Traffic Light

Normal

Swift ★★★

Starting from a new page in the **Shapes Starting Point** in the **Swift Playgrounds** app on your iPad, build an app that:

- Has a rectangle and three circles on a canvas, laid out to look like a traffic light.
- Has the circles coloured red, green and amber (orange).

Hard

Swift ★★★

Everything at Normal, plus:

- Add another circle as a control button.
- When the button is touched, change the colour of the lights (by darkening the two it *isn't*), moving on to the next colour each time it's pressed.
- Make a pointer, using a line and text, that switches between "stop" and "go" when the lights change.

Ultra

Swift ★★★

Everything at Hard, plus:

- Make rectangle that moves along the screen only when a car should move, with the green lights.

Traffic Light

CoderDojo

Prerequisites

- Review Lesson 1, 2, 3 and 4 of Learn to Code 3 Teacher Guide (http://dojo.soy/ltc3) and corresponding chapters in the Swift Playgrounds (http://dojo.soy/swiftpg) app

Tools

Shapes Starting Point

Circle—as part of the light and the button

Rectangle—as part of the light, and as the "car"

Line—as part of the pointer

.darken()—to change the colour of the lights that are "off"

Learn to Code 1, 2 & 3

Coordinates—to lay everything out

Text—as part of the pointer

Touch events—to know when the button is pushed

Arrays—for acting on several lights at once

Tips

Ideas, help, etc.

Complete the Creating Tools for Different Events and Responding to a Button chapters in Learn to Code 3 in the Swift Playgrounds app to learn about how touch events can change graphics.Look over the examples that are already in the **Shapes Starting Point**. There's a lot of code there you can learn from or reuse. In particular, look at the **Animate** API to move or rotate objects (like the "car" and pointer)