



Let's make loops

Code Playground

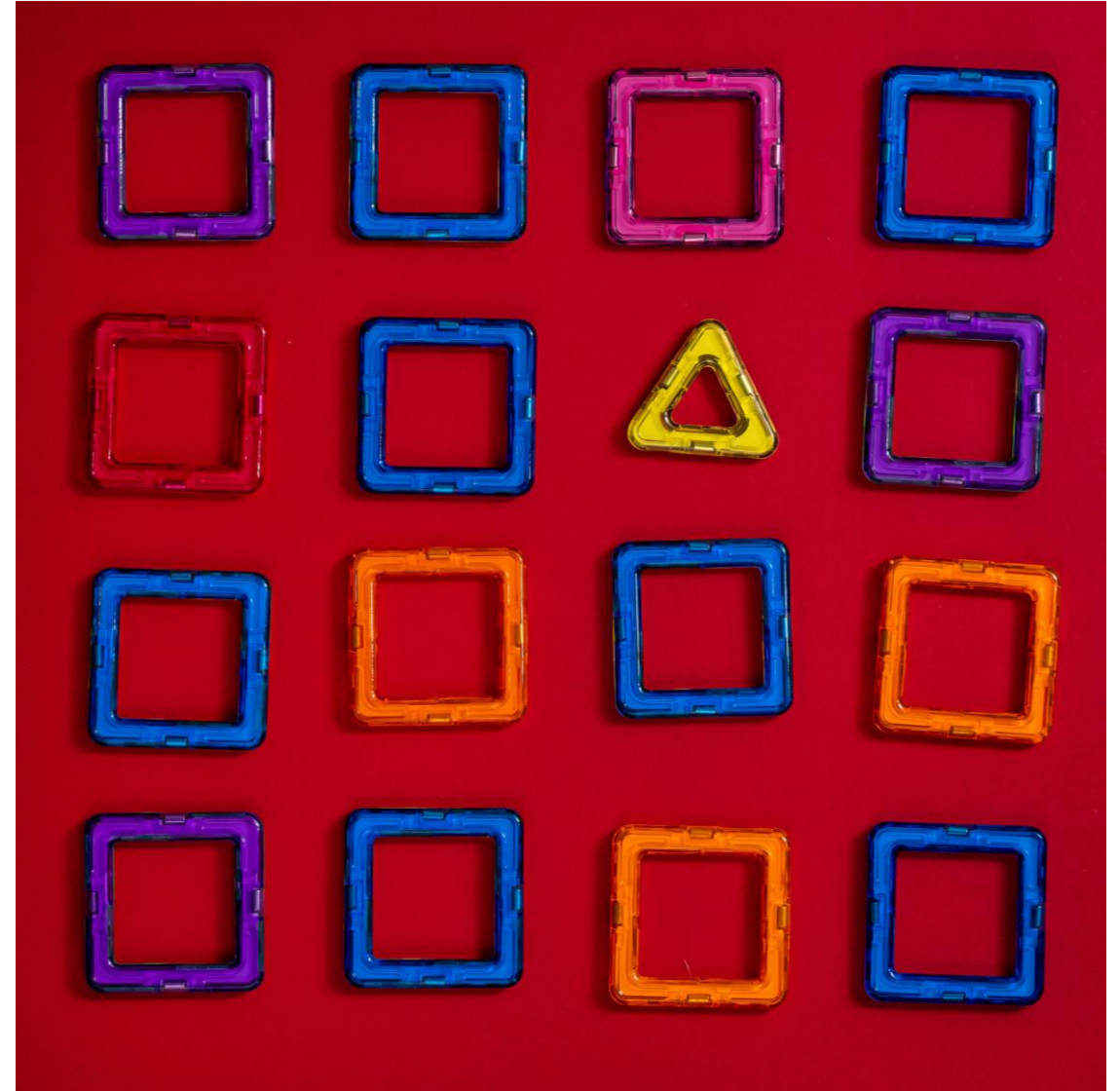


Moving your sprite in Scratch

Today, you'll learn all about loops in Scratch. Loops are like magic instructions that let you repeat actions without extra work.

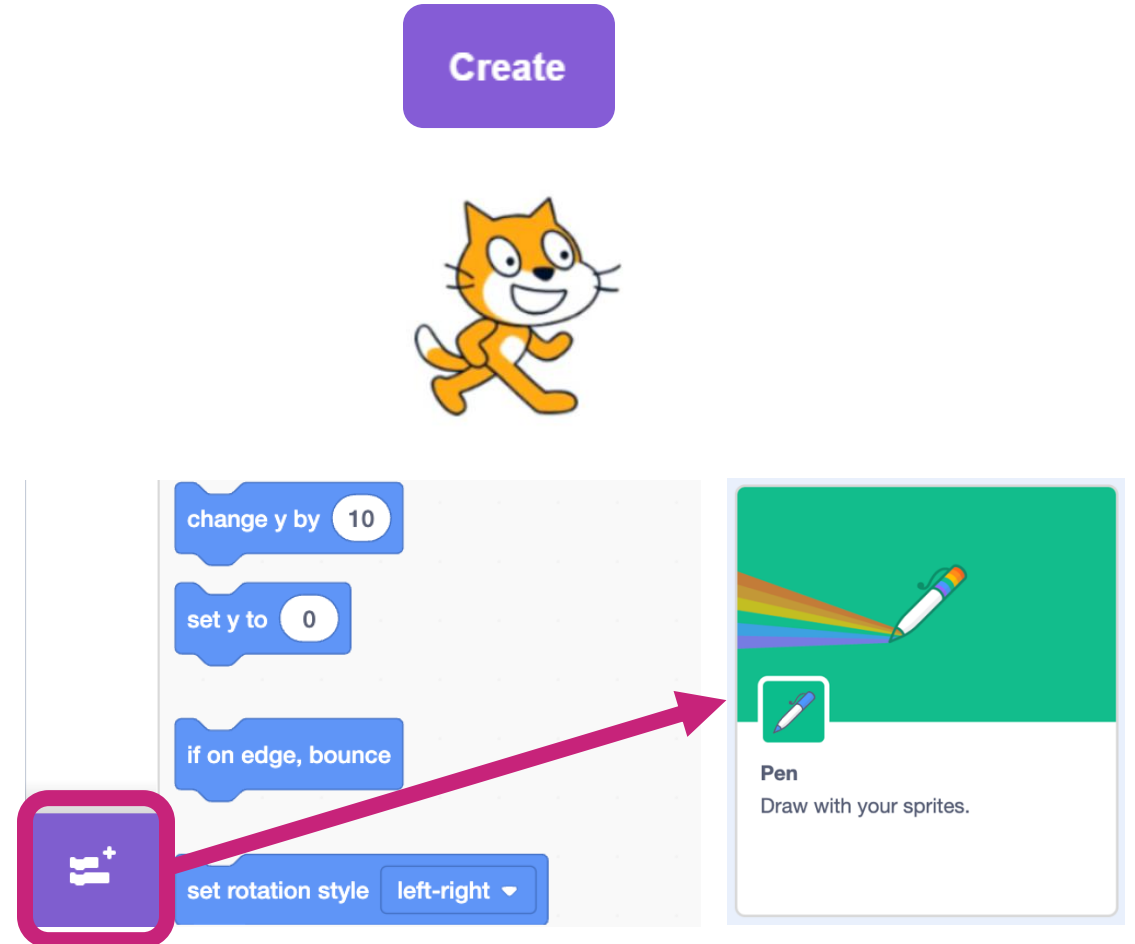
By using loops, you can make your sprite move in patterns, dance, and even draw shapes.

Follow each step, and let's have some fun with loops.



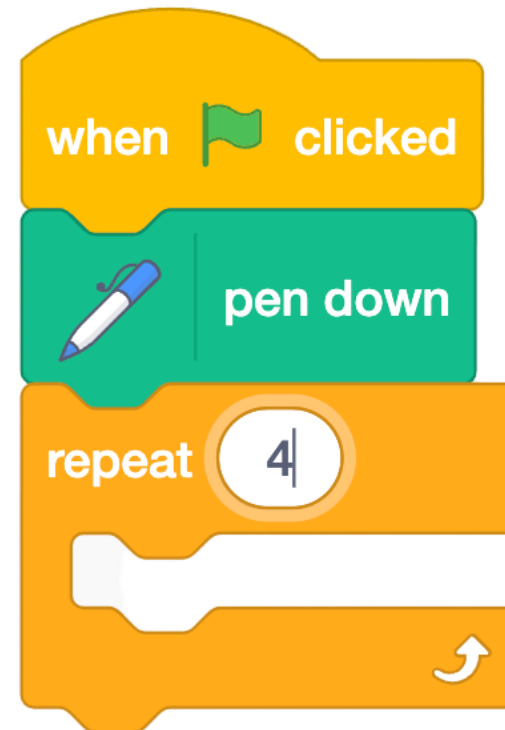
Step 1 – Choose a sprite

1. Go to scratch.mit.edu and click 'Create' to start a new project
2. Pick a sprite you like or use Scratch Cat
3. If you don't see the Pen blocks, click **Add Extension** in the bottom left and select **Pen**. You'll be using these blocks soon.



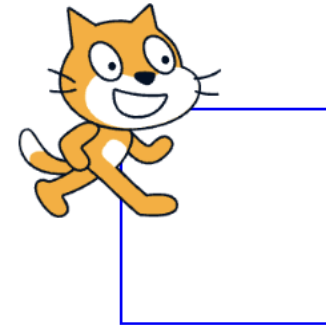
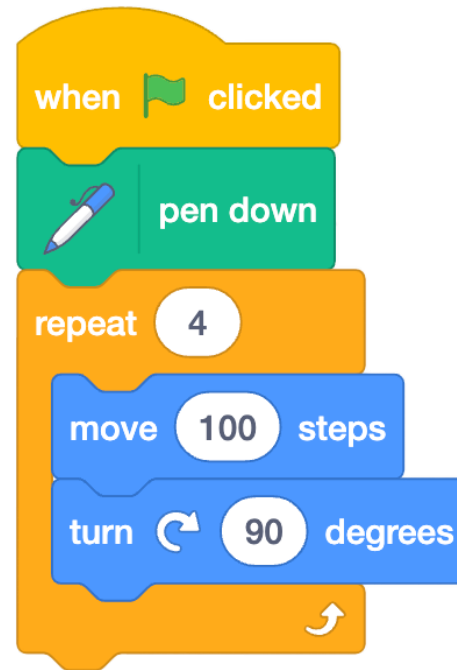
Step 2 – Move and drawing a square with loops

1. Open the **'Events'** tab on the left. Drag the **'when green flag clicked'** block into the workspace.
2. Add a **pen down** block from the **Pen** extension so your sprite leaves a trail as it moves.
3. Go to the **'Control'** tab and find **repeat[4]**. Place it in your workspace under **when green flag clicked**.



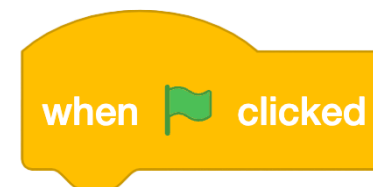
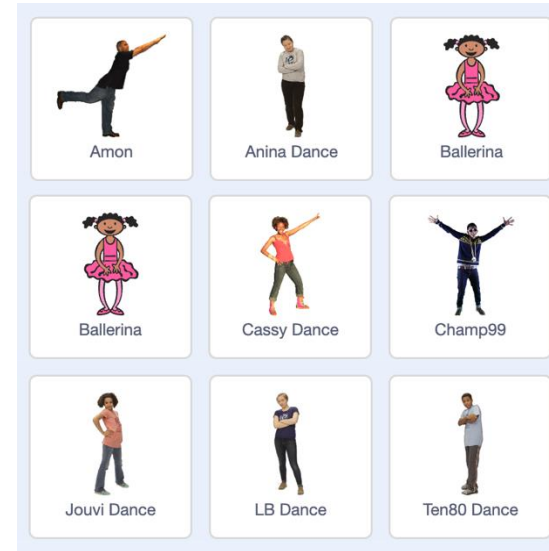
Step 2 (cont) – Move and drawing a square with loops

4. Inside the **repeat[4]** loop:
 - a) Go to **Motion** and drag **move 100 steps** into the loop.
 - b) Then, drag **turn 90 degrees** right below **move 100 steps**.
5. Press the green flag and watch as your sprite draws a square.



Step 3 – Make your sprite dance

1. Create a new space or clear your workspace. Using the **'New'** menu item on the **'File'** menu at the top.
2. Delete any existing sprites, using the delete **'rubbish bin'** icon.
3. Choose a sprite with multiple costumes. (You can check in the **'Costumes'** tab to see if your sprite has more than one look.)
4. Go to **'Events'** and drag **'when green flag clicked'** into your workspace.



Step 3 (cont) – Make your sprite dance

4. Open **Control** and drag **forever** into your workspace, placing it under **when green flag clicked**.
5. Inside the **forever** loop:
 - a) Go to **Looks** and drag **next costume** into the loop.
 - b) From **Control**, add **wait 0.5 seconds** right under **next costume** to control the dance speed.
6. Press the green flag, and your sprite starts dancing.



Step 4 – Customise your dance (optional)

Try different speeds and steps to create your own dance routine

1. Replace **wait 0.5 seconds** with **wait 0.2 seconds** to make your sprite dance faster.
2. Add **move 10 steps** from **Motion** right under **next costume** in the loop. Now, your sprite dances while moving across the screen.



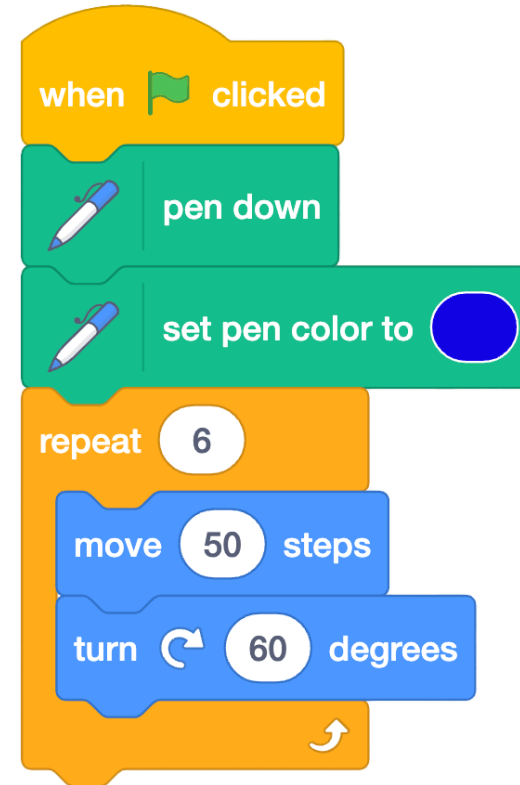
Make patterns with loops (extension)

Loops let you create all kinds of shapes and designs.

Try adjusting angles and colours to make your masterpiece.

- Use **pen down** again and set **repeat [6]** with **move 100 steps** and **turn 60 degrees** to create a hexagon.
- Drag **change pen colour** from the **Pen** tab inside the loop to make your shape colourful

What other patterns or shapes could you make?



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Notes