



# Scratch Invaders



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

*Make the invaders move left and right in a row.*



1) Download *invader* images from:

<https://codeclub67.github.io/images/invader.gif>

2) Create a new sprite by uploading the *invader* images.

*To make all the invaders move together, they need a clock to keep them in time.*

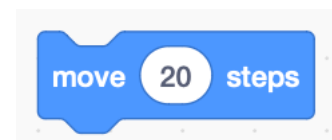
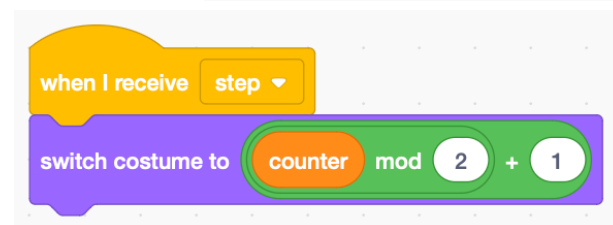
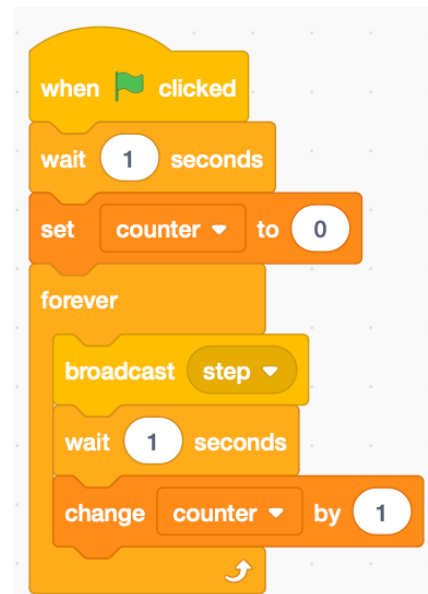
3) Add code to the **stage** that beats out the **steps**, and keeps count (make a **counter** variable, available to all).

*Look at the costumes and choose a pair of the same colour starting at 1, 3 or 5.*

4) Add code to the Invader sprite to **switch costumes** based on the counter. **Counter mod 2** is 0 or 1 for even and odd counts

(the remainder after dividing by 2). Add this to your chosen costume number (1, 3, or 5).

5) Add code to make it **move**.





*If your invader walks off-screen, get it back by changing x to zero.*

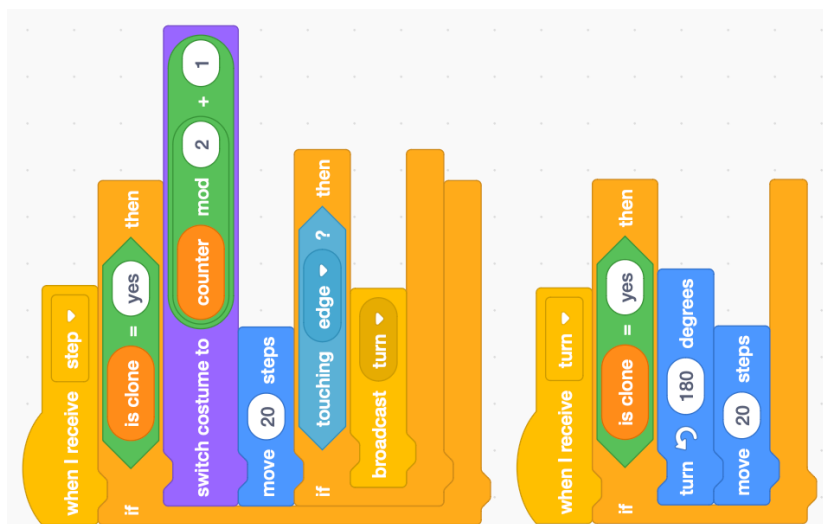
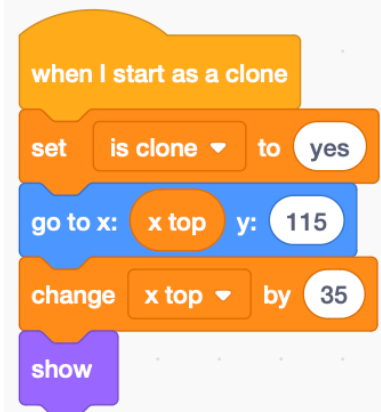
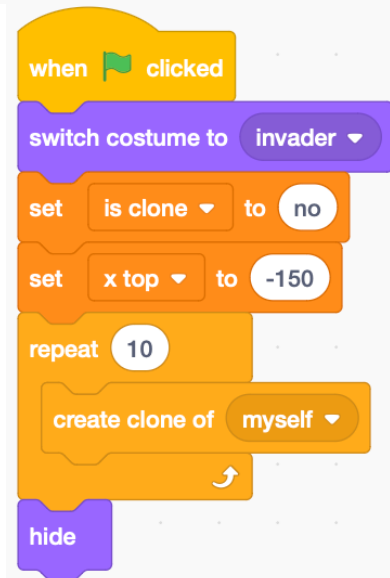
- 6) Add code to detect the **edge** and **turn** the invader around 180°, and set the invader Direction to *reflect*.

*Instead of making more sprites, **clone** the original and then hide it.*

- 7) Create a **local** variable (this sprite only) to tell if a sprite **is clone** ('yes' for clones)
- 8) Create a **global** variable (for all sprites) **x<sub>top</sub>** to position invaders on this top row.

*Try it! See how they pile up at the edge – now make them all turn at once.*

- 9) Change the **step** code, as below, to **broadcast** a turn instruction instead.
- 10) Add code to **receive** the turn instruction



*Try adding another row (modify **x<sub>top</sub>** and the y coordinate)*

*Remember to **Save** your code.*