STEM - Smart Robot v2 - Altronics Z6454

Lesson 9.2 - IR Remote Control Smart Robot Demo

Simulation of this lesson can be found at https://makecode.microbit.org/84520-83000-36608-14213

Scan QR code for Lesson 9.2 Simulation

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

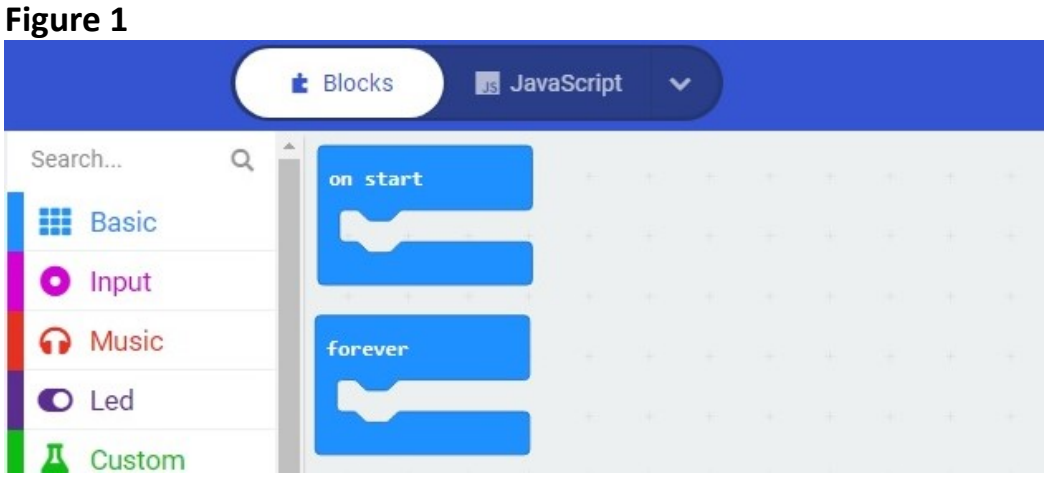
Goal for this lesson
Learn to utilise the IR remote signal to remotely control the Smart Robot.

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

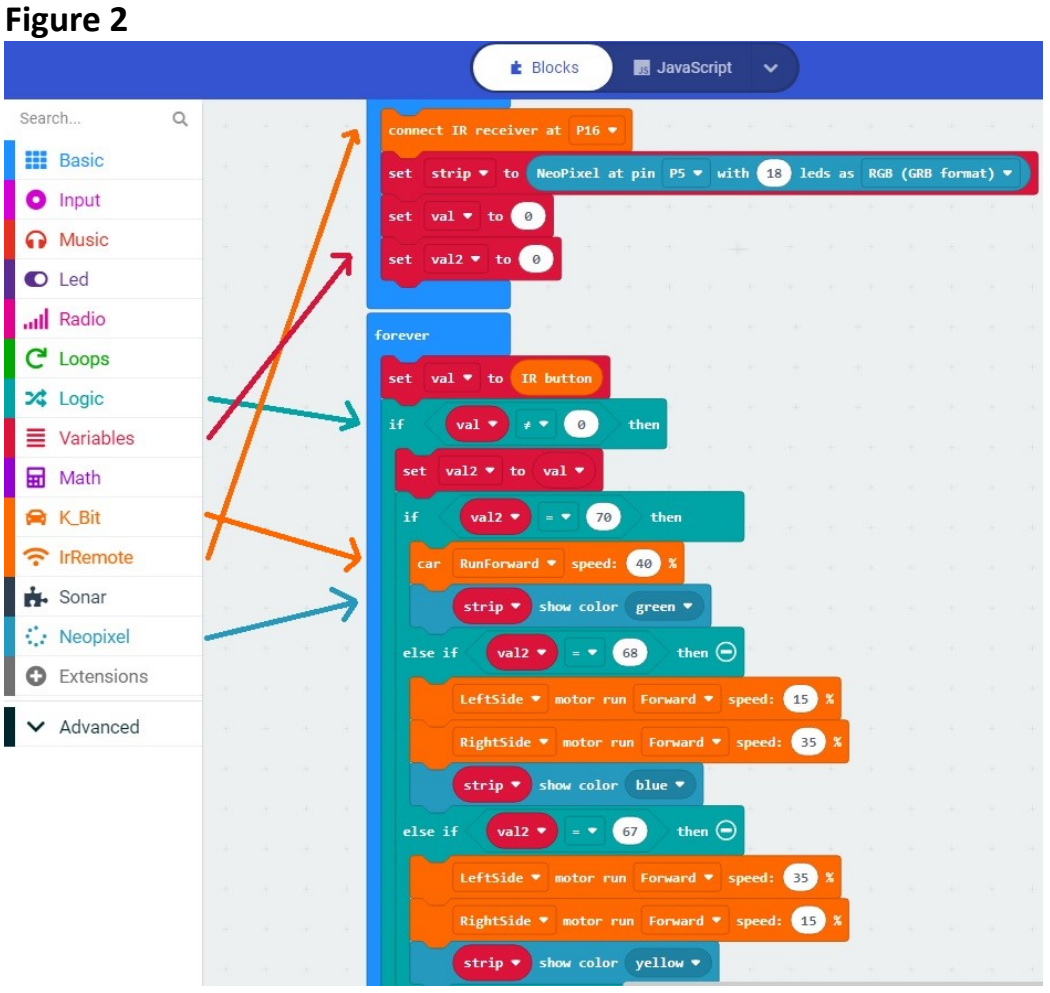


Step 2 *as per Figure 2*

Moving forward we will only highlight the locations for the required modules to produce the desired code.

a. We will be utilising the **"Logic"** Tab
b. We will be utilising the **"Variables"** Tab
c. We will be utilising the **"K_Bit"** Tab
d. We will be utilising the **"IrRemote"** Tab
e. We will be utilising the **"Neopixel"** Tab
f. Download the code to the micro:bit

Figure 2



Expected Result!

a. Once the code has been written to the micro:bit.
b. Insert the micro:bit into the robot & power on.
c. Press **Forward** button on remote this will product **data 70.**
The robot will run both motor forward at the same speed of 40%.
The Neopixel LED strip will turn Green.
d. Press **Left** button on the remote this will product **data 68.**
To turn left the robot will run the left motor @ 15% & right motor @ 35%.
The Neopixel LED strip will turn Blue.
e. Press **Right** button on the remote this will product **data 67.**
To turn right the robot will run the left motor @ 35% & right motor @ 15%.
The Neopixel LED strip will turn Yellow.
f. Press **Back** button on the remote this will product **data 21.**
The robot will run both motors backwards at the same speed of 40%.
The Neopixel LDE strip will turn Purple.
g. Press **OK** button on the remote this will product **data 64.**
The Robot will stop.
The Neopixel LED strip will turn Red.

Example IR Remote Control Smart Robot Demo
https://makecode.microbit.org/84520-83000-36608-14213

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