

Lesson 2: Maze movement

Programming – Events and actions in programs

Lesson 2: Maze movement

To create a program to move a sprite in four directions

- I can choose a character for my project
- I can choose a suitable size for a character in a maze
- I can program movement

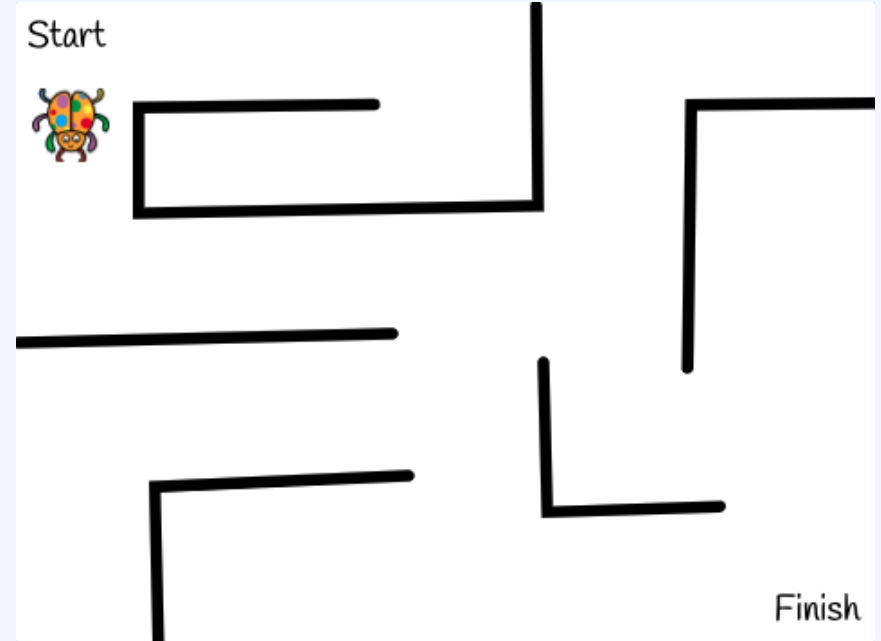
Can you move the bug around the maze?

Explore this project:

ncce.io/pg3b-2-a0-ca

- Which keys move the sprite?
- Can you avoid the black lines?
- How is the sprite moved in this project?

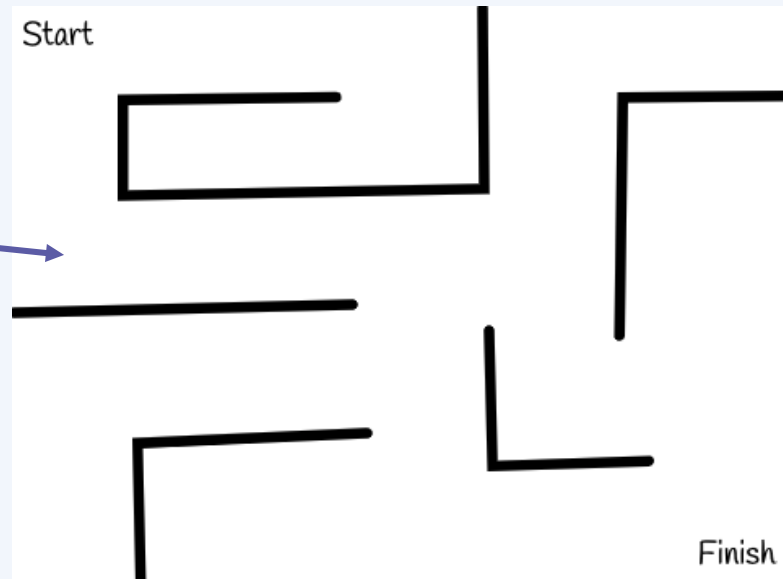
Remember what you learnt in the last lesson!



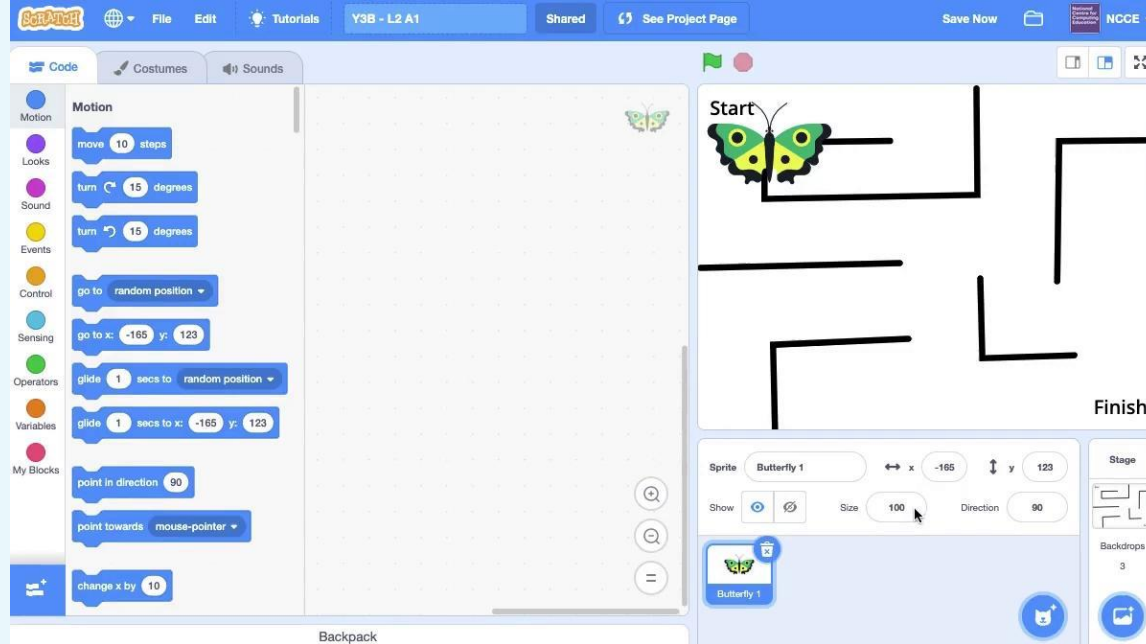
Task: Program a sprite to move around a maze

Your sprite needs to get from the start to the finish without crossing any of the black lines.

This is your maze.



Resizing a sprite



Moving a sprite

Here is the algorithm for the code you used in the previous lesson to move a sprite to the right. Can you recreate it using Scratch blocks?

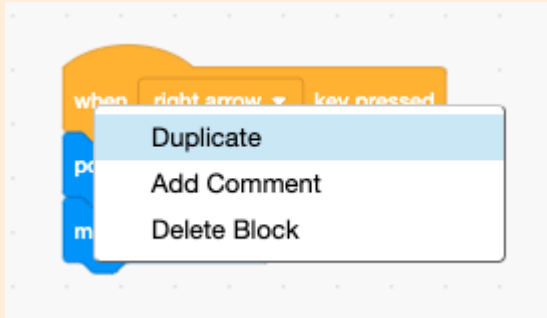
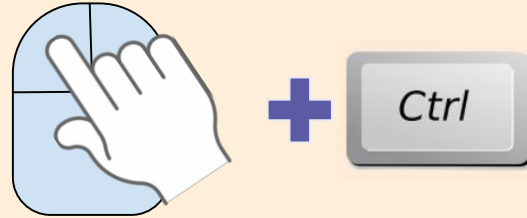
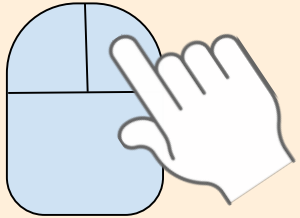
1. Event for right arrow key
2. Sprite looks to the right
3. Move 10 steps

Test your algorithm by coding it. Does it work?

Hint: Think about which blocks you might need for these instructions.

Duplicate your code to move in four directions

Right-click or press **Ctrl + click** to duplicate code, then modify it for each direction.



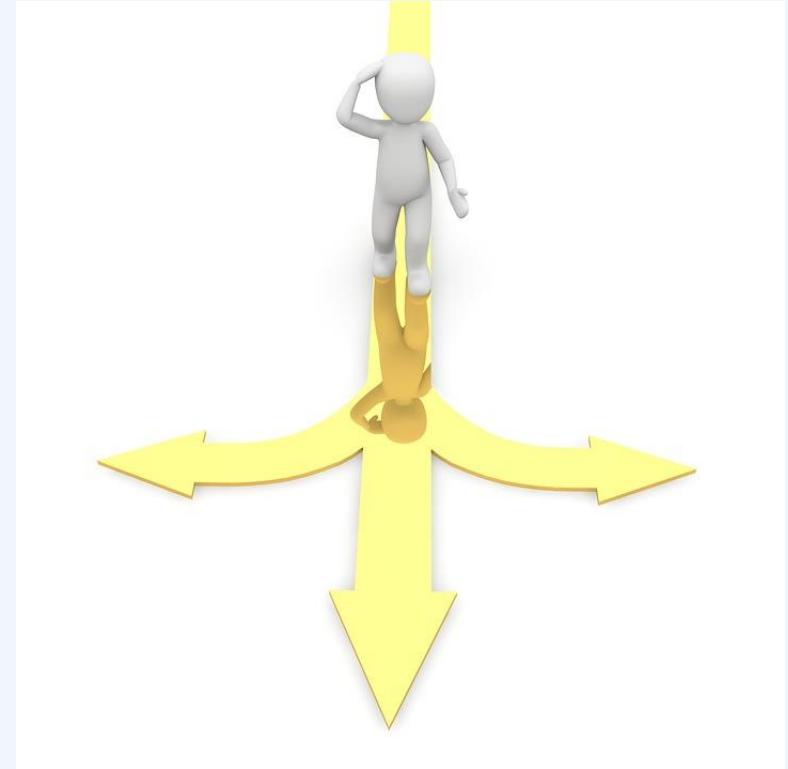
Exploratory task

Experiment with the **move** and **turn** values.

- Can you move the sprite in more than four directions?
- Can you make your sprite move slower or faster?

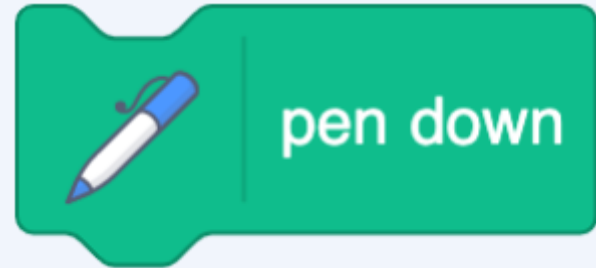
Does your project work? Prove it!

- Did you get your sprite to the finish?
- Did you go over any of the black lines?
- Can you prove it?
- What could help you prove where your sprite has travelled?



Could this help?

In Scratch you can use your sprite to draw lines.



How confident are you? (1-3)

- I can choose a character for my project
- I can choose a suitable size for a character in a maze
- I can program movement

3 – Very confident



2 – Unsure



1 – Not confident



Next lesson

In this lesson, you...

Chose a sprite to move around and resized it to fit a maze, and used an algorithm to code movement onto your sprite in four directions

Next lesson, you will...

Draw lines with your sprite and learn how to set up the start of your program