

Teachers guide – Micro:bit

# Introduction to Loops

Code Playground



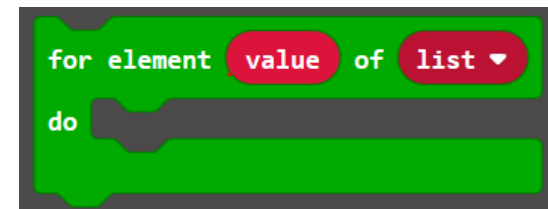
```
int x=10
for(int a=0; a<x; a++)
{
  if(a==x) // check for c
    break; // exit loop
}
```



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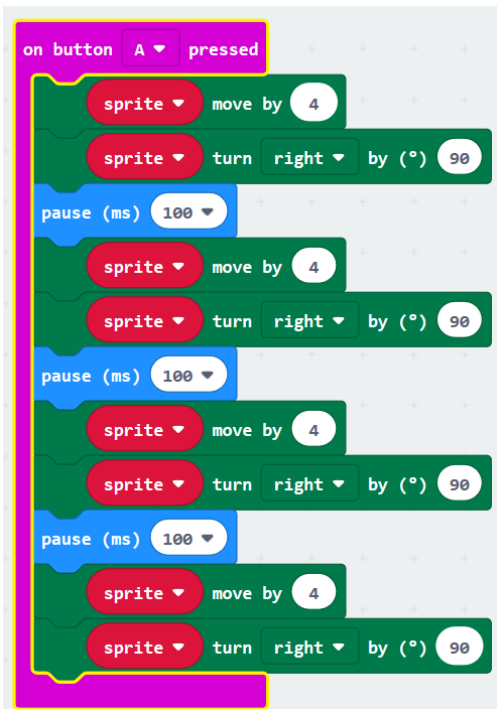
Any event block could be used here. What's important is the loop block that we use. They can be found in the 'Loops' section of your coding blocks. There are four main ones: 'forever', 'repeat until' and 'repeat x' where the code will repeat a fixed number of times. This is the code that should be used for making the sprite move in a square shape.



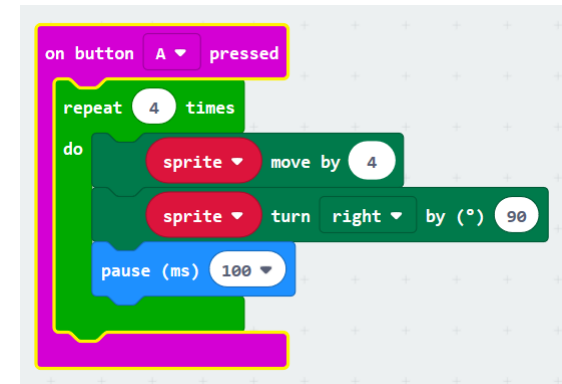
# Introduction to loops

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Here we've added the code with and without the loop block – both examples perform the same action, but the loop block helps to keep the code simple and doesn't repeat itself.



```
on button A pressed
  sprite move by 4
  sprite turn right by (°) 90
  pause (ms) 100
  sprite move by 4
  sprite turn right by (°) 90
  pause (ms) 100
  sprite move by 4
  sprite turn right by (°) 90
  pause (ms) 100
  sprite move by 4
  sprite turn right by (°) 90
```

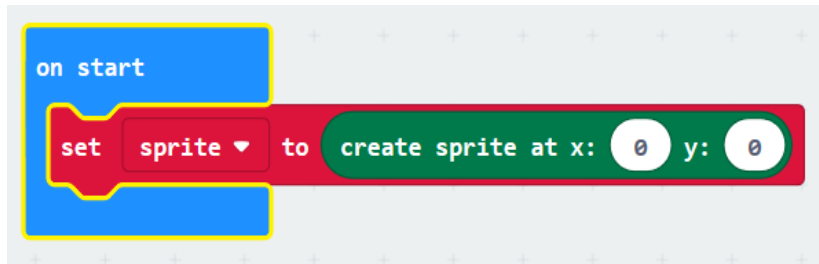


```
on button A pressed
  repeat 4 times
  do
    sprite move by 4
    sprite turn right by (°) 90
  do
  pause (ms) 100
```

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You'll need to make sure you create your sprite first and tell it where to start. This is as simple as plotting it's location using the LEDs and simple co-ordinates. You will need to create the sprite as a variable.

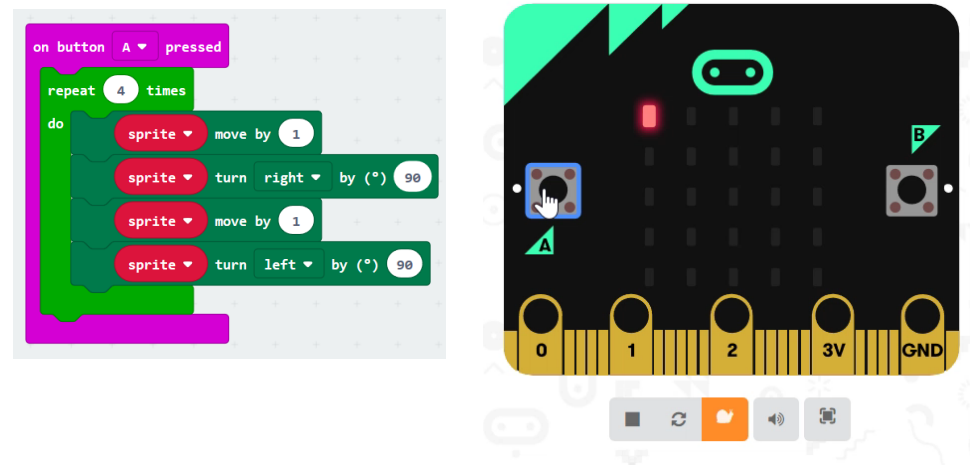


The green 'game' blocks are important in this activity

The (0,0) co-ordinate is located in the top left hand corner

You'll need to make sure you create your sprite first and tell it where to start. This is as simple as plotting it's location using the LEDs and simple co-ordinates. You will need to create the sprite as a variable.

Other possible patterns that can be coded using the loop block are shown below.



To ensure that the code plays out slow enough to be able to see the results, either add 'pause' blocks or select the slow-mo option shown above

# Notes

## Code Playground