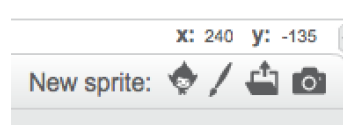


Challenge

Creating your own sprite



Click on the paint brush tool and design your car.



Draw your design in 'birds eye' view.

Do not forget to delete the original cat sprite.

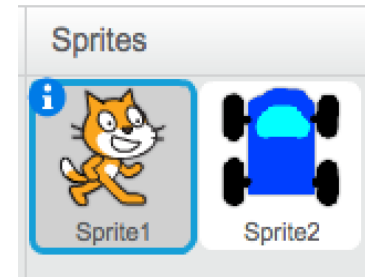
Crazy Car Racer

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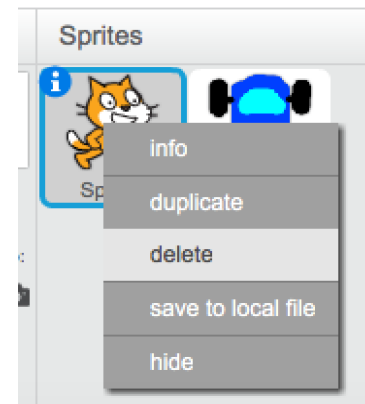
1

Tips

Deleting sprites



To delete a sprite, right click on the sprite to bring up the menu.



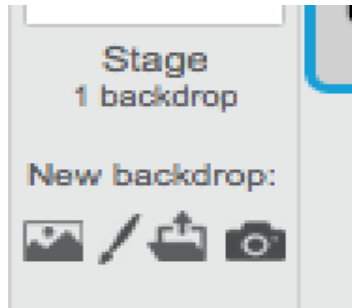
Then select delete.

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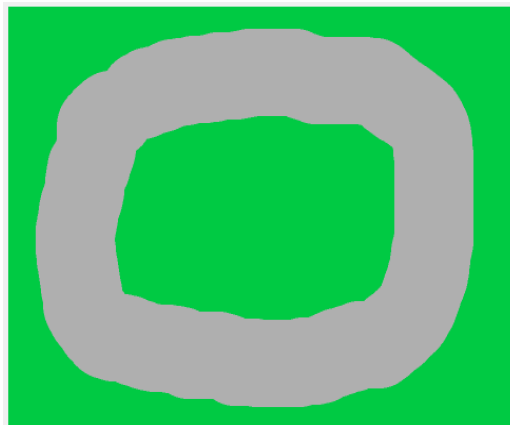
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Challenge

Create your own backdrop



Click on the New backdrop paint brush and design your own backdrop.



Draw a road surrounded by grass.

2

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Tips

Scaling your sprite

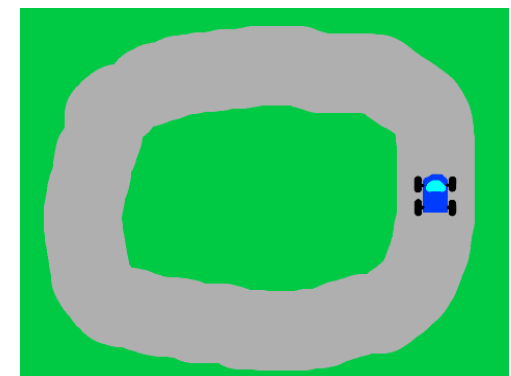
The main screen should look like this.



Click on the shrink tool and then click on your car on the main screen.



Shrink your car to the right size for the track.



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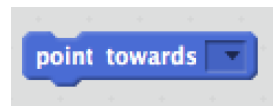
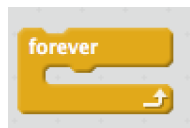
Challenge

Writing a program to follow the mouse pointer

Click the Scripts tab to bring up the coding window.

Build the script which makes your car follow the mouse pointer around the screen.

Some useful commands...



TEST your program by clicking the green flag at the top of the screen..

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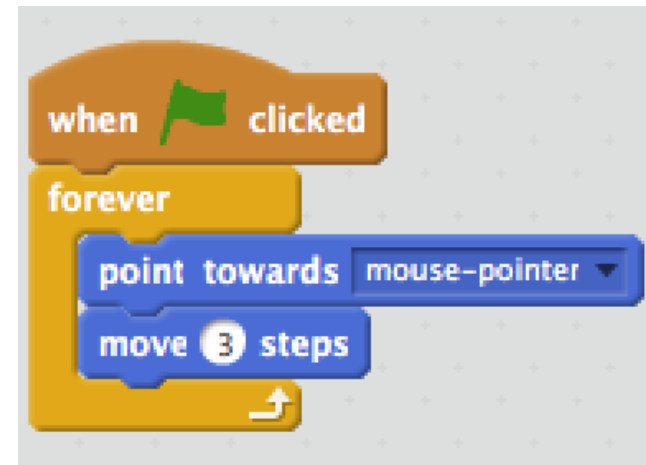
3

Tips

Using repetition – the forever command

Your program will need a repeat loop, so that it constantly checks where the mouse pointer is.

The 'point towards' and 'move' commands need embedding inside the forever loop.



Crazy Car Racer

Challenge

Testing the program

Does the car move too fast?

Debug your program - make sure the move value is set to 3 not 10

?

Does the car move sideways rather than forwards?

Debug your program - make sure the graphic points the right way. Go to the costumes tab and use the select tool to rotate the car so it is pointing to the right.

Does the car not follow the mouse pointer?

Debug your program - make sure the drop down on point towards is set to "mouse pointer"

4

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Tips

Debugging the program

Your program may have some problems

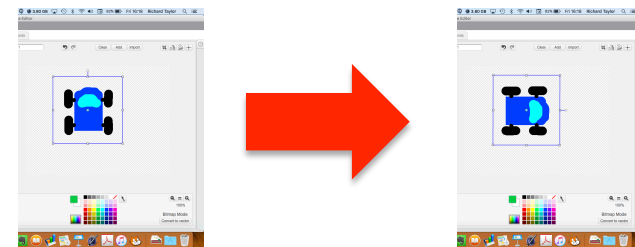
Does the car move too fast?



Does the car not follow the mouse pointer?



Does the car move sideways rather than forwards?



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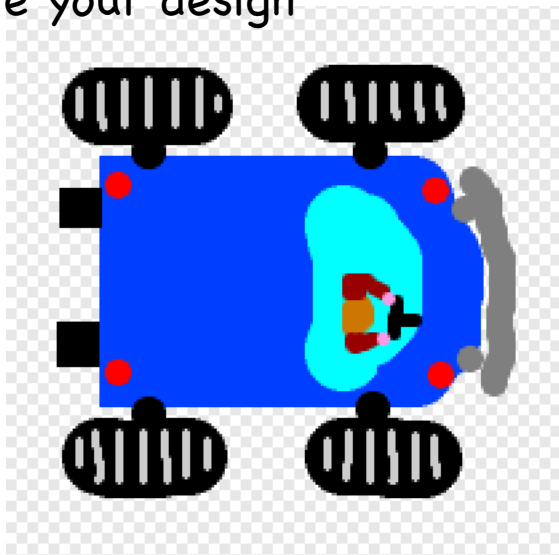
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Challenge

Editing your sprite

This is a good time to edit and refine how your car looks before the next step when we duplicate the car a number of times in order to animate it.

Click on the costumes tab and refine your design



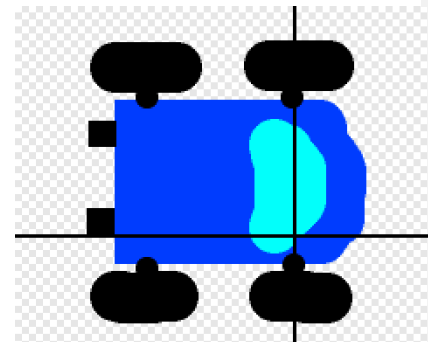
Crazy Car Racer

5

Tips

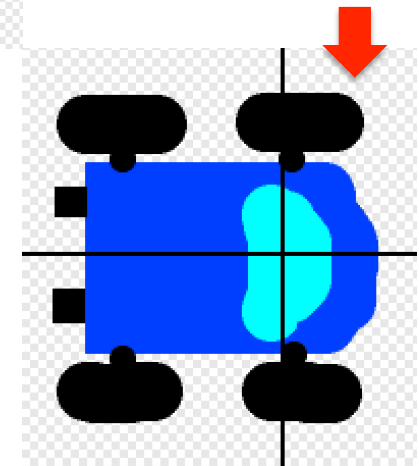
Sorting the centre of rotation

Use the 'Set costume centre' tool to make sure the centre is in the middle of the car.



Off centre

Centre correct

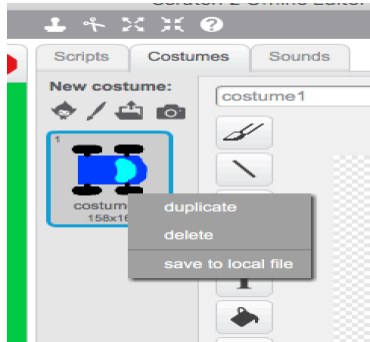


Once the car has been duplicated it is difficult to make changes to its looks without having to edit lots of copies.

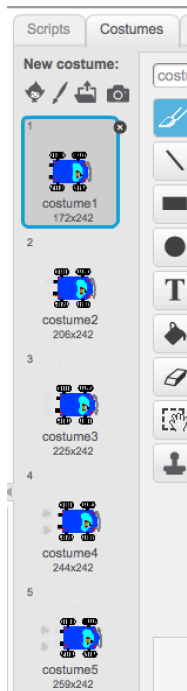
Crazy Car Racer

Challenge

Animating your car



Right click on the costume off your car and duplicate your car costume.



Add smoke coming out of the exhaust of your car.

Duplicate this new costume and change the size and position of the smoke.

Add the next costume command to your script.

next costume

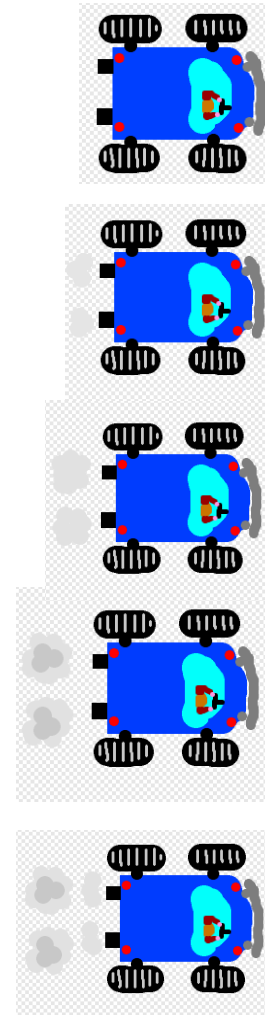
6

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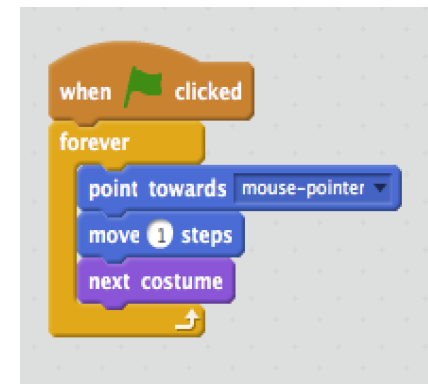
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Tips

Adding costumes



Add the next costume command into the repeat loop of your program.



The more costumes you have the smoother the animation will be.

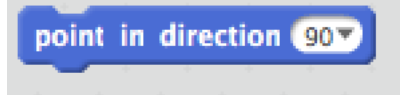
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Challenge

Positioning your sprites

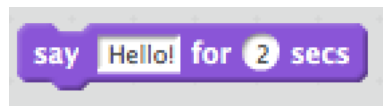
Add the point in direction command so that the car faces up at the start.



Make sure the car starts in the same place each time by using the go to x Y... command.



Make the start more interesting by adding a say message at the start.

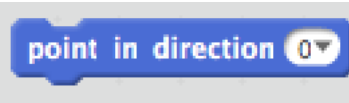


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Tips

Setting the cars position



Set direction to 0 (up)

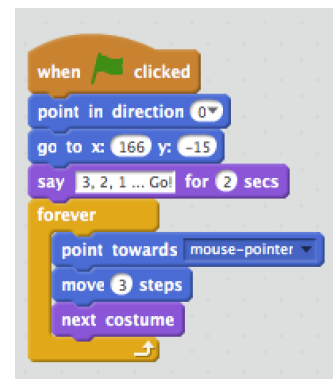


If you drag the car to the start position

before you drag the 'go to' command onto the script window, it will set the x & y values for you automatically.



Use the 'say for' command to put the text on screen for a fixed amount of time.



Put the commands outside the forever loop so that they run once when the green flag is clicked.

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Challenge

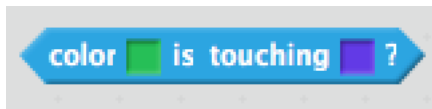
Feedback – Sensing when the car drives on the grass

You need to add some code to your program to ensure that the car does not go on the grass.

Useful commands



Add the following commands to your script.



Drag the blue diamond in between the If Then statements.

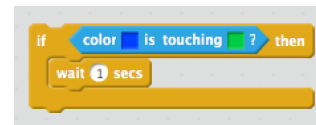
8

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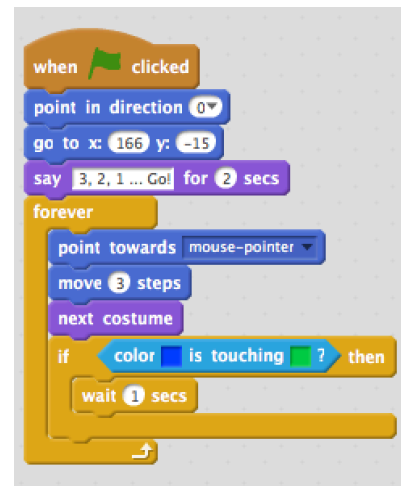
Tips

Feedback – Sensing when the car drives on the grass



Click on the boxes to set the colours of your grass and car.

Click on the box and then on the car or grass to set the colour.



The If/Then command needs 'nesting' inside the main forever loop so that the program constantly senses for if the car is touching the green colour.

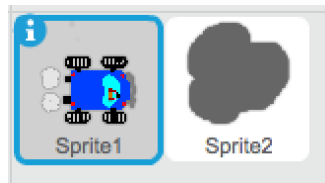
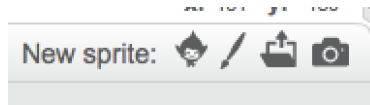
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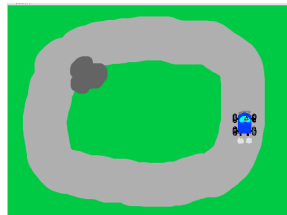
Challenge

Adding obstacles – the oil slick

You can add other obstacles such as oil slicks to the track.



Create a new sprite and position it carefully on the track.



You now need to write some code which will respond to when the car touches the oil sprite.

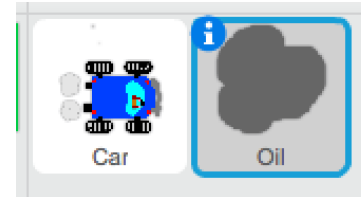
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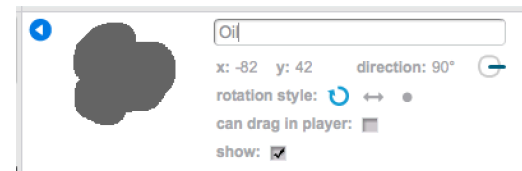
9

Tips

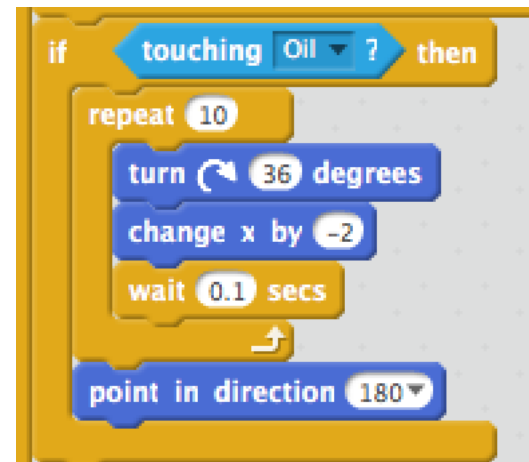
Adding obstacles – the oil slick



It is a good idea to rename your sprites as it makes it easier to identify them in the code you write.



Try out this script. Embed it in your forever loop. Experiment with the blue commands to alter the effects the 'oil' has.

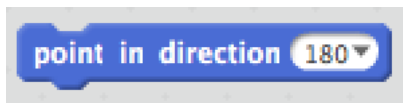
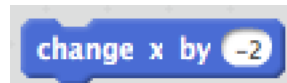
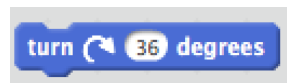
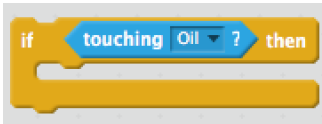


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Challenge

Making the car react to the oil slick



These are some of the code blocks you will need to use to make the car respond to touching the oil slick. The different pieces of code need embedding inside the if /then and repeat loops. Loops containing other loops are called 'Nested loops'.

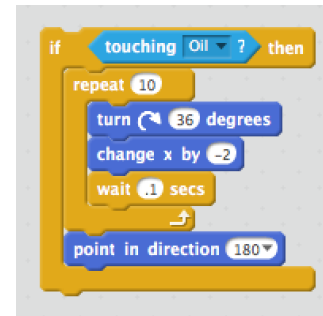
10

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Tips

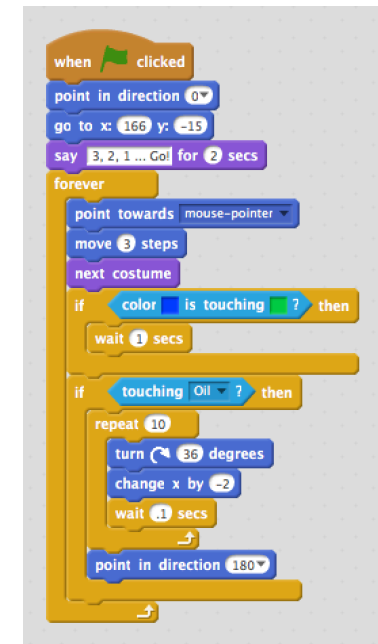
Code for the oil slick



This nested loop will make the car respond to touching the 'oil'.

The completed script with the different nested loops.

Experiment with the skip effects and try adding sound.



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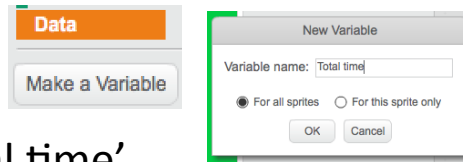
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Challenge

Timing your car

To time your car we need two things: a timer and somewhere to remember or STORE the time it takes to do a lap of the racetrack. The place we STORE the time is called a variable.

In **Data** create a variable and call it something like 'total time'.



At the start of your program before the forever loop add the two commands on the left.



Inside the forever loop add a command which updates your variable to the current time.



Test your program!

Crazy Car Racer

11

Tips

You should have your variable 'total time' showing on the screen – but the problem is it doesn't top at the end of the race – we need to add a couple more things.

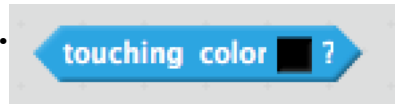


First, edit your stage backdrop and add a black finish line.

Next we need to test if the car is touching the finish line...



Add an if/then command to test if the car is touching black.



Use the stop all

Command to stop the timer (and the rest of the program) when the car touches black.




Test your program!

Crazy Car Racer

Challenge

Timing your car

Usually your program will not work properly because the car touches the black line at the start of the race and stops the clock before the card has done a lap!

 Help! We need **LOGIC** to help us decide when the car is touching the finish line **AND** the clock has moved on from the beginning of the race.



We are going to use the above pieces to create code needed to test for these two things.

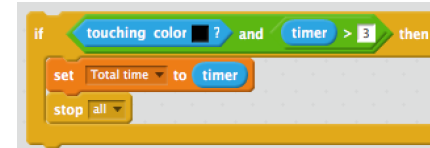


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Tips

Using the 'and' command



The 'and' command is used to check to see

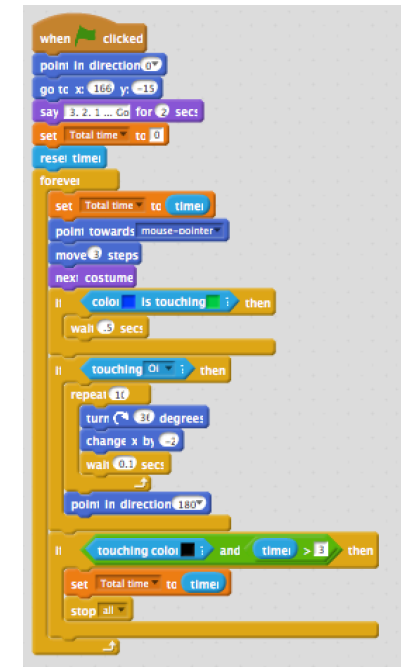
If two things are TRUE:

Is the car is touching the black line?
and is the time is greater than 3 seconds.

3 seconds should be long enough for the car to Drive over the black line.

The finished code is on the right.

Good luck!



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