Contents

Coding with Scratch

In this book you will learn how to code your own driving games. If you haven't done much coding before, don't worry – we will cover all the coding concepts you need as we work through the book.

THE SCRATCH SCREEN

Use the **File** menu to save your work.

Switch between editing **Costumes** and adding **Code** or **Sounds** to your sprite.

Click the **green flag** to run your code.

Objects that move around in Scratch are called **Sprites**.

Join Scratch for free or log in to your account.

Your game will run in the area called the **Stage**.

Choose the group of code blocks you need here.

All the blocks in the group will appear here. You may have to scroll to see them all.

Drag code blocks into the **scripts area** to start coding.

Select which sprite you want to add code to by clicking its icon here.

Add another sprite by clicking this button.

This button adds another backdrop.

Click here to select the Stage.

Speech bubbles:

The book will start by teaching you how to code some simple games.
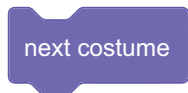
As you progress through the book, the games will get more complex!

You will learn how to create your own car sprites...

...and how to control them with code.

Finding blocks

The colour of the block will tell you which group to look through.

`next costume`

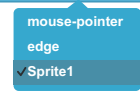*This block is purple, so you'll find it in the **Looks** group.*

Not all blocks will look exactly the way you need them at first.

`touching Sprite1 ▾ ?`

*This block isn't in the **Sensing** group...*

`touching Mouse-pointer ▾ ?`

...so find the block that starts with the same command...

`touching Mouse-pointer ▾ ?`
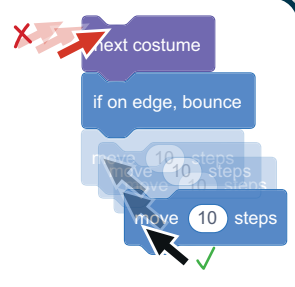- mouse-pointer
- edge
- ✓ Sprite1

...and use the drop-down menu.

Joining blocks

Each block in Scratch makes a sprite do something different. To join them together, just drag one block so that it snaps onto another.

`next costume`
`if on edge, bounce`
`move 10 steps`

If you want to break blocks apart, you can't pull the top block up.

You need to drag a block away from the bottom of the stack.

`next costume`
`if on edge, bounce`
`move 10 steps`

Use code to make cars drift around corners!

Learn to make motorbikes do wheelies...

Arranging your code

Most of the games in this block use quite a lot of code. To make the code clearer, it is divided up into different sections or **scripts**.

*Don't try to join the top of curved **event** blocks to other blocks.*

A curved event block is the start of a separate script.

When you have a lot of code, use these controls to zoom in or zoom out of your code.

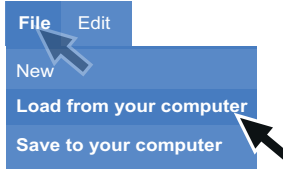This button puts your code back to normal size.

Saving your work

You can save your game by downloading a copy of it to your computer.

File | Edit
New
Load from your computer
Save to your computer

Click **File** > **Save to your computer**.

Click **Load from your computer**, then browse to your file to get it back.

File | Edit
New
Load from your computer
Save to your computer

Click **File** > **Load from your computer**.

SAVING ONLINE

It is a little easier to save your work if you have a Scratch account. Your work then gets saved online. This means you can carry on with your work on a different computer. It also allows you to share your completed game. Other people will be allowed to comment on your games too. **Check with an adult before signing up to get a Scratch account.**

Join Scratch — Click **Join Scratch** and follow the instructions to create an account.

Sign in — To log in to your account, click **Sign in**. You'll need your username and password.

Desert Racing 2 — Type a name for your game in the box at the top.

File | Edit
New
Save now
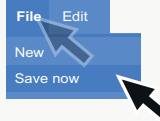
Click **File** > **Save now** to save your work online.

Click the folder icon to see all the files that you have saved (called **My Stuff**).

My Stuff

Track Racer
See inside

Motorcross 2
See inside

To load a game to play it or carry on coding, click **See inside**.

It's a good idea to save your work after every step.

Testing your code

After each coding step in this book you will usually see a green flag.

This is reminding you to run your code and check it works. If it doesn't work, check back through the code you have just added. Make sure:
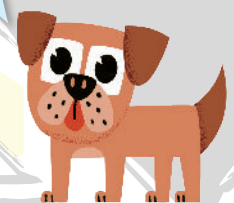
- *You used the correct blocks (some look very similar!).*
- *You have typed in the correct numbers.*
- *You have used minus and plus numbers correctly.*
- *Loops and if then blocks are in the correct place.*

Sometimes it's a good idea to delete some of your code and start over again.

Later on in this book you'll learn how to add background music to a game.

And how to use variables to keep score and track how fast things move!

Setting colours

The colour slider lets you pick just over a million different shades.

To help you find the right shade, you will find colour helpers like this one. Set each of the sliders to the numbers shown here.
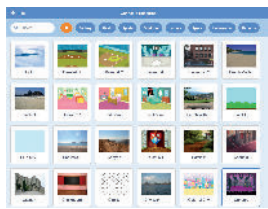
72 → Color 72

60 → Saturation 67

100 → Brightness 100
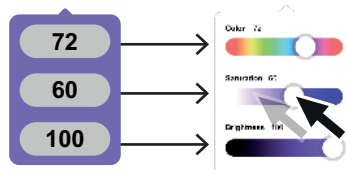
*Once you have used a colour, the **Pipette tool** can be used to "pick up" the exact shade.*

I'll show you how to use the Pipette in your code on Page 11.

Drawing backgrounds

Scratch has lots of great, ready-made background pictures called **backdrops**. But for most of the games in this book, you'll be creating your own backdrops. That way, you'll be able to design all sorts of different tracks and levels for your games. Here are some of the tools you will be using:
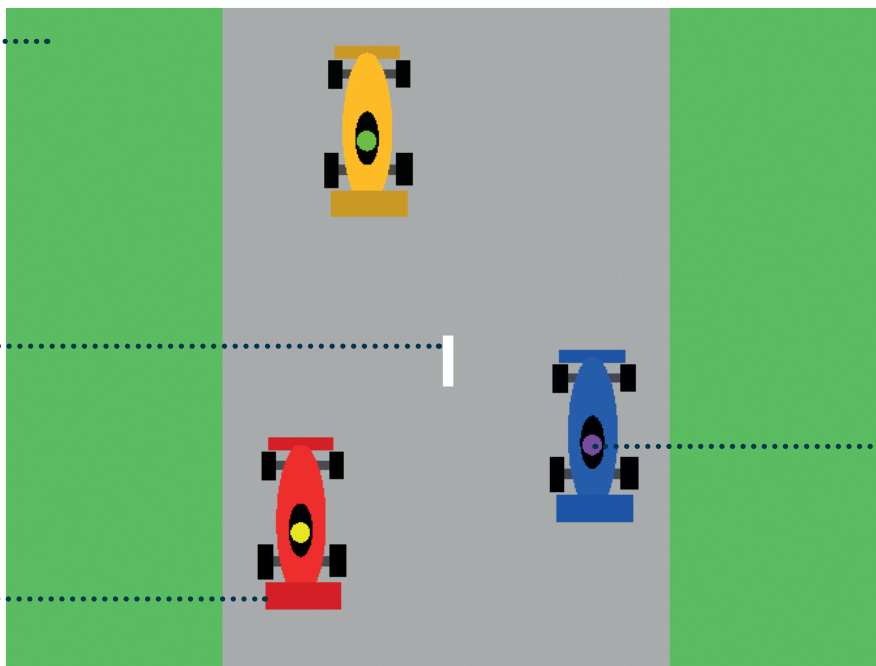
The **Fill tool** is used to fill in large areas of the screen, such as sky or grass.

The **Line tool** can be used to add extra details.

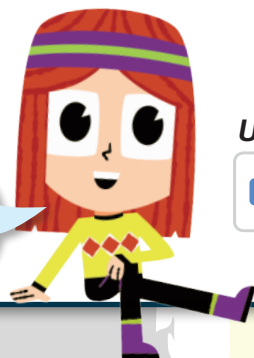The **Rectangle tool** is used to draw parts of cars and sections of the ground.

The **Colour tool** is very important. Different colours will tell the sprites whether they are on the track or about to crash!

The **Circle tool** can be used to draw ovals or circles.

If things go wrong with your backdrop, use the Undo or Redo button.

Undo   Redo

Normal size

Zoom out   Zoom in

Zoom in to add detail to your picture.