

Teddywaddy Code Club

Activity 3b

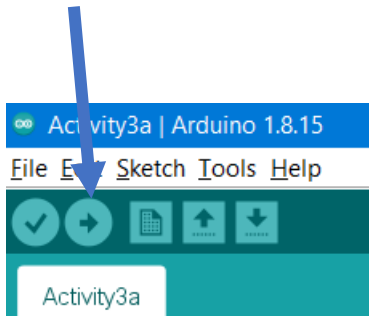
Coding with lights



For this activity you will be learning how the code works.

Part of the code is shown on the next page. You will be making some changes and additions.

After you make some changes, press the right arrow button.



A small section of the code is shown below.

```
void loop() {  
  
    setDotColour(12,CRGB::Green); // Set one dot to a colour  
    FastLED.show(); // Now Make the dot visible  
    delay(2000); // Wait a short time  
  
}
```

The words after the // are not code, they are called comments and just explain what is happening.

What do you think this code will do?

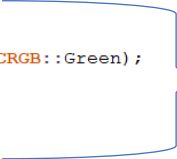
Open the **Activity3b.ino** program with the Arduino program and then press the right arrow or Upload button.

What happened?

Actually, this code is a little more complicated than it looks.

The Arduino computer will repeat everything between the { and } over and over forever.

```
void loop() {  
  
    setDotColour(12,CRGB::Green); // Set one dot to  
    FastLED.show(); // Now Make the d  
    delay(2000); // Wait a short t  
  
}
```



All this code is repeated over and over, forever.

You don't notice it being repeated because the light is always on.

Let's change the code to turn the light off as well.

Load program **Activity3c.ino** and press the right arrow or upload button.

The code is shown below. Can you see why it is now flashing?

```
void loop() {  
  
    setDotColour(23,CRGB::Green); // Set one dot to a colour  
    FastLED.show(); // Now make the dot visible  
    delay(2000); // Wait a short time  
  
    setDotColour(23,CRGB::Black); // Set one dot to a colour  
    FastLED.show(); // Now make the dot visible  
    delay(2000); // Wait a short time  
  
}
```

Now make some changes. Don't forget to press the upload when you want to see your change.

1. Change the time the light is on and off. What if they are not the same?
2. Change the colour of the off time.
3. Change which light is flashing.

Add this code to get two lights going.

```
setDotColour(26,CRGB::Orange);
```

The code should now look like this.

```
void loop() {  
  
    setDotColour(23,CRGB::Green); // Set one dot to a colour  
    setDotColour(26,CRGB::Orange);  
    FastLED.show(); // Now make the dot visible  
    delay(2000); // Wait a short time  
  
    setDotColour(23,CRGB::Black); // Set one dot to a colour  
    FastLED.show(); // Now make the dot visible  
    delay(2000); // Wait a short time  
  
}
```

Click the right arrow or Upload button to see it work.

Notice that the Orange light stays on. Can you fix this?

The answer is on the next page.

Two lights flashing

```
void loop() {  
  
    setDotColour(23,CRGB::Green); // Set one dot to a colour  
    setDotColour(26,CRGB::Orange);  
    FastLED.show(); // Now make the dot visible  
    delay(2000); // Wait a short time  
  
    setDotColour(23,CRGB::Black); // Set one dot to a colour  
    setDotColour(26,CRGB::Black);  
    FastLED.show(); // Now make the dot visible  
    delay(2000); // Wait a short time  
  
}
```

Now swap the Orange and Black colours for the new light.
Like this.

```
void loop() {  
  
    setDotColour(23,CRGB::Green); // Set one dot to a colour  
    setDotColour(26,CRGB::Black);  
    FastLED.show(); // Now make the dot visible  
    delay(2000); // Wait a short time  
  
    setDotColour(23,CRGB::Black); // Set one dot to a colour  
    setDotColour(26,CRGB::Orange);  
    FastLED.show(); // Now make the dot visible  
    delay(2000); // Wait a short time  
  
}
```

Upload and check what happens.