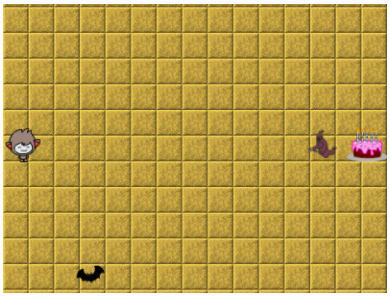
Making a Basic Game in Scratch

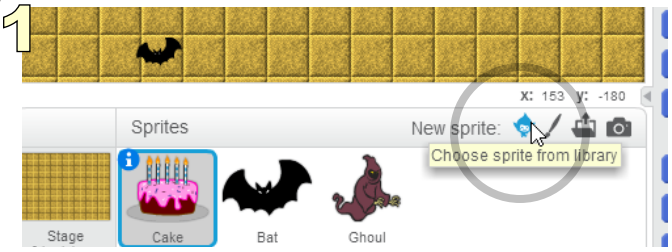
This tutorial shows you how to make a simple game in Scratch. In this game, you are in a dungeon. You are trying to get to the cake at the end of the dungeon. Monsters are protecting the cake. Don't let them touch you!



Introduction to Scratch

Go to this website: http://scratch.mit.edu/projects/25753848/#editor

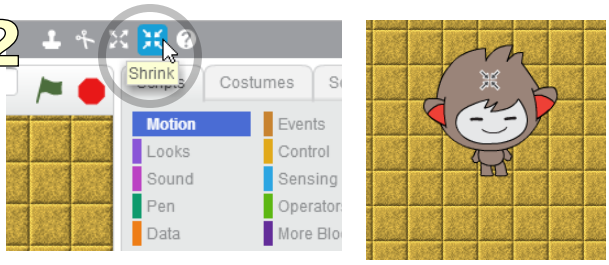
1



First, we'll choose a picture for your character in the game. Click on the New Sprite from Library button.

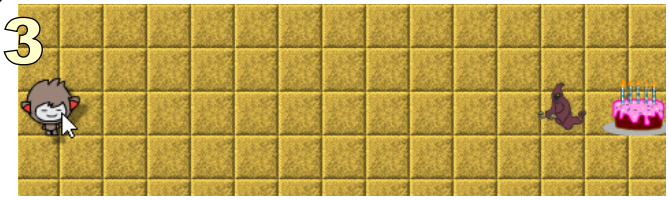
Then, choose a picture that you like and click OK. Scratch calls these pictures sprites.

2



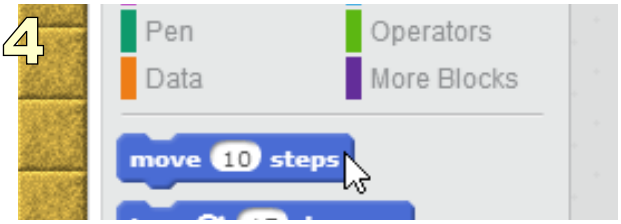
The picture will probably be too big. To make it smaller, choose the Shrink tool. Then click on your sprite until it is the same size as other things in the game. When you are finished, click somewhere else on the screen.

3



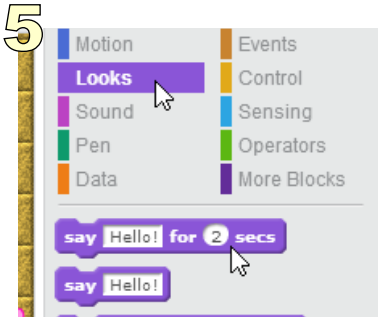
You can move sprites around by dragging them. Move your pointer over the sprite, hold down your mouse button, and then move the mouse. Let go of the button when the sprite is in the spot you want. For now, move your sprite to the left side of the game.

4



In the middle of the screen are commands that you can give to sprites. In Scratch, these commands are called "blocks." Click on the "move __ steps" block. What does your sprite do when you click on the block?

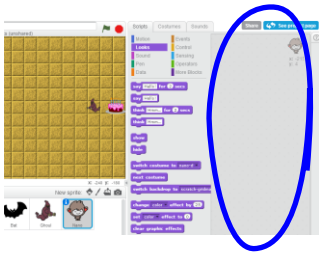
5



There are many types of blocks. At the top of the middle part of the screen, you can change what sort of blocks are shown. Click on "Looks" to show the blocks for looks. Then click on the "say __ for __ secs" block. What happens?

What happens when you click on the "think __ for __ secs" block? The "hide" block? The "show" block? Can you make your sprite say "goodbye" instead of "hello?"

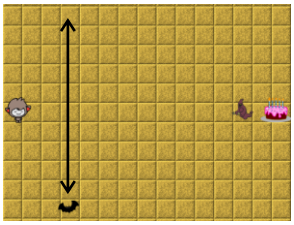
6



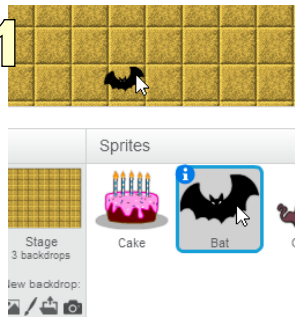
On the right side of the screen is a blank area. You can put together blocks here to make more complicated commands. This is called a “program” or “script.”

The Bat

The bat guards the dungeon. Let's write a program for the bat so that it moves up and down.

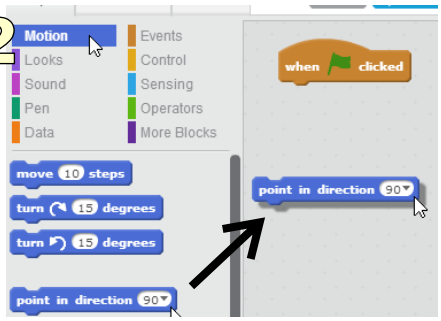


1



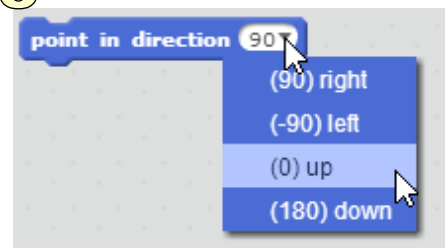
Click on the bat (you can click on either the bat in the Sprites area or click on the bat in the game).

2



At the start, we want the bat to move up. Go to the "Motion" blocks, and drag a "point in direction" block to your program.

3



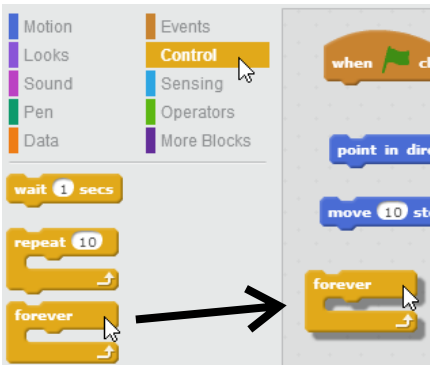
Click on the little down arrow, and choose "(0) up". Afterwards, click on the block you've just created so that the bat will now go up.

4

Drag a "move __ steps" block to your program. Click on it. The bat moves a little bit, but then it stops.

5

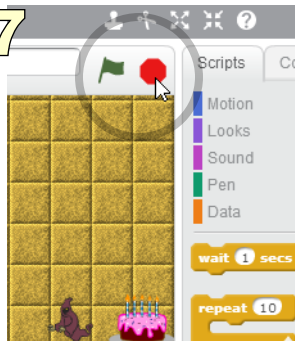
Go to the "Control" blocks. Drag a "forever" block to your program. The "forever" block will repeat a command until the game ends.



6

Drag the "move __ steps" block into the forever block. What happens when you click on it?

7



The bat will keep moving up until it gets stuck at the top of the dungeon. What happens when you drag the bat back to the bottom of the dungeon? What happens when you click on the red stop button?

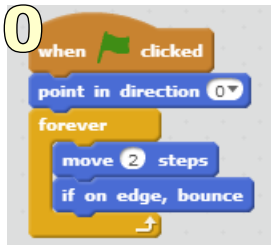
8

Go to the "Motion" blocks. Drag a "if on edge, bounce" block into the forever block. What happens when you click on the forever block now?

9

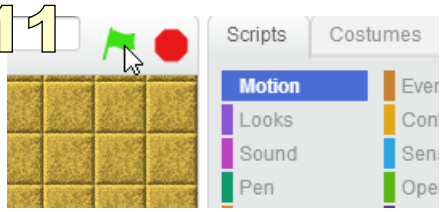
The bat moves very fast. Instead of having the bat move 10 steps, change the number of steps to a smaller number.

10



Let's put everything together now. Drag all the blocks together so that they are under the block for when the green flag is clicked.

11

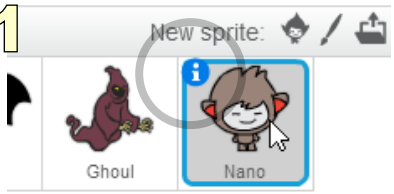


Now, stop your program by clicking on the red flag. Then restart it by clicking on the green flag.

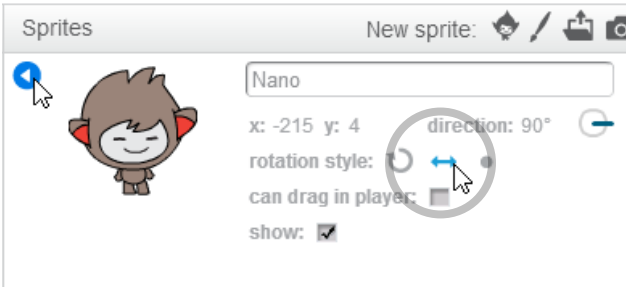
You

Now let's write a program that lets you move around the dungeon.

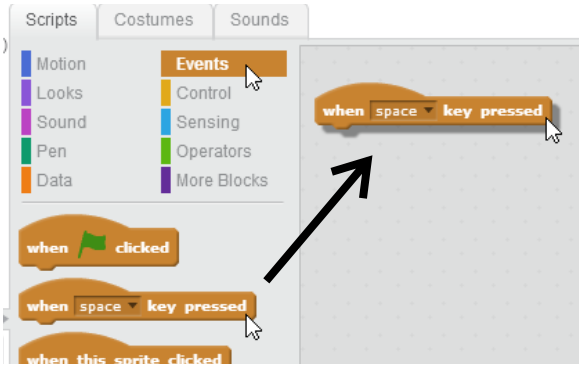
1 Click on the sprite for your character in the Sprites area.



2 Then, click on the little “I” in the corner of the sprite. Under rotation style, choose the left-right style. Then click on the back arrow in the corner to go back.



3 We will now make a program to let us use the keyboard to move our sprite. Go to the "Events" blocks. Drag a "when ___ key pressed" block into your program.



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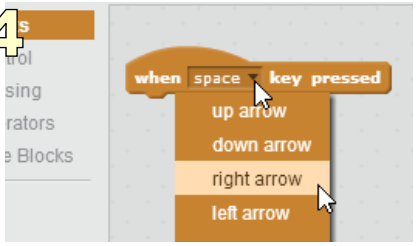


Click the down arrow, and change the key to "right arrow."

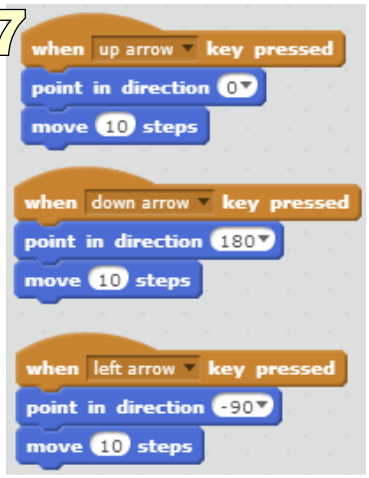
5

What should the sprite do when you press the right arrow? It should turn to the right, and then walk. Go to the "Motion" blocks. Drag a "point in direction ___" block and attach it to the "when right arrow key pressed" block. Click on the down arrow of the block, and change the direction to "(90) right."

6

Now drag a "move __ steps" block and put it after the "point in direction 90" block. What happens when you press the right arrow key on your keyboard now?

7

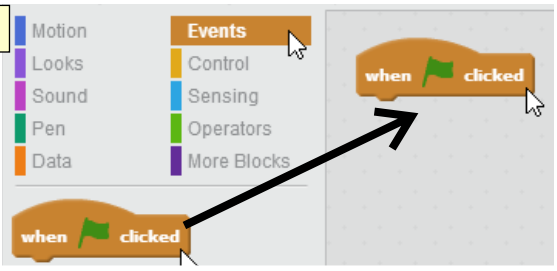


What happens when you press the left arrow key on your keyboard? Nothing happens. We need to write a program for that. Write a program that moves your sprite when you press the up, left, and down arrow keys.

Winning and Losing

Right now you can move, but nothing happens if you reach the cake or if the bat catches you. Let's write a program to handle that.

1

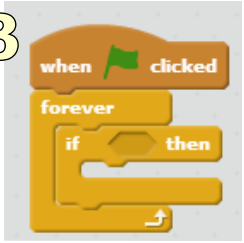


Go to the "Events" blocks. Drag a "when green flag clicked" block into your program.

2

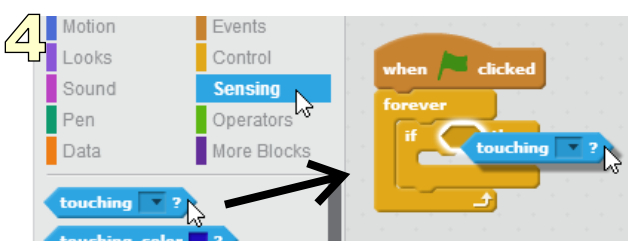
Go to the "Control" blocks. Drag a "forever" block and put it after the "when green flag clicked" block.

3

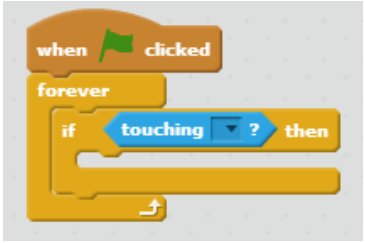


Now drag a "if __ then" block into the "forever" block.

4



Go to the "Sensing" blocks. Drag a "touching __?" block into the "if __ then" block. Scratch will only let you do this if the LEFT side of the "touching __?" block is over the spot where you want it to go.



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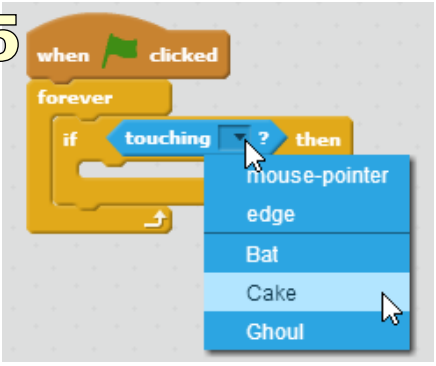
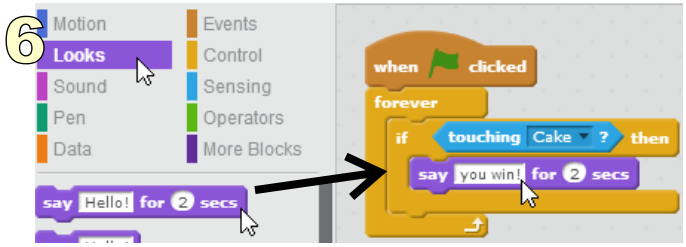


Click the down arrow of the "touching __?" block. Choose "Cake."

6

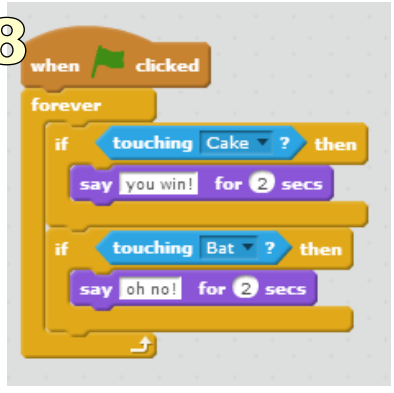


Go to the "Looks" blocks. Drag a "say ___ for __ secs" block inside the "if __ then" block. Have it say "you win!"

7

Click on the green flag. Move your sprite so that it touches the cake. What happens?

8



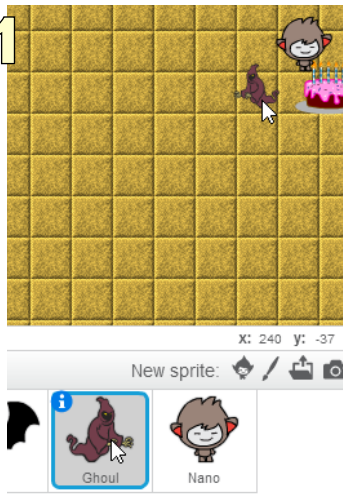
Now add some blocks so that if you're touching the bat, it will say "oh no!"

9

Also add some blocks so that if you're touching the ghoul, it will say "oh no!"

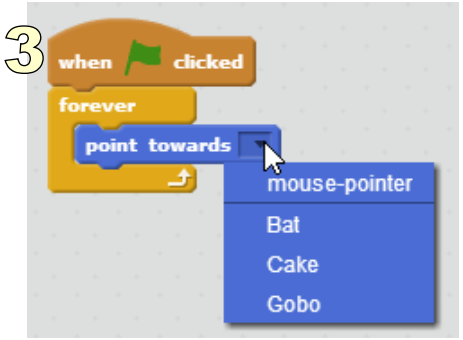
The Ghoul

Let's make a more dangerous monster. Let's program the ghoul to chase you.



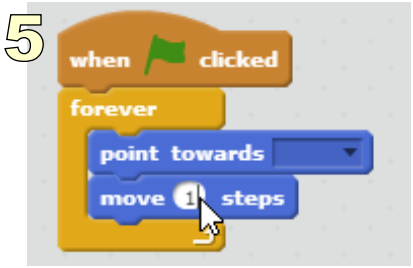
Click on the ghoul sprite.

Go to the "Control" blocks. Drag a "forever" block and put it after the "when green flag clicked" block.



Go to the "Motion" blocks. Drag a "point towards ___" block into the forever block. Click on the down arrow of the block, and choose your sprite.

Drag a "move ___ steps" block and put it inside the forever block.



Click on the green flag to start the program. The Ghoul will quickly chase your sprite. Change the number of steps that the ghoul moves so that it moves very slowly.

Your Turn

Can you add a sound effect if you get the cake? Can you make an explosion or a whirl effect if you get caught? Can you add more enemies?

** A completed copy of this game is available at http://scratch.mit.edu/projects/25753675/*

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