STEM - Smart Robot v2 - Altronics Z6454

Lesson 3.2 - LED Neopixel Module Control Experiment 2

Scan QR code for Lesson 3.2 Simulation

Simulation of this lesson can be found at https://makecode.microbit.org/91949-51471-45725-10543

Note: *(Robot construction must be completed before this Step)*

Goal for this lesson

Learn to control the Neopixel RGB LED on the Smart Robot and make slight repetitive colour adjustments to the LED strip.

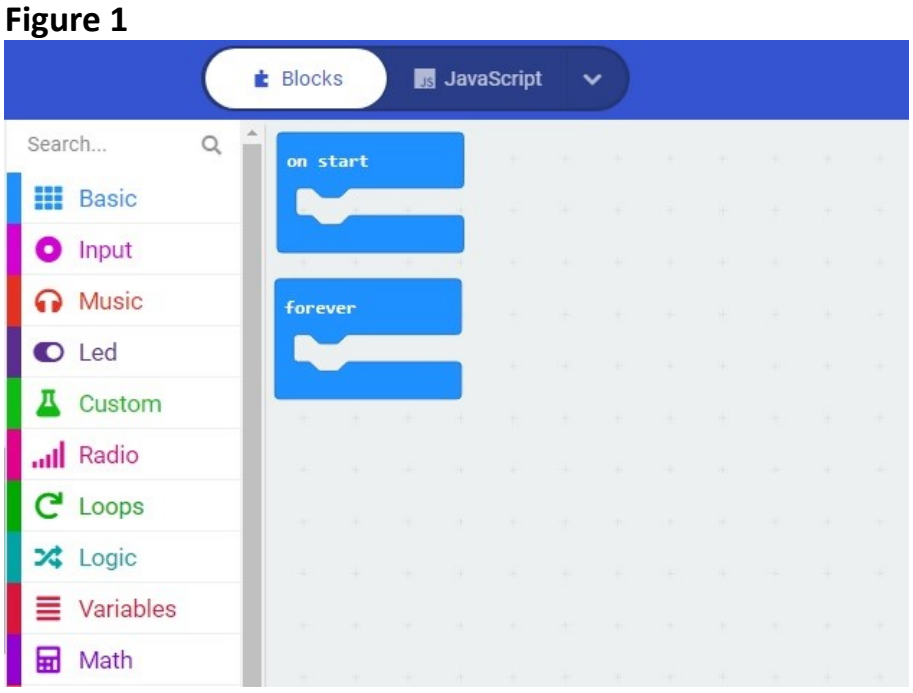
Hardware Required

PC or Tablet
1 x micro USB cable
1 x Smart Robot with micro:bit & battery installed

Step 1 *As per figure 1*

a. Goto URL https://makecode.microbit.org/#
b. Create **"+New Project"** & give it a name
c. Press **Gear** symbol – top right
d. Press Extensions
e. Add repository found using link below.
https://github.com/AltronicsAUKits/Z6454-Robot-Kit-v2_KS0426
f. On start up both **"on start"** & **"forever"** will be in your work space, move **"forever"** block below **"on start"** block.

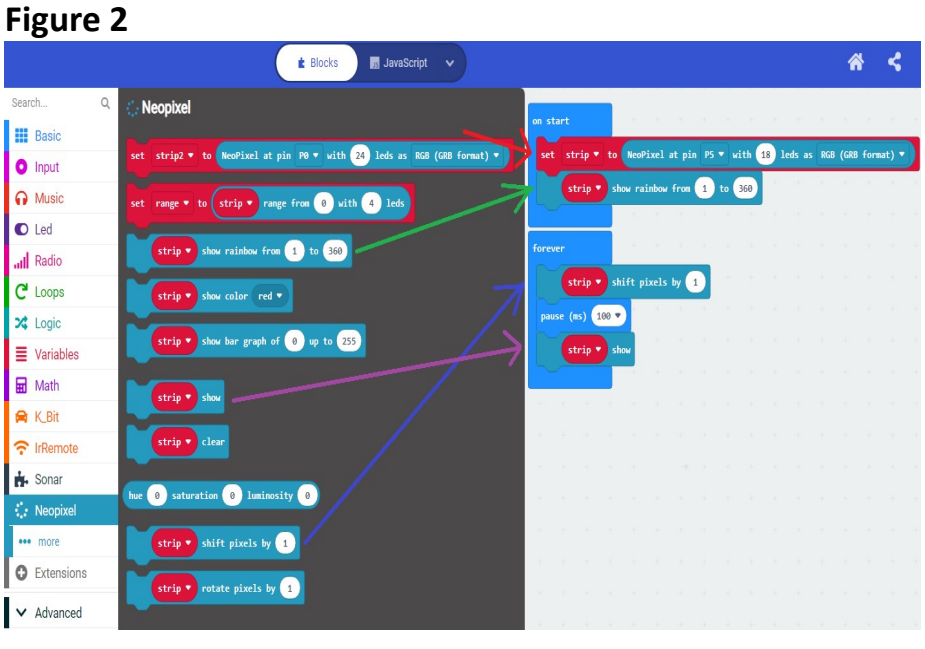
Figure 1



Step 2 *As per Figure 2*

a. Press **"Neopixel"** Tab
b. Drag **"set strip to NeoPixel at pin P0 with 24 leds as RGB (GRB format)"** into **"on start"** field.
c. Above item may read **"set strip 2"**, If need be change to **"set strip"**
d. Adjust **pin P0** to **pin P5**
e. Adjust **24 leds** to **18 leds**
f. Drag **"strip show rainbow from 1 to 360"** into **"on start"** field

Figure 2



Step 3 *As per Figure 2*

a. Press **"Neopixel"** Tab
b. Drag **"strip shift pixels by 1"** into **"forever"** field
c. Press **"Basic"** Tab
d. Drag **"pause (ms) 100"** into **"forever"** field
e. Press **"Neopixel"** Tab
f. Drag **"strip show"** into **"forever"** field
g. Download the code to the micro:bit

Example Neopixel Experiment 3.2 can be found at
https://makecode.microbit.org/91949-51471-45725-10543

STEM Smart Robot can be purchase from Altronics.
https://www.altronics.com.au/p/z6454-stem-microbit-mini-smart-robot-car-v2.0/