7.4 Handle remote control

Tiny-bit-code.hex

http://www.yahboom.net/xiazai/Tiny_bit/7.Interacting%20with%20Tiny%20bit/Tiny-bit-code.hex

Handle-rocker-control.hex

http://www.yahboom.net/xiazai/Tiny_bit/7.Interacting%20with%20Tiny%20bit/Handle-rocker-control.hex

Handle-gravity-control.hex

http://www.yahboom.net/xiazai/Tiny_bit/7.Interacting%20with%20Tiny%20bit/Handle-gravity-control.hex

1.Preparation

1-1.Learn how to use micro:bit handle

1-2.Learn how to communicate between the Tiny-bit robot car and the micro:bit handle

The handle is shown below. The communication between the Tiny-bit robot car and the micro:bit handle is the communication between two micro:bit boards. They use the wireless networking communication method.

Programming method:

Mode 1 online programming: First, we need to connect the micro:bit to the computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: http://microbit.org/ to enter the programming interface. Add the Yahboom package: https://github.com/lzty634158/Tiny-bit and https://github.com/lzty634158/GHBit to program.

Mode 2 offline programming: We need to open the offline programming software. After the installation is complete, enter the programming interface, click【New Project】, add Yahboom package: https://github.com/lzty634158/Tiny-bit and https://github.com/lzty634158/GHBit, you can program.

2.Learning goal

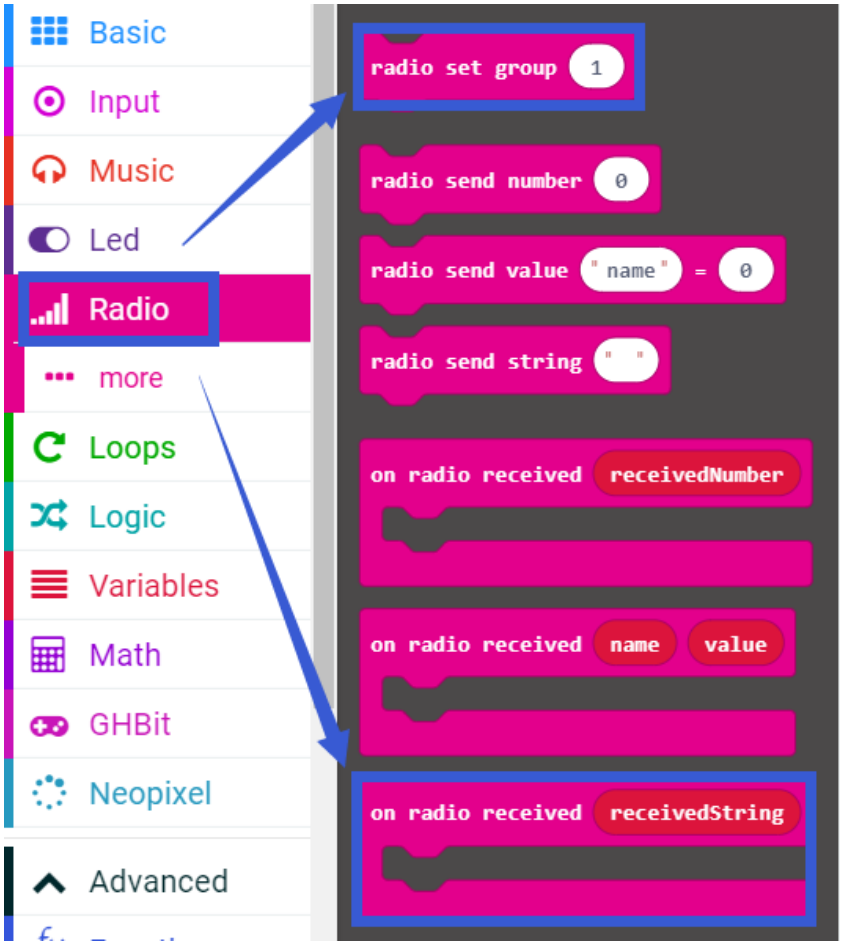
2-1. Learn about using Radio graphically programming blocks

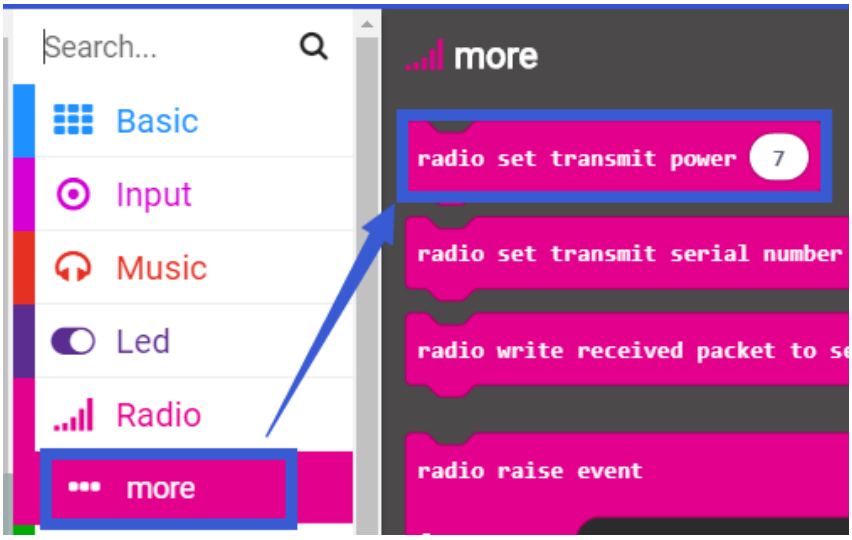
2-2. Learn about using GHBit graphically programming blocks

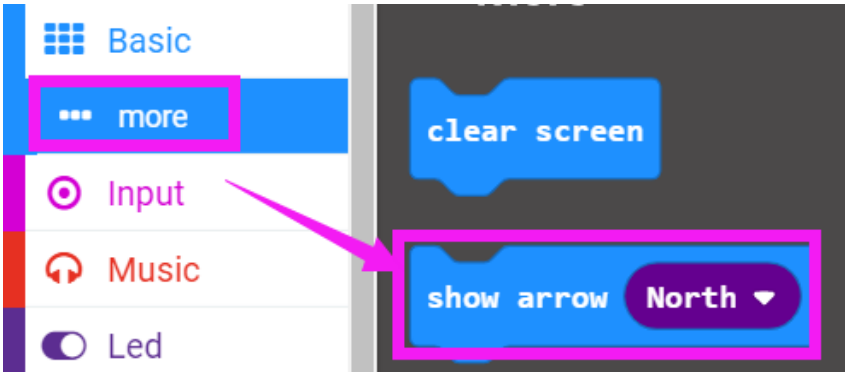
2-3.Learn how to use micro:bit handle control Tiny bit robot car

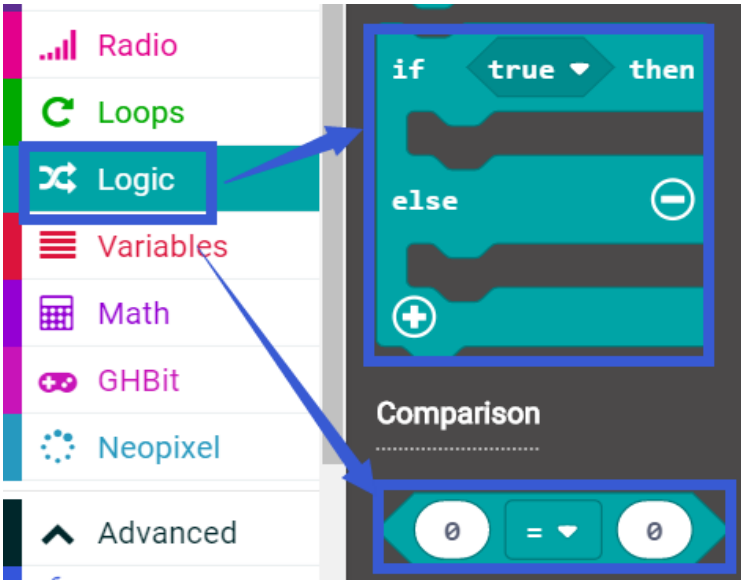
3.Tiny bit code

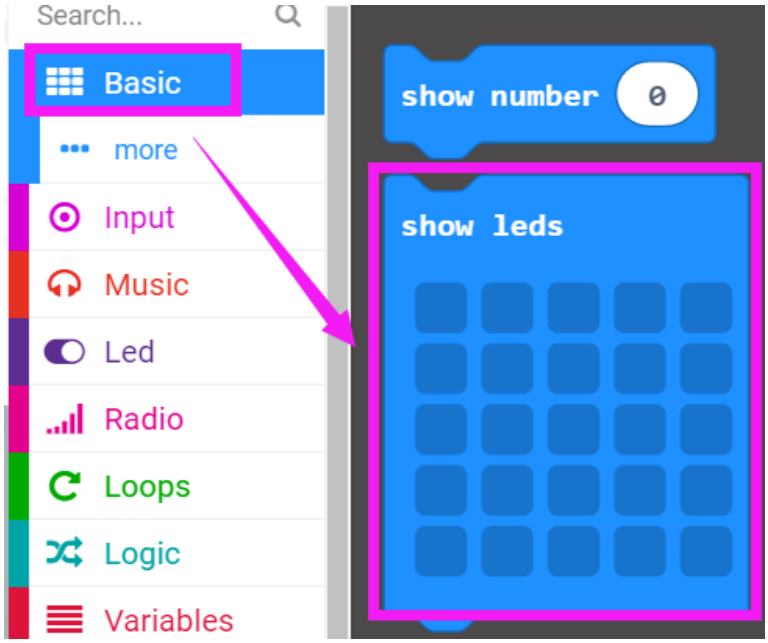
The following is the location of the building blocks required for this programming.

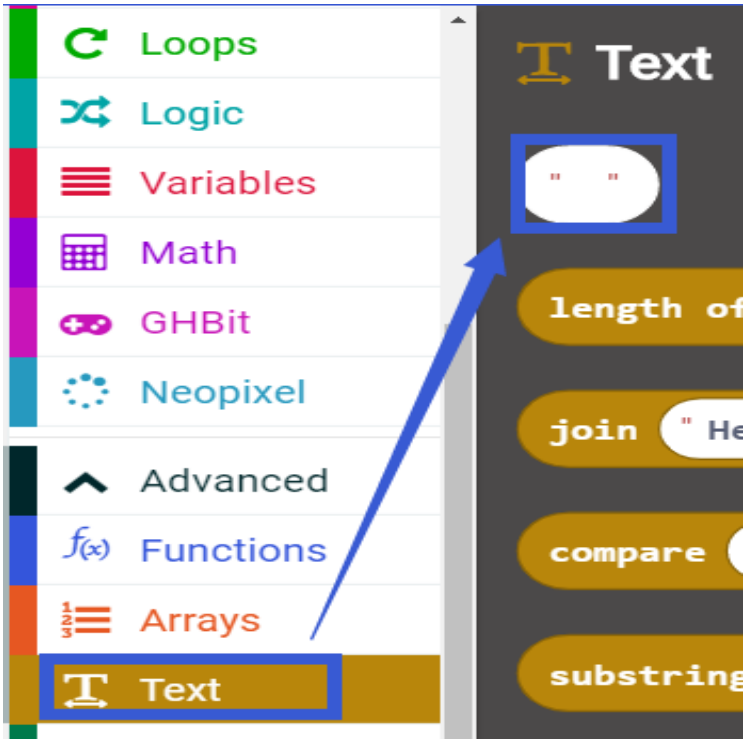

Basic
Input
Music
Led
Radio
more
Loops
Logic
Variables
Math
GHBit
Neopixel
Advanced
radio set group 1
radio send number 0
radio send value "name" = 0
radio send string " "
on radio received receivedNumber
on radio received name value
on radio received receivedString

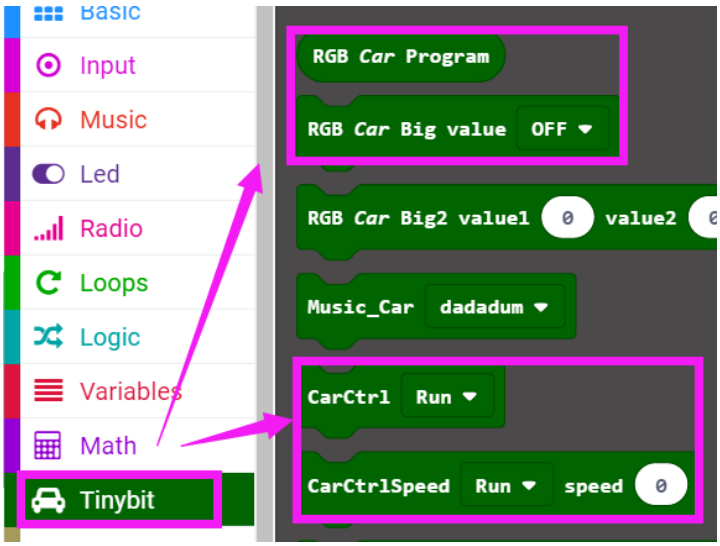

Search...
Basic
Input
Music
Led
Radio
more
more
radio set transmit power 7
radio set transmit serial number
radio write received packet to s
radio raise event


Basic
more
Input
Music
Led
clear screen
show arrow North

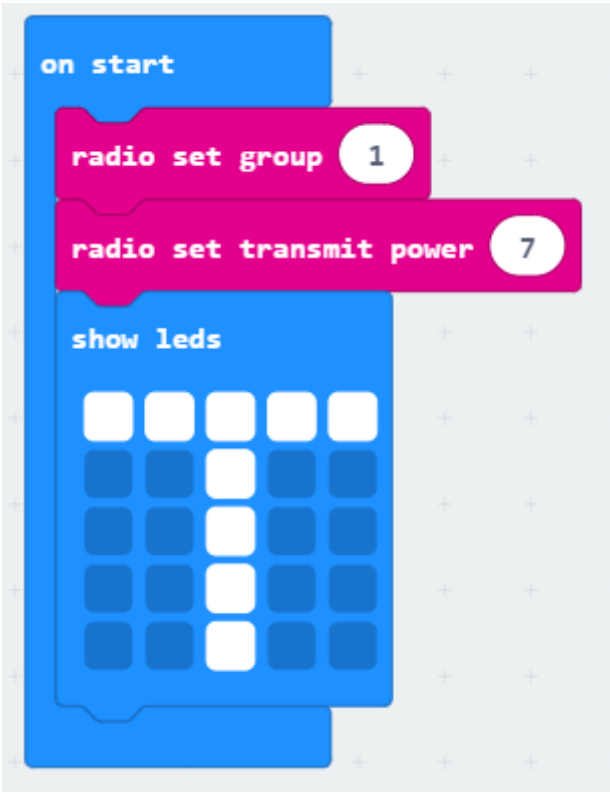

Radio
Loops
Logic
Variables
Math
GHBit
Neopixel
Advanced
if true then
else
Comparison
0 = 0

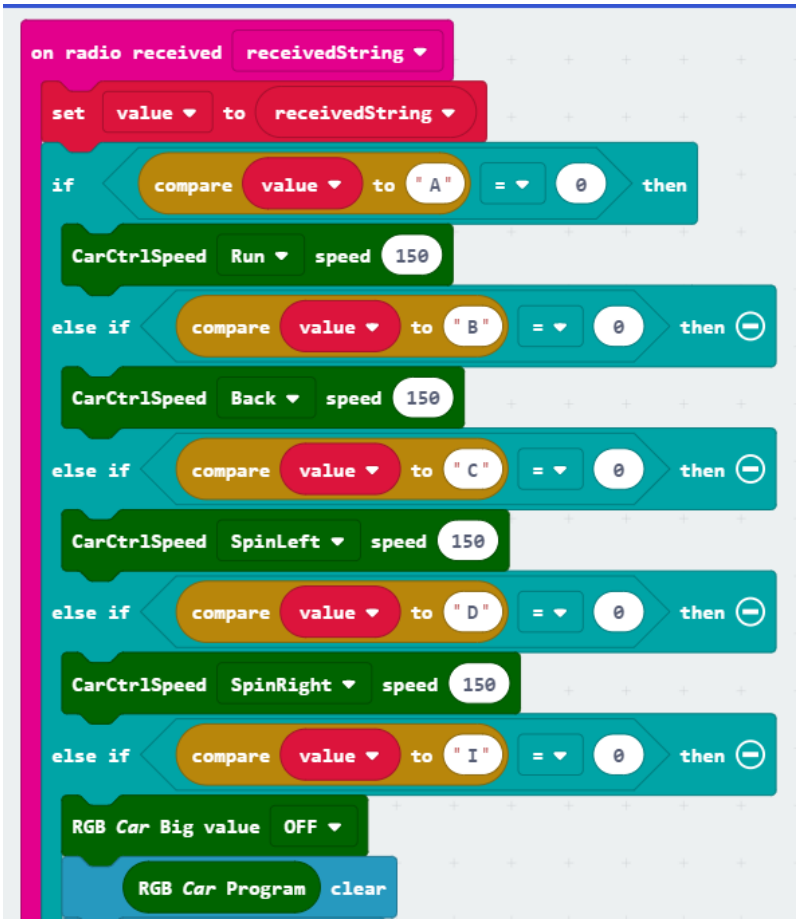

Search...
Basic
more
Input
Music
Led
Radio
Loops
Logic
Variables
show number 0
show leds


Loops
Logic
Variables
Math
GHBit
Neopixel
Advanced
Functions
Arrays
Text
Text
length of
join
compare
substring

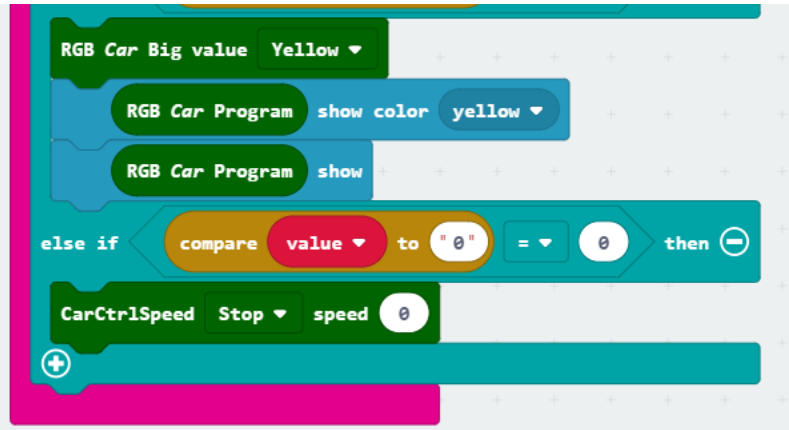


The summary program is shown below:



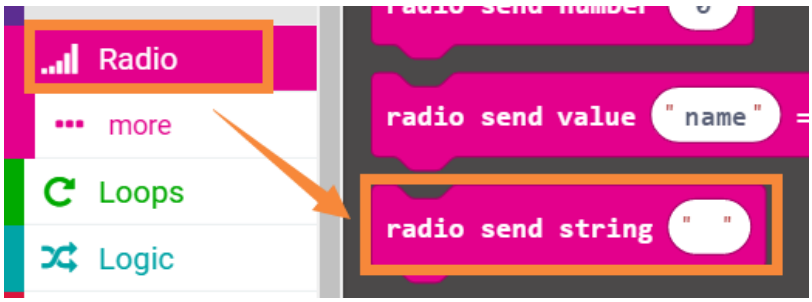

on radio received receivedString
set value to receivedString
if compare value to "A" = 0 then
CarCtrlSpeed Run speed 150
else if compare value to "B" = 0 then
CarCtrlSpeed Back speed 150
else if compare value to "C" = 0 then
CarCtrlSpeed SpinLeft speed 150
else if compare value to "D" = 0 then
CarCtrlSpeed SpinRight speed 150
else if compare value to "I" = 0 then
RGB Car Big value OFF
RGB Car Program clear

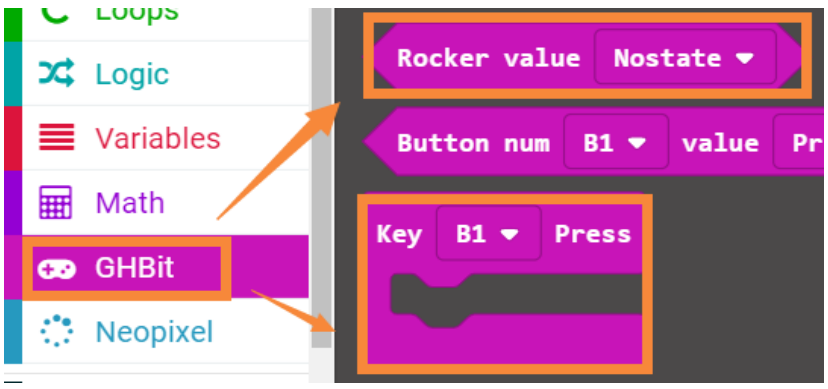
RGB Car Program show
else if compare value to "E" = 0 then
RGB Car Big value Red
RGB Car Program show color red
RGB Car Program show
else if compare value to "F" = 0 then
RGB Car Big value Green
RGB Car Program show color green
RGB Car Program show
else if compare value to "G" = 0 then
RGB Car Big value Blue
RGB Car Program show color blue
RGB Car Program show
else if compare value to "H" = 0 then

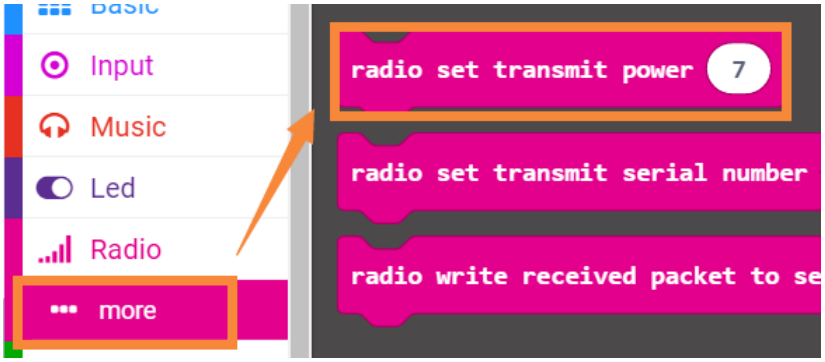


5.Handle code

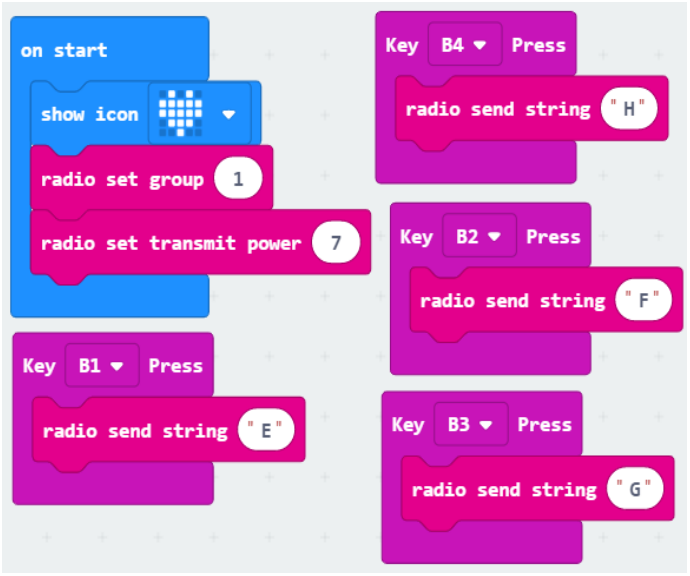
The following is the location of the building blocks required for this handle code programming.

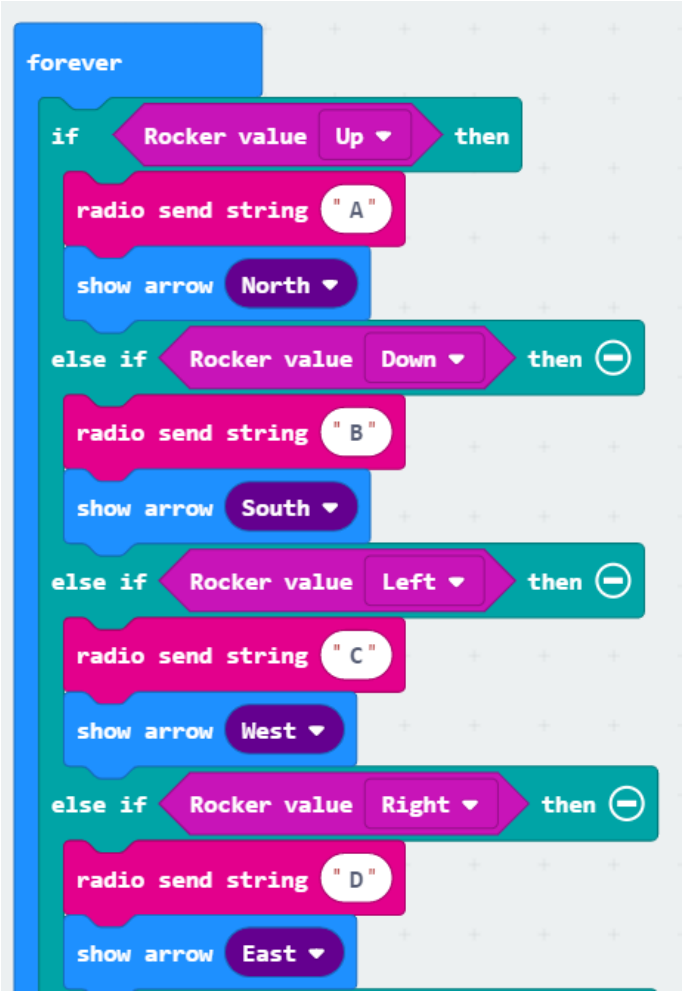


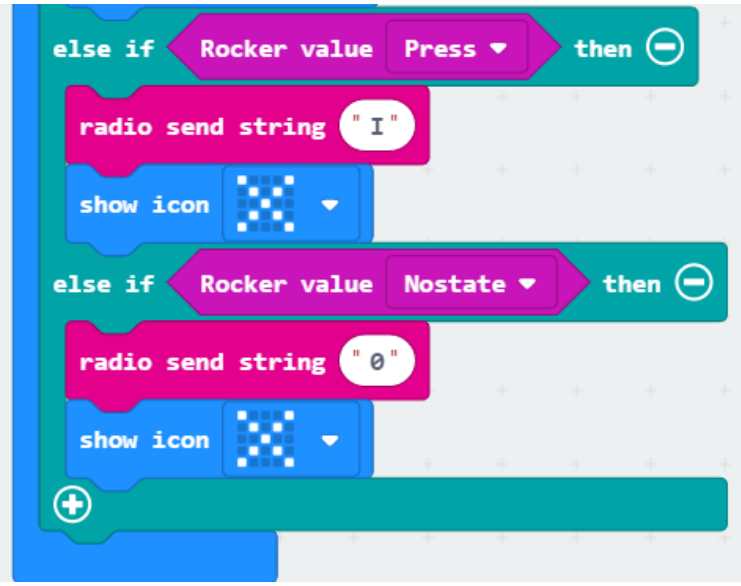




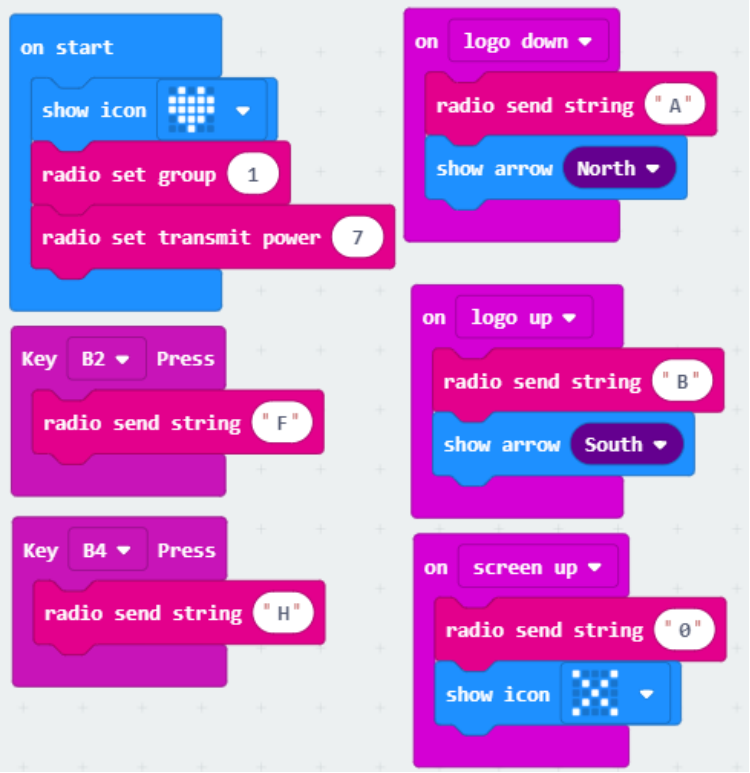
The summary program of handle rocker control is shown below.

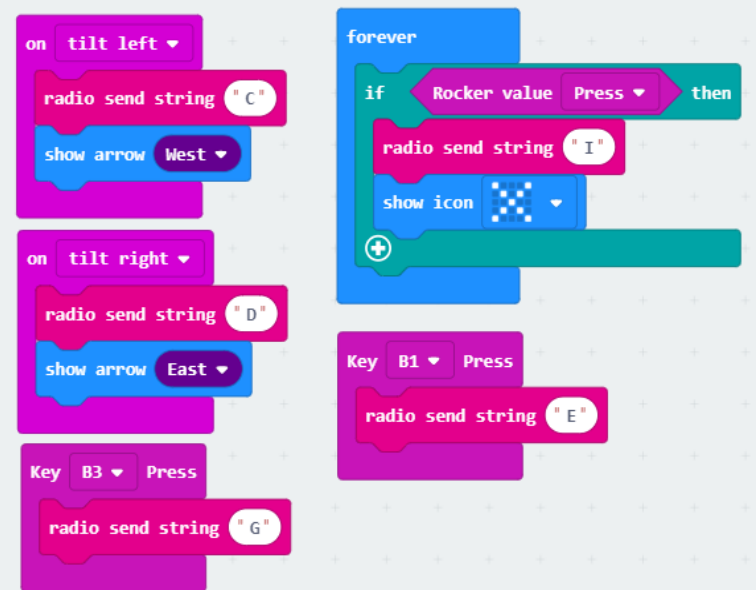






The summary program of handle gravity control is shown below.





5.Download code

First, we need to download the **microbit-Tiny-bit-code.hex** to the **micro:bit board on the Tiny-bit robot car.**

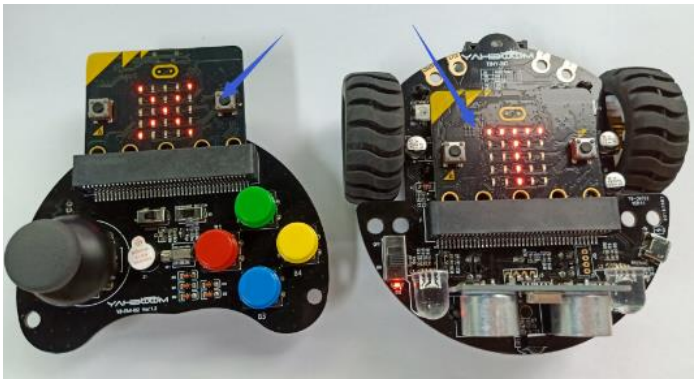
Then, we need to download the handle control program (**microbit-Handle_rocker_control.hex/microbit-Handle-gravity-control.hex**) to the **micro:bit board on the handle.**

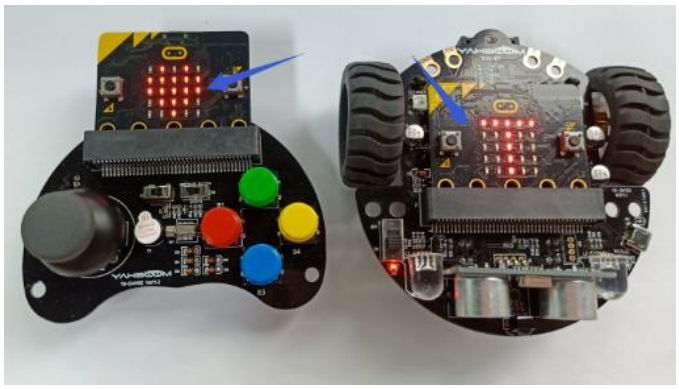
6.Experimental phenomena

After the download is complete, open the power of the car. We can see that the microbit dot matix display a “T” pattern.

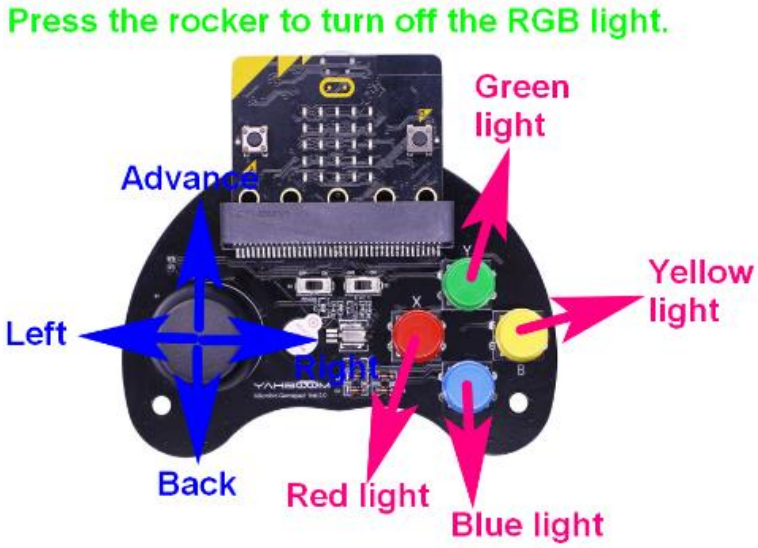
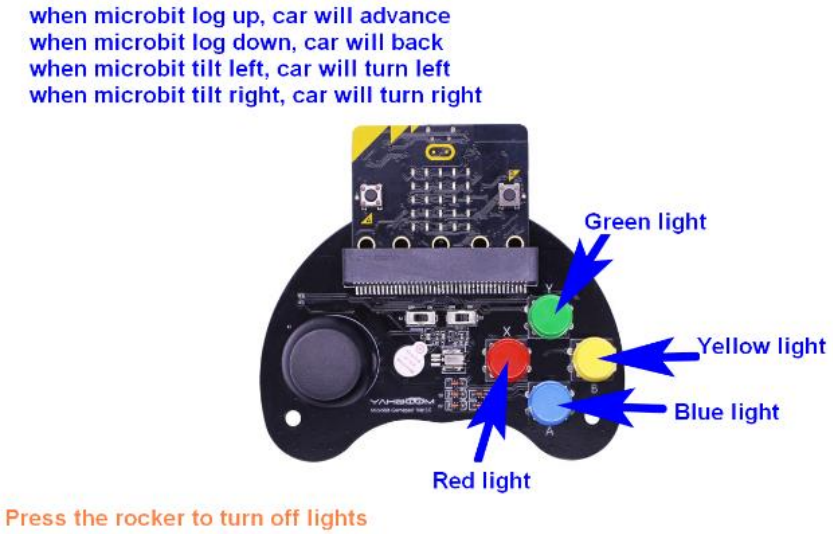
Open the power of the handle. We can see a heart pattern on the handle and then display an “X”, as shown below.

Next, we can control robot car by handle.





The corresponding function of the rocker control is as shown below.



The corresponding function of the gravity control is as shown below.