# Scratch-Snake

Register/login at https://scratch.mit.edu
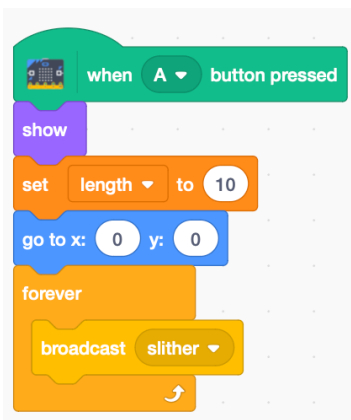Preparation: Requires Scratch Link

*The classic 'Snake' game using the micro:bit tilt sensor. The snake cannot cross itself, but it grows longer when it eats!*
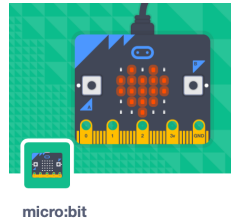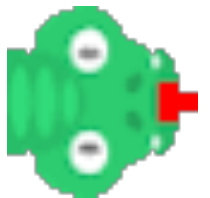
1. Create a new Scratch project and add the **micro:bit** extension.
2. Download graphics from:
   https://codeclub67.github.io/images/snake.gif
3. Create a new sprite with the download.
4. Duplicate the sprite, and rename it **'tail'**.
5. Choose the body costume for the **tail**.
6. Plug the micro:bit into the PC with the USB.
7. Click on the micro:bit blocks section. If you see ⚠ at the top then connect the micro:bit.
8. Add the code (right) to the snake head, changing **direction** **when tilted**.

9. Use button A to start the game with the snake at the centre 0,0. Create a **global** (seen by all sprites) variable to store the snake **length**, initially 10, and **broadcast** a new message.
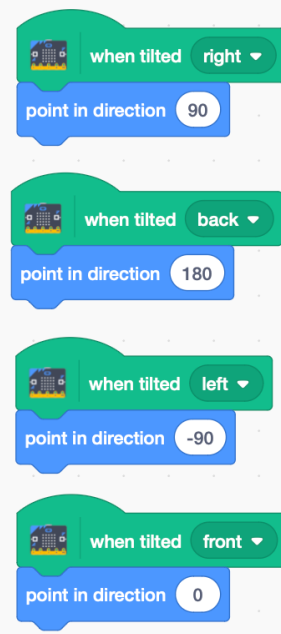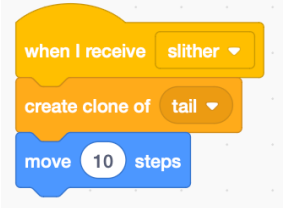
10. Add **snake** code (right) to receive the message. It grows by **cloning** a **tail** as it **moves**.

```
when I receive slither
create clone of tail
move 10 steps
```
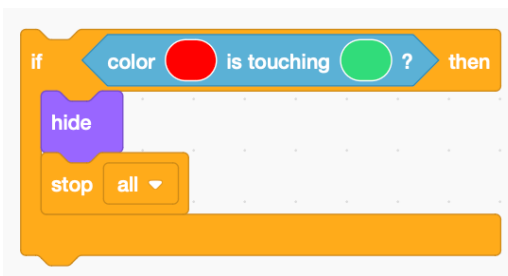
11. Select the tail and create a countdown variable local to the sprite.

12. Add **tail** code (left) that initialises **countdown** to the **length**, and aligns its position and direction with the head. The tail, initially hidden, is then shown.

```
when A ▾ button pressed
hide

when I start as a clone
set countdown ▾ to length
go to snake ▾
point in direction direction ▾ of snake ▾
show
```

13. When the tail receives the message, it counts down, and on 0 deletes itself.

```
when I receive slither ▾
change countdown ▾ by -1
if countdown = 0 then
  delete this clone
```

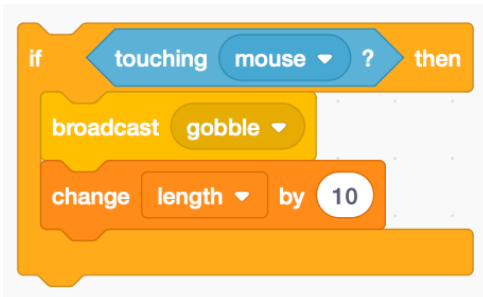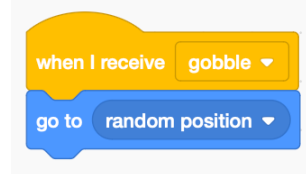14. Back to the **snake**'s head. Extend the 'slithering' code (left) by detecting GAME OVER when the snake's red tongue touches the light green of its own body.

```
if color 🔴 is touching 🟢 ? then
  hide
  stop all ▾
```

*Use the colour picker to get the right colours.*

15. Create a "mouse" sprite. The code (right) makes it appear randomly after being eaten.

```
when I receive gobble ▾
go to random position ▾
```

16. Finally, extend the **snake** 'slithering' code again (left), detecting when it **touches** the **mouse**, then **gobbles** it up and grows in **length**.

```
if touching mouse ▾ ? then
  broadcast gobble ▾
  change length ▾ by 10
```

*Save your code with a good name.*
*File > Save now*