

Illuminating stellar life cycles: tell star stories with physics and coding

Activity 2: Example code for colour mixing

Create different LED colours by writing analogue values between 0 (no brightness) and 1023 (maximum brightness) to pins P0, P1, and P2, representing red, blue, and green, respectively.

```
// Turn the RGB LED red  
  
pins.analogWritePin(AnalogPin.P0, 1023) // red on full  
  
pins.analogWritePin(AnalogPin.P1, 0) // green off  
  
pins.analogWritePin(AnalogPin.P2, 0) // blue off
```

Tip: in the example code above, `//` is used to represent a “comment”; this is not executed in the final code but is useful to explain what each line of code does. Good programmers always include comments, and the example code provided is fully commented.

To make the handling of the colour settings more comfortable, create a function:

```
// --- Helper function to set RGB colour ---  
  
// This function makes it easy to set the colour of the RGB LED.  
  
// "redValue", "greenValue", "blueValue" can be from 0 (off) to 1023 (max brightness).  
  
function setRGB (redValue: number, greenValue: number, blueValue: number) {  
  
    // Set the brightness of the red part of the LED (connected to pin P0).  
  
    pins.analogWritePin(AnalogPin.P0, redValue)  
  
    // Set the brightness of the green part of the LED (connected to pin P1).  
  
    pins.analogWritePin(AnalogPin.P1, greenValue)  
  
    // Set the brightness of the blue part of the LED (connected to pin P2).  
  
    pins.analogWritePin(AnalogPin.P2, blueValue)  
  
}
```