7.1 IR Control

IR-control-V1.5.hex

http://www.yahboom.net/xiazai/Tiny_bit/7.Interacting%20with%20Tiny%20bit/IR-control-V1.5.hex

IR-control-V2.hex

http://www.yahboom.net/xiazai/Tiny_bit/7.Interacting%20with%20Tiny%20bit/IR-control-V2.hex

Note:
1) This experiment needs to be done indoors to reduce the interference of sunlight on the infrared receiver.
2) Before using the infrared remote control, you need to remove the plastic piece at the rear of the remote controller.
3) During use, the infrared remote controller needs to point to the infrared receiver head directly in front of the car.

Please don't import the IR-control-v1.hex or IR-control-v2.hex to MakeCode programming interface, you need directly download the hex file into Micro:bit board.
Once you open IR-control-v1.hex or IR-control-v2.hex, save them into computer or download them into Micro:bit board, it will not work properly.

The reason for this problem is that some library files in the official MakeCode firmware of Micro:bit cannot use infrared normally. We have contacted the official technical support and they are working hard to solve this problem normally.

1.Preparation

1-1.The position of the Infrared receiver motor on the robot car

1-2.Learn how to use infrared remote controller

As shown on the left figure, the infrared receiver on the robot circled by the red wire frame.

As shown on the right figure, infrared remote controller.
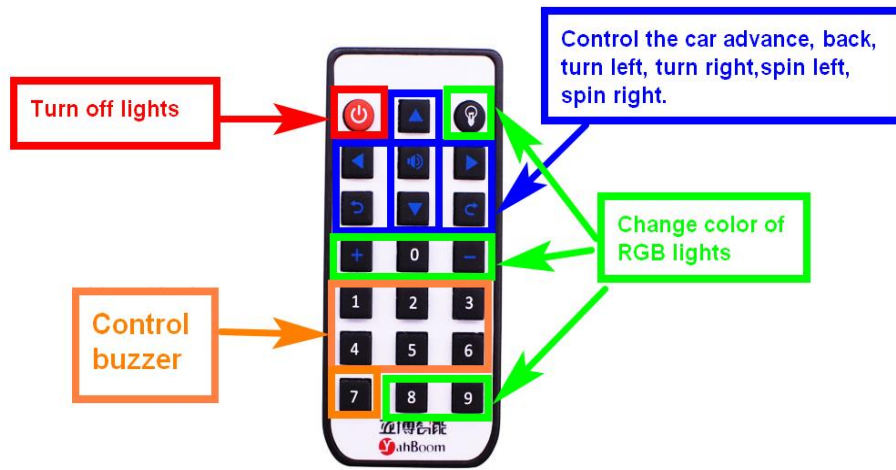

Programming method:

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/Tinybit_IR 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/Tinybit_IR you can programming.
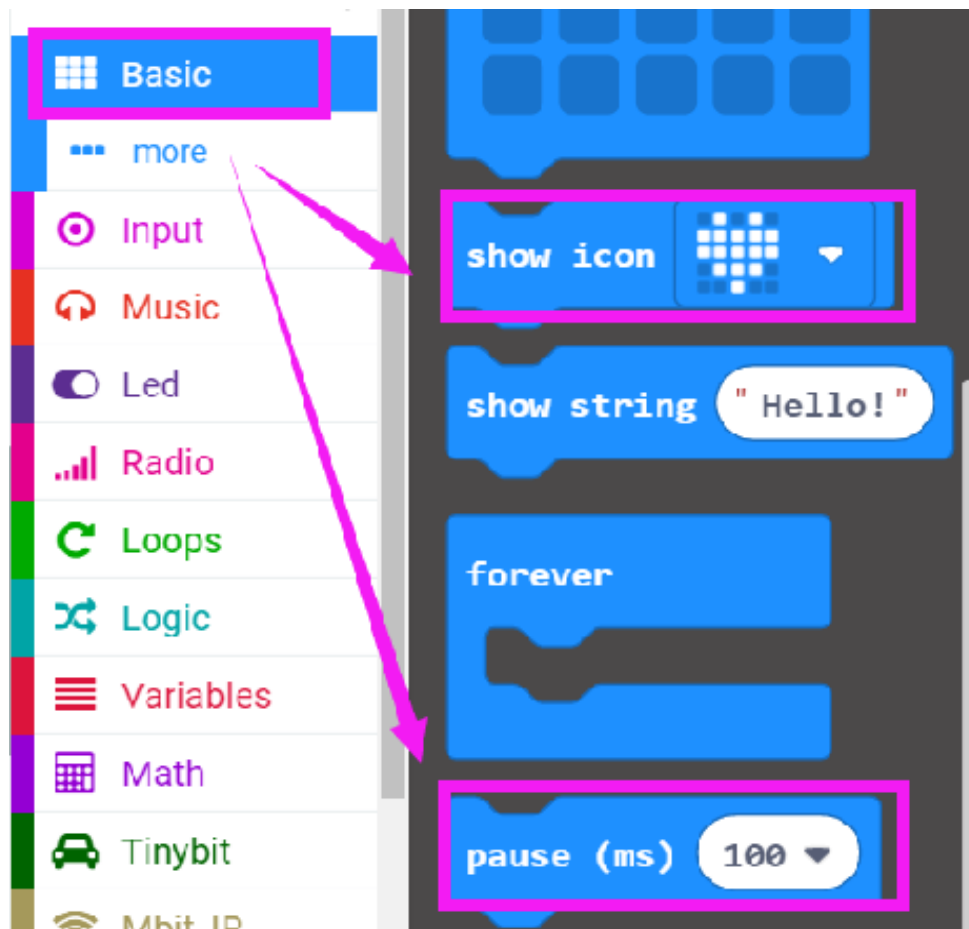
2.Learning goal

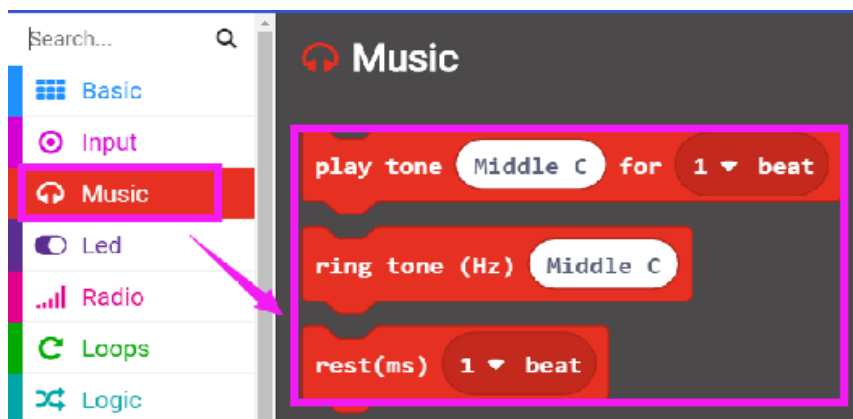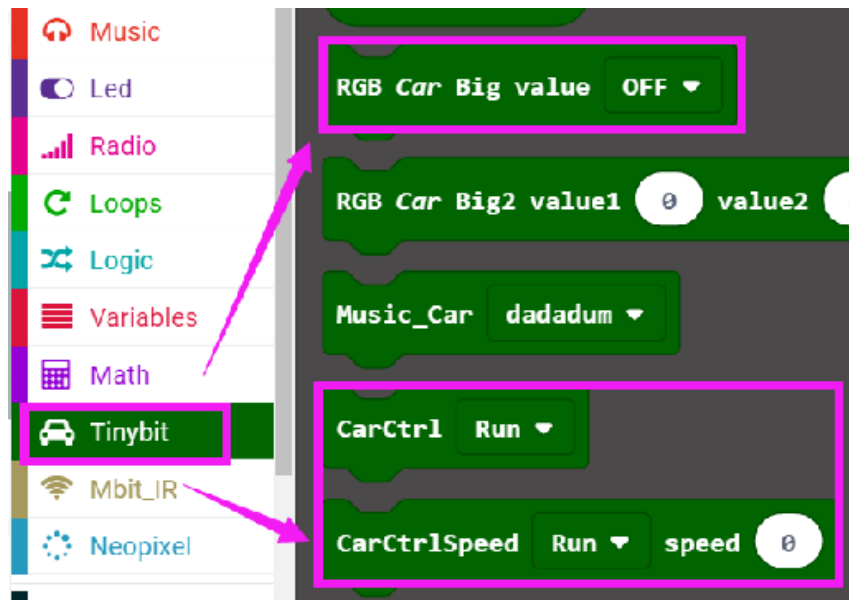2-1. Learn about using infrared remote control graphically programming blocks

2-2. The following functions are controlled by the infrared remote controller.

Turn off lights

Control the car advance, back, turn left, turn right, spin left, spin right.

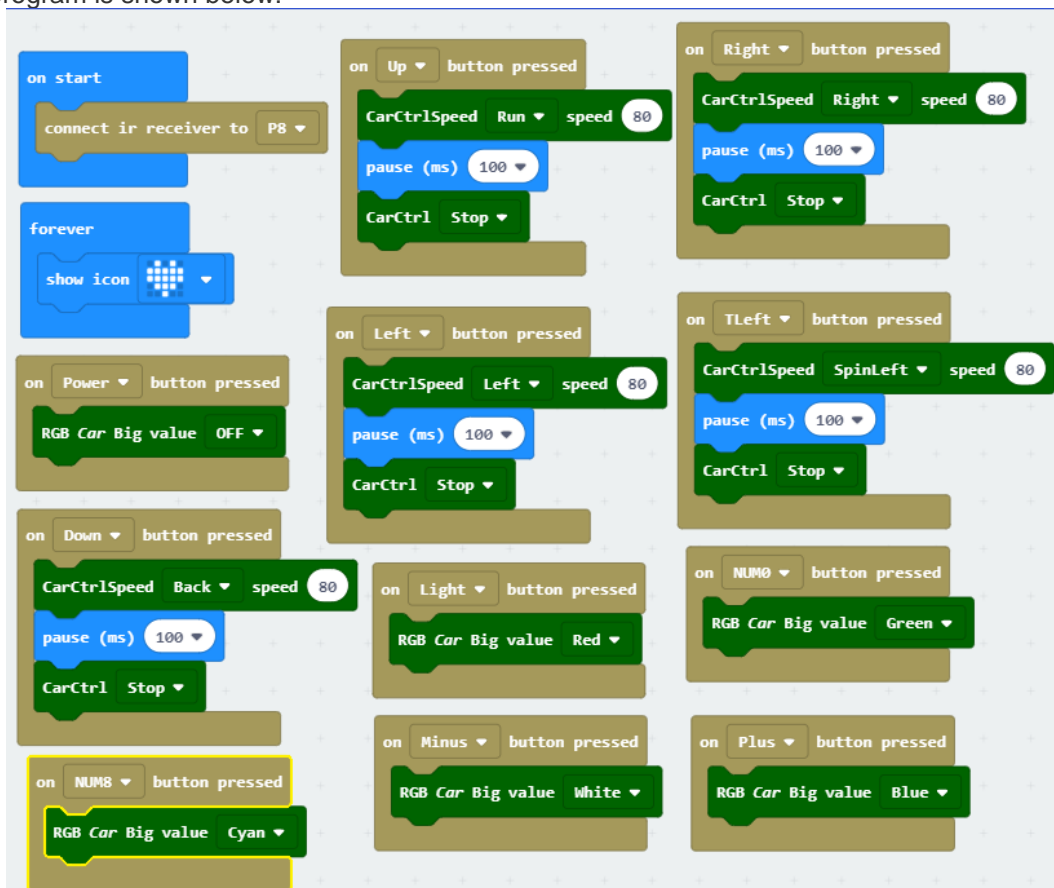**Change color of RGB lights**

Control buzzer

3.Search for block

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

4.Combine block

The summary program is shown below:

on BEEP button pressed
ring tone (Hz) High B
pause (ms) 400
rest(ms) 1/16 beat

on TRight button pressed
CarCtrlSpeed SpinRight speed 80
pause (ms) 100
CarCtrl Stop

on NUM5 button pressed
play tone Middle G for 1 beat

on NUM9 button pressed
RGB *Car* Big value Yellow

on NUM7 button pressed
play tone Middle B for 1 beat

on NUM4 button pressed
play tone Middle F for 1 beat

on NUM1 button pressed
play tone Middle C for 1 beat

on NUM2 button pressed
play tone Middle D for 1 beat

on NUM3 button pressed
play tone Middle E for 1 beat

on NUM6 button pressed
play tone Middle A for 1 beat

5.Experimental phenomena

After the program is downloaded, we can control the robot car by infrared remote controller.

The corresponding functions of the infrared remote control are shown in the figure below.