Teddywaddy Code Club

Activity 3a
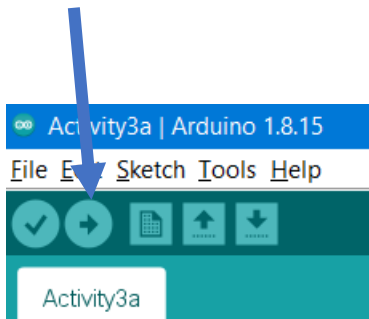
Christmas in July

To change the Christmas tree display.

Open the activity3a.ino code using the Arduino program.

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

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

```
firstLight=0;
lastLight=59;

dot=firstLight;
while (dotIsBetween(firstLight,lastLight

    // Set up the LED pattern

    setDotColour(dot+0,CRGB::Red);
    setDotColour(dot+1,CRGB::Green);
    setDotColour(dot+2,CRGB::Blue);

    // Show the new pattern

    FastLED.show();

    // Set how long the lights stay like t

    delay(100);

    // Now change the LED lights to differ

    setDotColour(dot+0,CRGB::Black);
    setDotColour(dot+1,CRGB::Black);
    setDotColour(dot+2,CRGB::Black);

    // How much to jump and which direction: + is forward, - is backwards

    dot = dot + 1;

}
```

Change the colours of the three lights.

Change how long the lights stay on for. This is how fast they move.

1000 = 1 second.

```
firstLight=0;
lastLight=59;

dot=firstLight;
while (dotIsBetween(firstLight,lastLight)) {

    // Set up the LED pattern

    setDotColour(dot+0,CRGB::
    setDotColour(dot+1,CRGB::
    setDotColour(dot+2,CRGB::

    // Show the new pattern

    FastLED.show();

    // Set how long the light

    delay(100);

    // Now change the LED lights to        erent colours

    setDotColour(dot+0,CRGB::Black);
    setDotColour(dot+1,CRGB::Black);
    setDotColour(dot+2,CRGB::Black);

    // How much to jump and which direction: + is forward, - is backwards

    dot = dot + 1;

}
```

Change the colour of the three lights when they are off.

It doesn't have to be black!

```
firstLight=0;
lastLight=59;

dot=firstLight;
while (dotIsBetween(firstLight,lastLight)) {

  // Set up the LED pattern

  setDotColour(dot+0,CRGB::Red);
  setDotColour(dot+1,CRGB::Green);
  setDotColour(dot+2,CRGB::Blue);

  // Show the new pattern

  FastLED.show();

  // Set how long the ligh

  delay(100);

  // Now change the LED lig

  setDotColour(dot+0,CRGB::Bla
  setDotColour(dot+1,CRGB::
  setDotColour(dot+2,CRGB        k);

  // How much to ju   and which direction: + is forward, - is backwards

  dot = dot + 1;

}
```

> This number is how many lights to move along each time.
>
> 1 means jump one at a time.

Try making the pattern move along three lights at a time. You might also need to change the speed as well to make it look great.

```
firstLight=0;
lastLight=59;

dot=firstLight;
while (dotIsBetween(first

    // Set up the LED patte

    setDotColour(dot+0,CRGB
    setDotColour(dot+1,CRGB:
    setDotColour(dot+2,CRGB::Blue);

    // Show the new pattern

    FastLED.show();

    // Set how long the lig

    delay(100);

    // Now change the LED lights              t colours

    setDotColour(dot+0,CRGB:
    setDotColour(dot+1,CRG         ck);
    setDotColour(dot+2,          :Black);

    // How much to    mp and which direction: + is forward, - is backwards

    dot = dot + 1;

}
```

These numbers are where the pattern starts and stops.

There are 60 lights all together.

0 is the first light.

59 is the last light.

+ means count up

- means count down

Try changing the first and last light numbers and the count direction to make the lights go backwards.