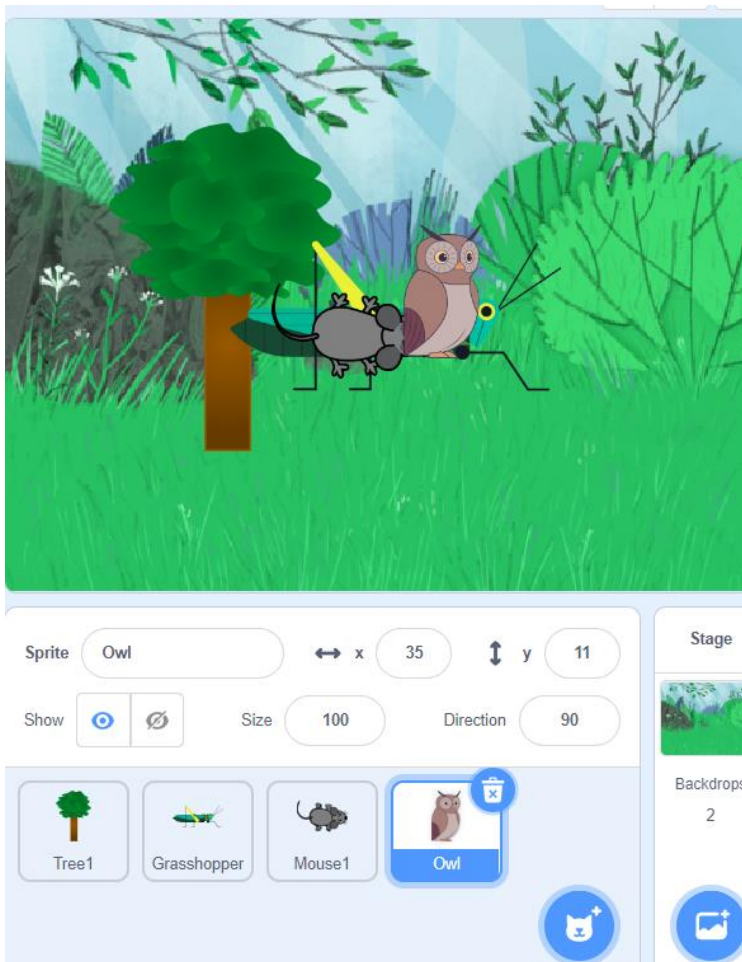


## Coding Handout: Accommodation

Here's a link to the completed project: <https://scratch.mit.edu/projects/769947554>

### Step 1: Add backdrop & sprites

First, add the forest backdrop. Then add the four sprites: tree (the tree will be used as the plant), grasshopper, mouse, and owl. Your simulator should look like this:



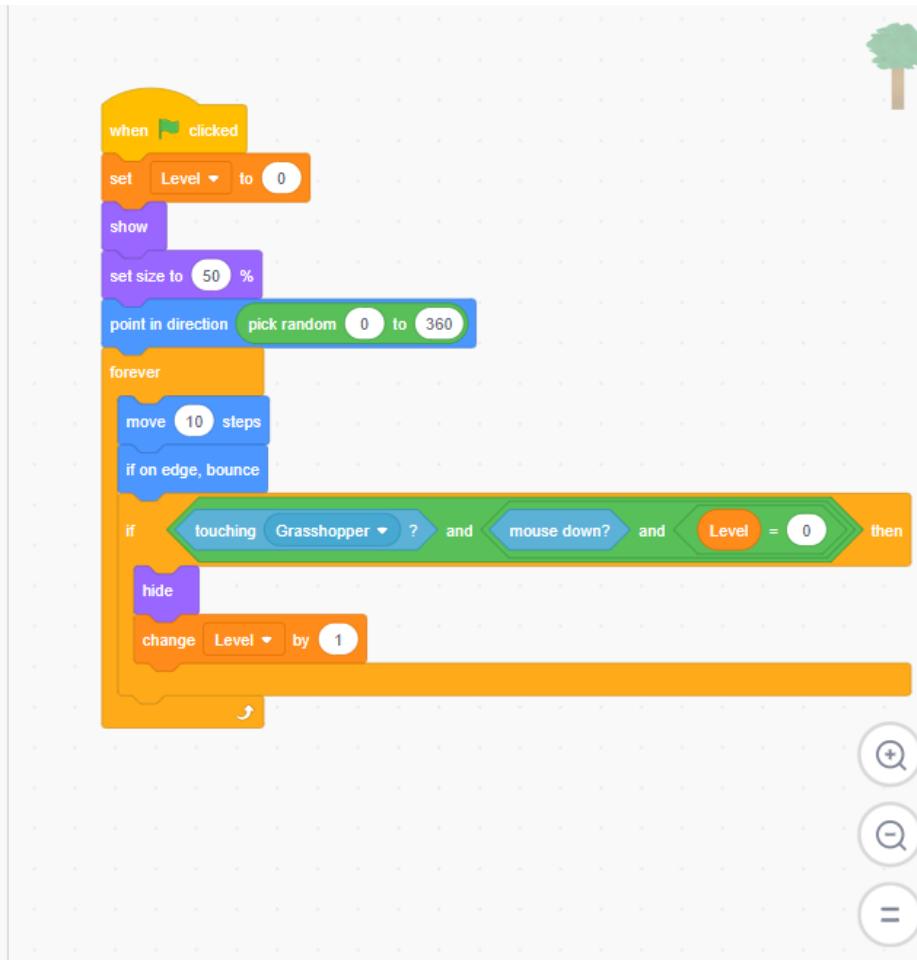
### Step 2: Code the Tree

Start by coding the tree. Drag a “when green flag clicked” to the screen. Create a new variable named “level.” Add a “set level to 0.” Then add a “show” and “set size” below that. Change the

“100%” to “50%.” Add a “point in direction pick random 0 to 360.” Add a “forever loop.” Inside that, add a “move 10 steps” and “if on edge, bounce.”

Add an “if/then” conditional statement. In between the if/then, add “touching grasshopper” and “key space pressed” and “level = 0.” Inside the if/then statement, add “hide” and “change level by 1.”

The tree is now done being coded.

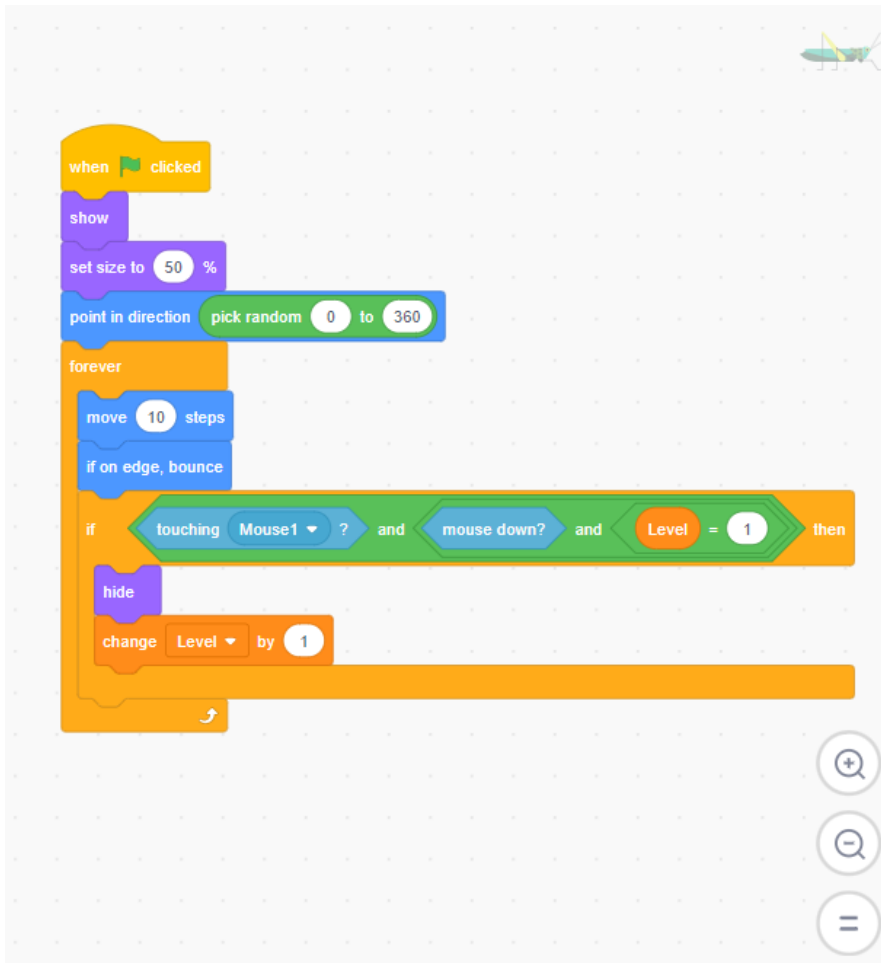


### Step 3: Code the Grasshopper

Next, code the grasshopper. Drag a “when green flag clicked” to the screen. Then add a “show” and “set size” below that. Change the “100%” to “50%.” Add a “point in direction pick random 0 to 360.” Add a “forever loop.” Inside that, add a “move 10 steps” and “if on edge, bounce.”

Add an “if/then” conditional statement. In between the if/then, add “touching mouse” and “key space pressed” and “level = 1.” Inside the if/then statement, add “hide” and “change level by 1.”

The grasshopper is now done being coded.

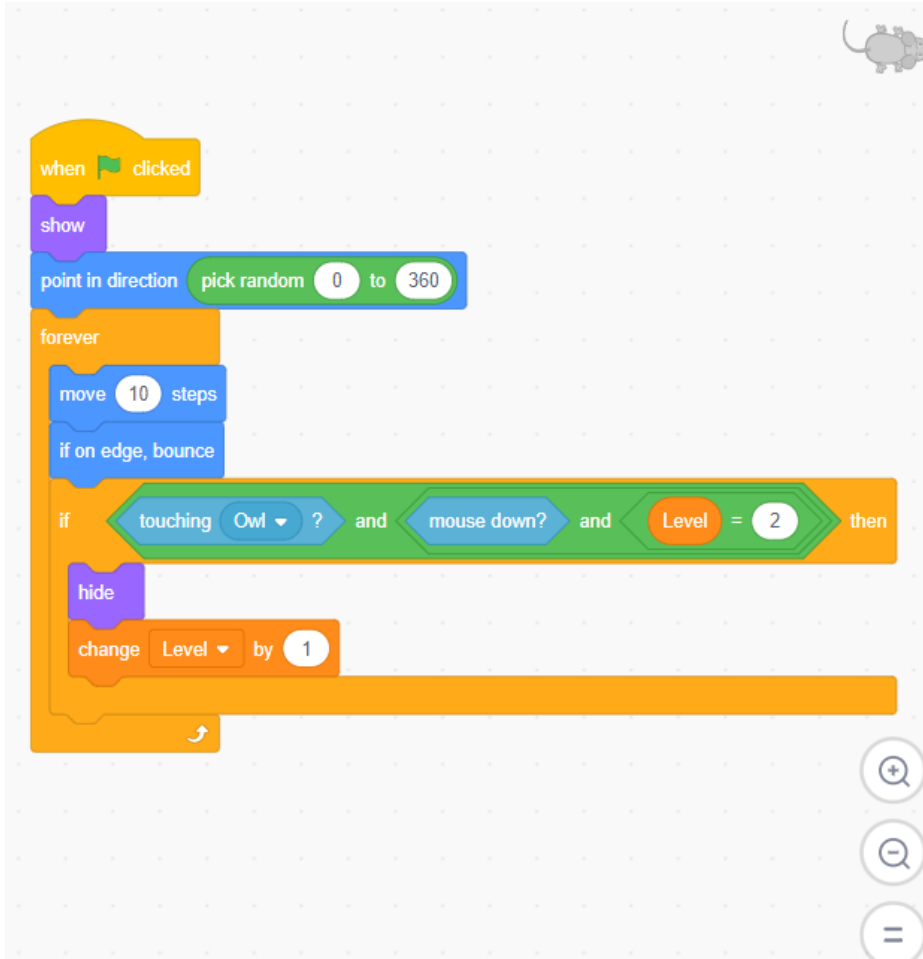


#### Step 4: Code the Mouse

Now, code the mouse. Drag a “when green flag clicked” to the screen. Then add a “show.” Add a “point in direction pick random 0 to 360.” Add a “forever loop.” Inside that, add a “move 10 steps” and “if on edge, bounce.”

Add an “if/then” conditional statement. In between the if/then, add “touching owl” and “key space pressed” and “level = 2.” Inside the if/then statement, add “hide” and “change level by 1.”

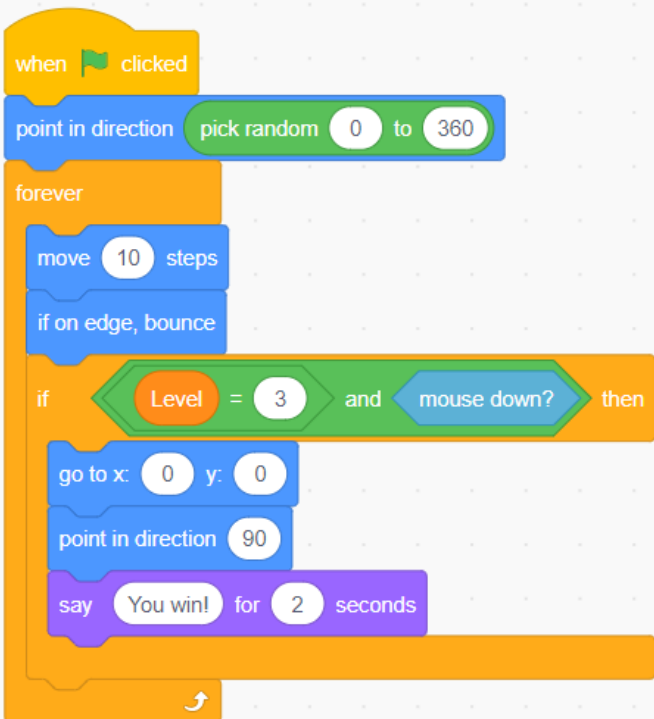
The mouse is now done being coded.



### Step 5: Code the Owl

Lastly, code the owl. Drag a “when green flag clicked” to the screen. Add a “point in direction pick random 0 to 360.” Add a “forever loop.” Inside that, add a “move 10 steps” and “if on edge, bounce.” Add an “if/then” conditional statement. In between the if/then, add “key space pressed” and “level = 3.” Inside the if/then statement, add “go to x:0 y:0,” “point in direction 90,” and “say You win! For 2 seconds.” Finally, add stop all at the end.

The owl is now done being coded.



The image shows a Scratch script on a grid background. It starts with a yellow 'when green flag clicked' block. This is followed by a blue 'point in direction' block with a green 'pick random' block containing '0' and '360' as arguments. Below this is an orange 'forever' loop block. Inside the loop, there are three blue blocks: 'move 10 steps', 'if on edge, bounce', and an 'if' block. The 'if' block has a green condition 'Level = 3' and a blue 'mouse down?' block, followed by a 'then' block. The 'then' block contains three blue blocks: 'go to x: 0 y: 0', 'point in direction 90', and a purple 'say You win! for 2 seconds' block. On the right side of the grid, there is a small owl icon and three circular icons: a magnifying glass with a plus sign, a magnifying glass with a minus sign, and an equals sign.

That is the final code for the game. See the Extension Handout if you want to add lives, or the Accommodation Handout for an iPad friendly version. Have fun coding!