Lesson 2.1 - RGB LED Experiment

Simulation of this lesson can be found at https://makecode.microbit.org/57029-12429-02514-70866

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

Scan QR code for Lesson 2.1 Simulation

Goal for this lesson

Learn to control set and hold the RGB LED on the Smart Robot with variable manipulation.

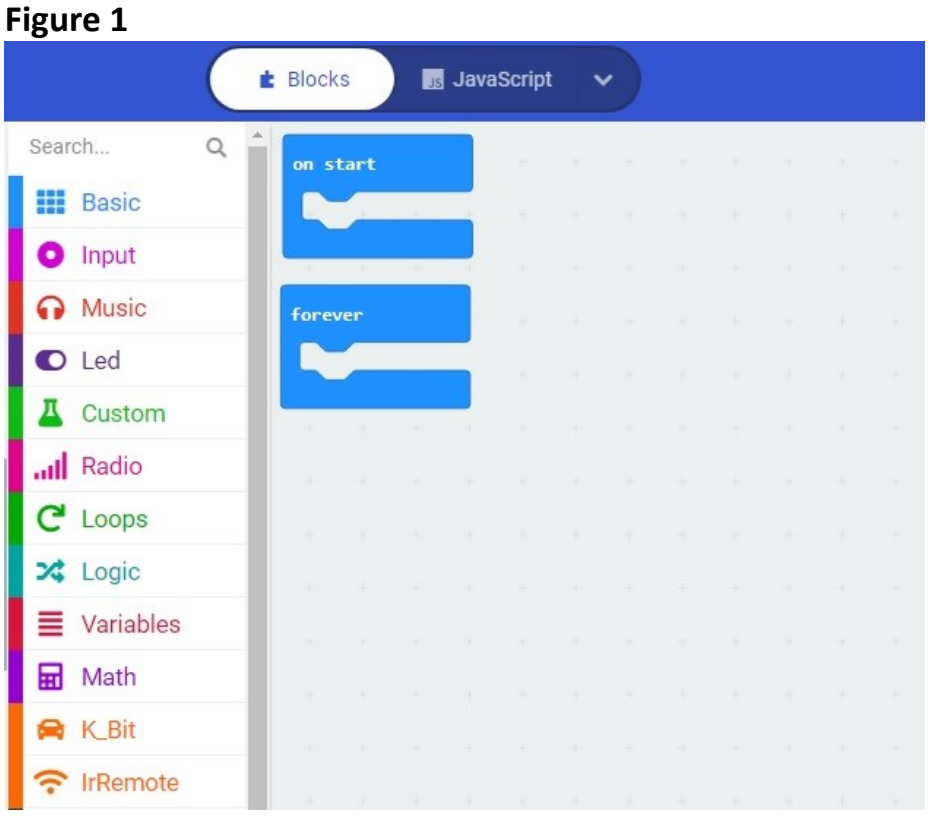
Hardware Required

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.

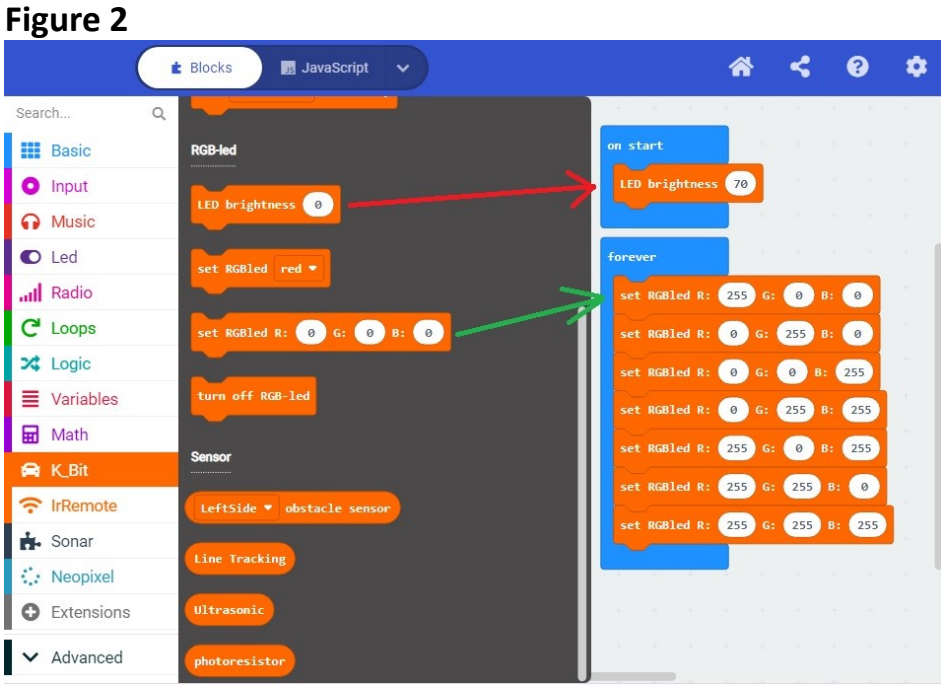
Figure 1



Step 2 *As per Figure 2.*

a. Press **"K_Bit"** Tab
b. Drag **"LED brightness 0"** into the **"on start"** field, adjust variable to brightness of "**70**"
c. Drag **"set RGBled R: 0 G: 0 B: 0"** in to **"forever"** field. Adjust variables in the R, G, B field for each.
RGB – represent Red, Green, Blue.
0-255 – represent 0-100% of each colour.

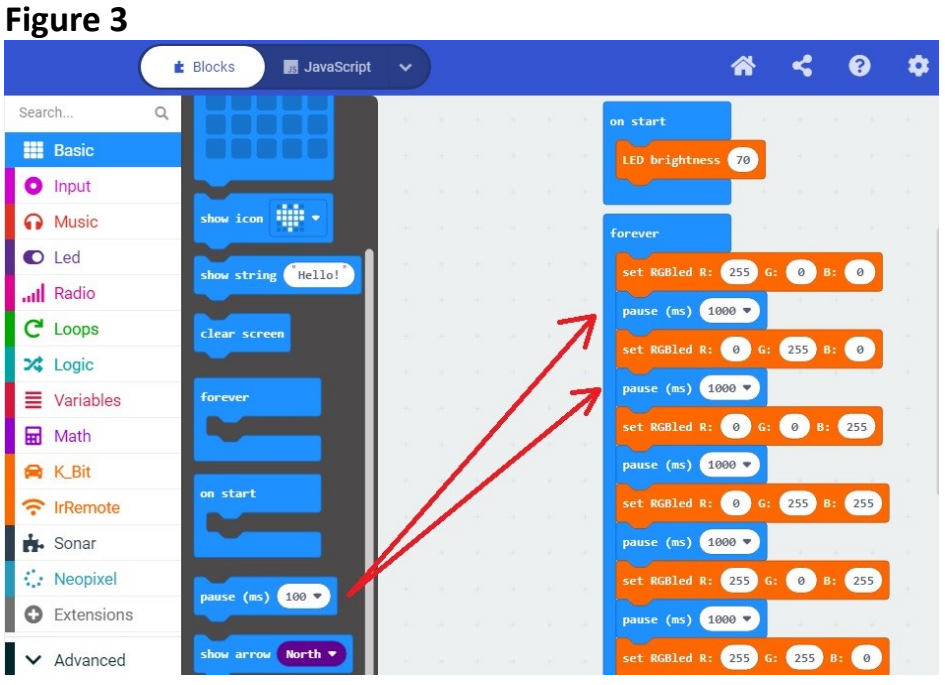
Figure 2



Step 3 *As per Figure 3*

a. Press **"Basic"** Tab
b. Drag **"pause (ms) 100"** into **"forever"** field below each LED set figure, adjust pause variable as desired.
c. Repeat **Step 3** for each LED set figure.
d. Download the code to the micro:bit

Figure 3



Example RGB LED Experiment 2.1 can be found at
https://makecode.microbit.org/57029-12429-02514-70866

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