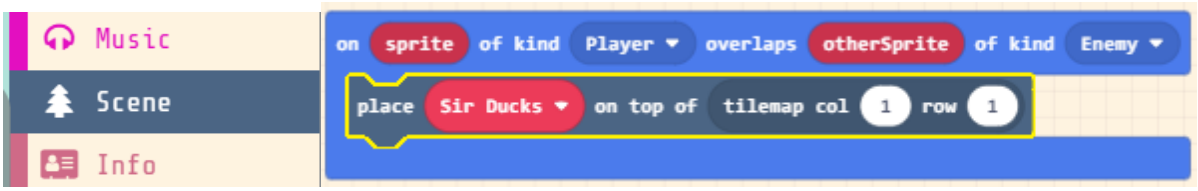
Change the name to your enemy's name and ensure your switch is set to ON.

Next, go to **Sprites** and grab a **on sprite of kind Player overlap othersprite of kind Player** block.

Change the last **Player** to **Enemy.**



After I touch an enemy, I will be sent back to the start of my maze. In **Scene** select **place mySprite on top of tilemap.** Always remember to change the name and set my position. I chose column 1, row 1 as my player sprite's start position.



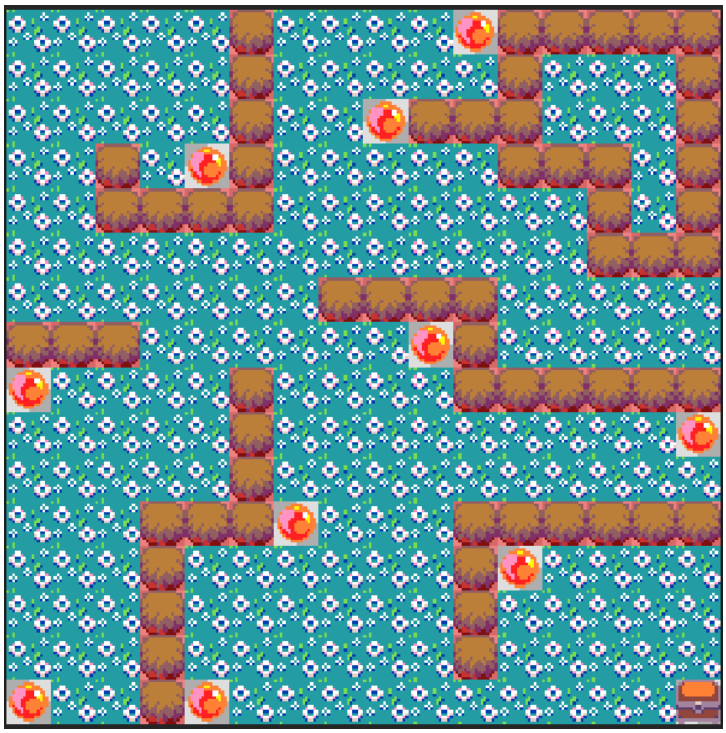
Now go to **Info** and select **change life by –1.**

Now you will lose a life when you touch your enemy, and return to the start of your game.

Creating A Button/Switch

Now it's time to create a button or switch to open a gate to a blocked area.

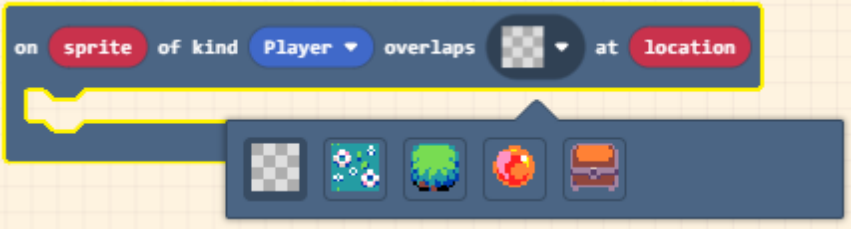
Click on your **tilemap** and add something that will be your button.



I chose a chest and placed it in a corner.

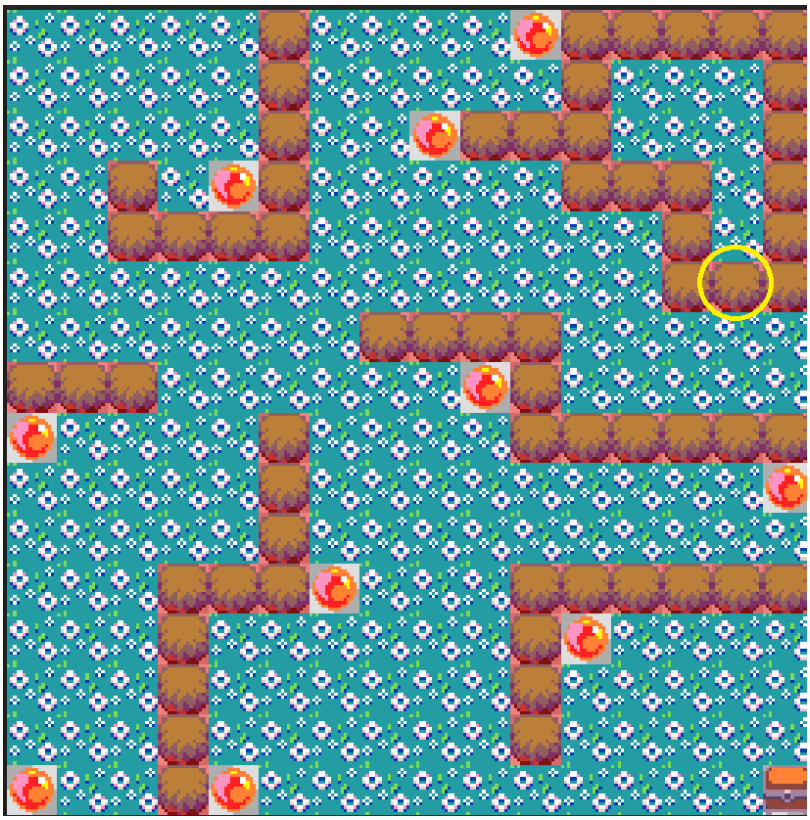
Click **Done** when you're ready.

Now go to **Scene** and grab an **on sprite of kind Player overlaps [ ] at location** block. Click on the [ ] and choose the chest or button.



Click on the Tilemap and find a spot that we want to open in the secret area.

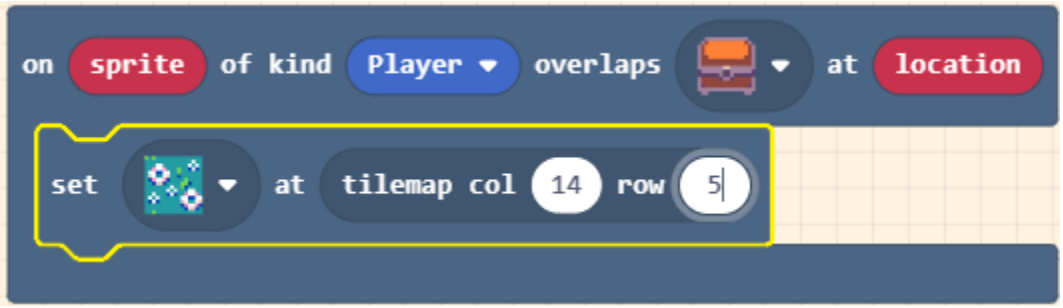
Below, see the block I want to open up and its coordinates.



Go to **Scene** and select **{} tilemap col 0 row 0.**

Click on the empty square and change it to your floor tile so your chest/button will disappear once it has been triggered.

Next, change the col and row to the coordinates you chose. I had 14, 5.

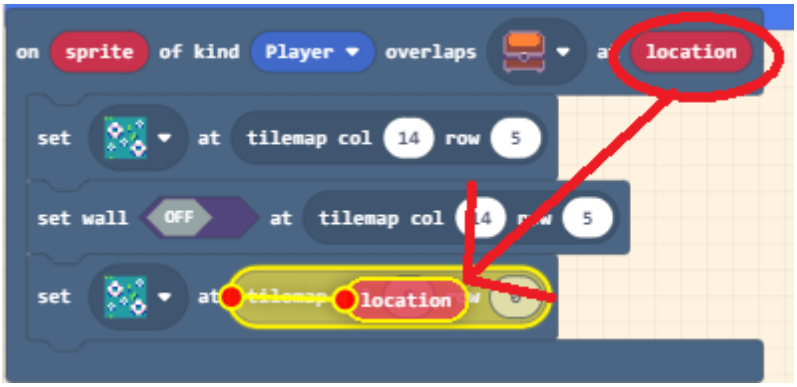


Go back to **Scene** and select a **set wall <off> at tilemap col 0 row 0.**

Change the coordinates to the same ones you have above. It's 14, 5 for my project here.

Go to **Scene** and grab another **set {} at tilemap col 0 row 0.** Click on the blank square and choose your floor tile. This will make it so that the wall will appear to vanish in the location you chose.

Drag and drop (**location**) and replace tilemap col 0 row 0.



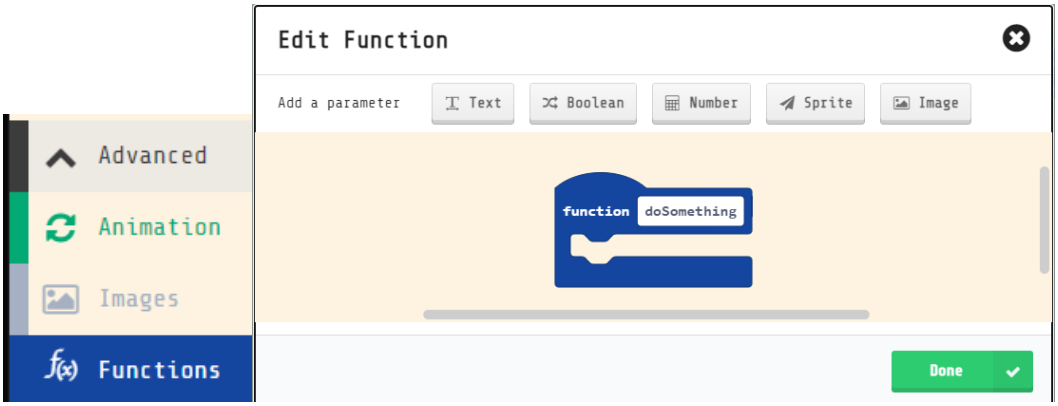
Test your secret button to make sure it works!

Creating Your Friend

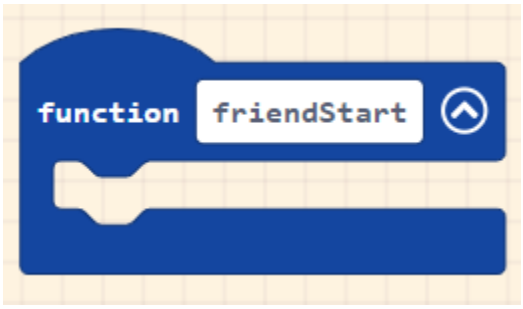
Now that there is a secret opening, it's time to save your friend!

First, create a friend. We will be putting all the information about our friend into a new function.

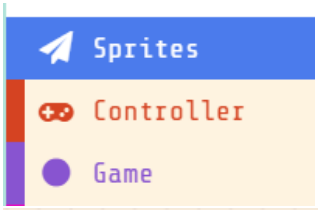
Go to **Advanced** then to **Functions.** Select **Make a Function**.



Change **doSomething** to **friendStart.** Click **Done**.

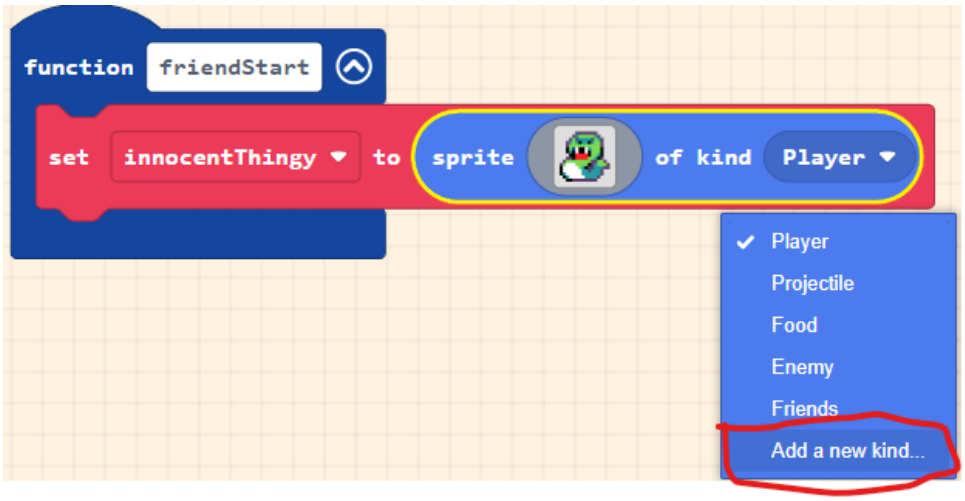


Go to **Sprites** and select **set mysprite to sprite of kind Player** – Put this **friendStart.**

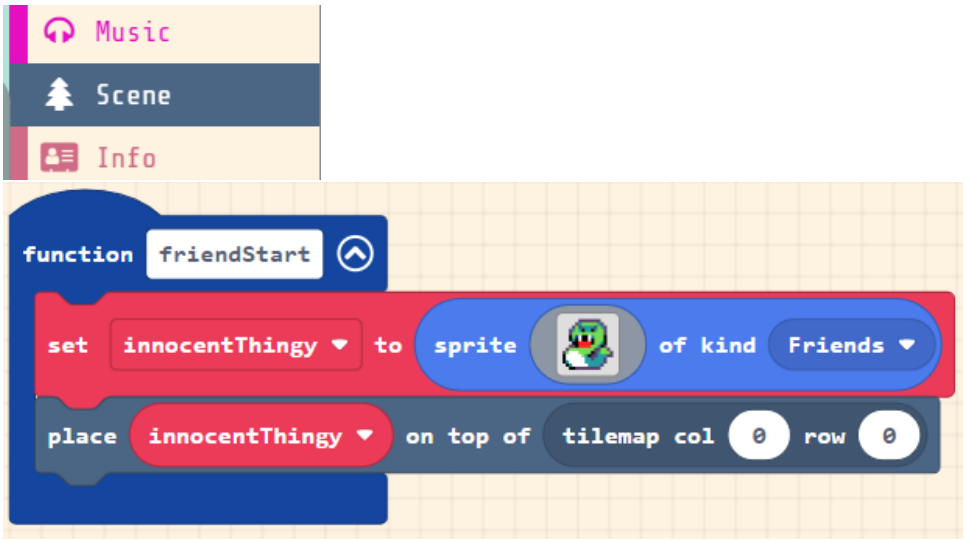


Click on 'Player' and choose 'Add a new kind'. We've called our new kind 'Friends', and we named our sprite innocentThingy.

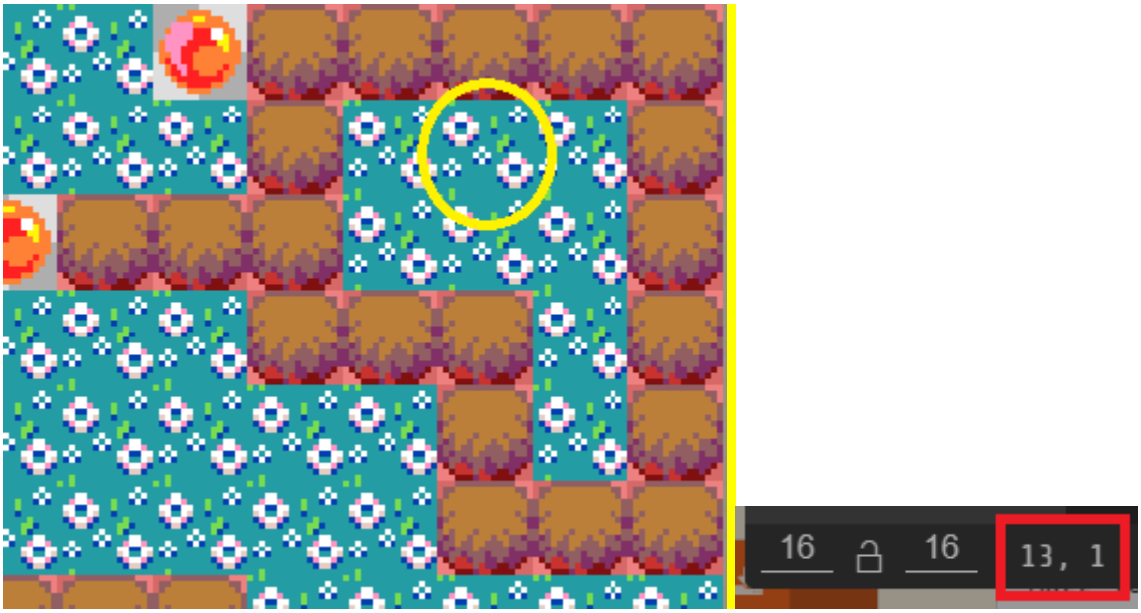
NOTE: You **cannot** *name* your Sprite 'Friends' because we will be using Friends as the kind **–** variables must all have their own unique names.



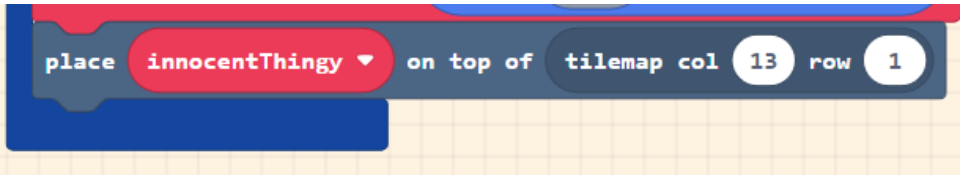
Now go to **Scene** and grab a **place mySprite on top of tilemap col 0 row 0** block.



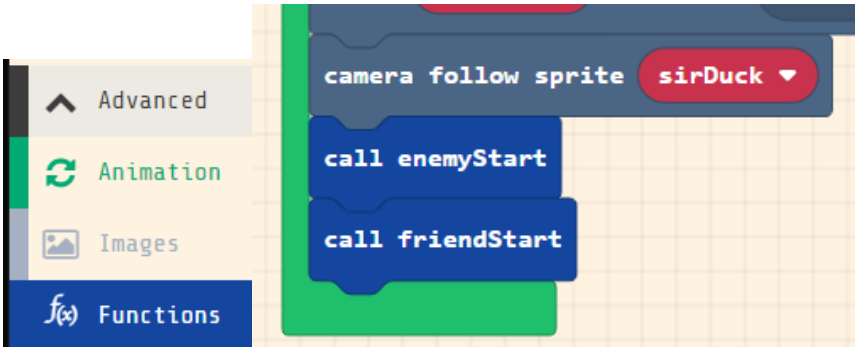
Click on your tilemap and choose a spot for our friend to hang out. I chose that spot inside my box for our friend. The coordinates are 13, 1.



Change the coordinates to 13, 1.



Finally, go to **Advanced** then to **Functions.** Select **call friendStart.** Drag that into the start loop.

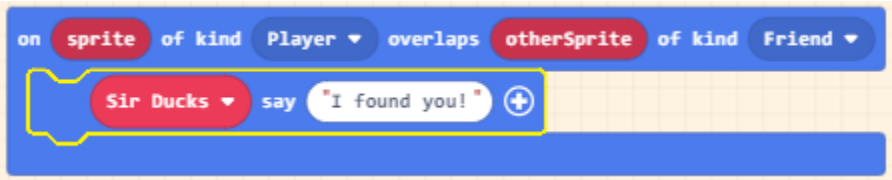


Now your friend will spawn in your chosen spot in your maze!

Overlaps: Saving Your Friend

Go to **Sprites** and grab an **on sprite of kind Player overlaps with othersprite of kind Player** block. Change the Player of **othersprite** to **Friend.**

Go to **Sprites** and put **mySprite says =)** inside the overlap. Have your player say something to their friend!



Then go to **Loops** and put **pause 100 ms.** Change the time to **1 second** (1000 ms).

Finally, go to the **Game** menu and select the "game over" block.

Flip the switch to WIN!

Perfect, now we saved our friend! We have a mini maze game!