

SCRATCH Ghosts

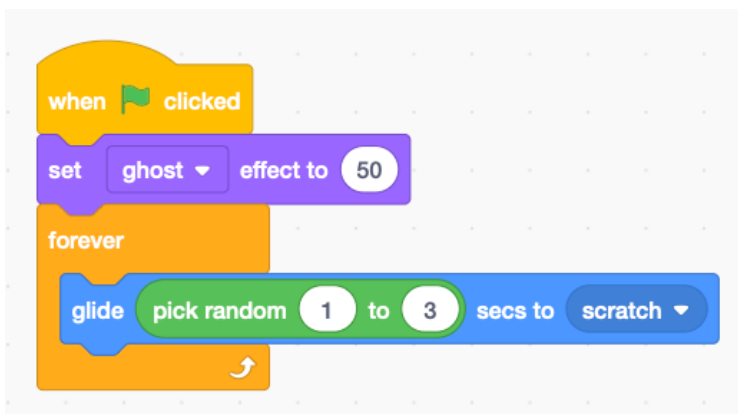
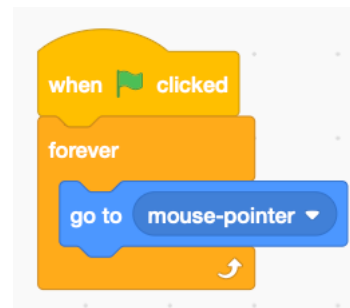
Register/login at <https://scratch.mit.edu>

Use the ghost effect.

- 1) **Create** a new Project and give it a name.
- 2) In the **Sprite** section, **choose a sprite**. Look for the 'Fantasy' **Ghost** character. Keep Scratch the Cat for now.

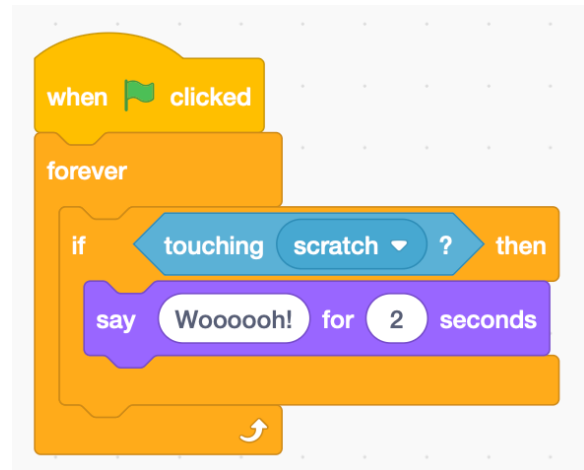


- 3) Look for a **background** for a haunted house or forest.
- 4) Add code to **Scratch the cat** that loops **forever** and **moves** it to the mouse pointer.
- 5) Now make the **ghost ghostly**. Add a **start** block and **set ghost effect** to 50 percent (%) to make it half visible.



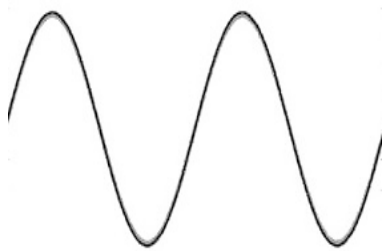
- 6) Add a **forever** loop and inside the loop make the Ghost **glide** towards the cat, taking a **random** number of seconds from 1 to 3.

7) Add another loop to make the Ghost sense when it's **touching** the cat, and **if** they touch, **say** "Wooooooh!" as ghosts do.



Fade in and Fade out

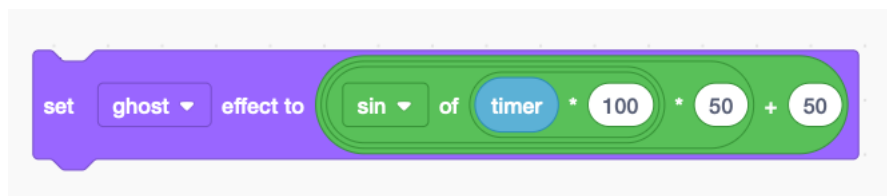
The **timer** records how much time, in seconds, have passed since the last time the **green flag** was clicked.



A sinewave is a wavy line we can use with the Scratch **sin** function. Use it to vary the ghost effect over time. Multiplying **timer** by 100 changes the frequency of the wave.

The peaks of the wave are equal to 1, and the troughs to -1. Multiply by 50 so it swings from -50 to +50, then finally add 50% for a ghost effect ranging from 0% to 100% invisibility.

8) Make the ghost fade in and out with by adding this block to the loop above: $50 + (\sin(\text{timer} * 100) * 50)$



9) Now try duplicating the ghosts (right-click the sprite).

Save your code with a good name.