## Lesson 7 Activity Sheet

## Getting Started

## Throughout Europe and Asia there is a huge youth car culture based round the premise of modifying cars.

## This often relates specialist body kits, big bore exhaust pipes and of course LED light shows

## Spend some time looking online at the modification that can be applied to cars.

## Research modified cars and car light shows

## Take a look at the YouTube videos <https://www.youtube.com/watch?v=3tBnupnQxYg> and <https://www.youtube.com/watch?v=LnP_In85sWs> for some examples.

## Think about how we could apply this using the LEDs on our Bit:Bot

## Success Criteria

* Create a program to flash a single LED in a single colour
* Create program to alternate the colour of a flashing LED eg red, blue, green (RGB)
* Create a program that will rotate which LED is on and run down one arm of the Bit:Bot

## Pro-tip

## To flash an LED start with the rainbow option then find a way to cycle it though the arm using rotate or shift

## Test Time

* Does the LED turn on an off (single colour)?
* Does the LED change colour between flashes?
* Does the LED move from one LED to the next to the end of the arm?

## Stretch Tasks

Look at how you can incorporate loops, try cycling through one colour and then through another colour

* Challenge 1 – Flash 3 colours one at a time repeating forever
* Challenge 2 – Alternate the LEDs between different colours – use double flashes
* Challenge 3 – Create an LED chase sequence

## Final Thoughts

In this lesson we have looked at how cars can be modded to make them more distinctive. We have looked at how we can program the RGB Neopixel to change colour and how we can use the shift and rotate blocks to change which LEDs are flashing.

Utilising this with programming constructs such as iteration using count controlled loops enable us to generate exciting light patterns very easily.