

# Remote control Magic wheel car

## Goal

In this lesson, we will learn to control the RGB lights, buzzer, motor and headlights of Magic wheel car with remote control.

## Programming method

(1) online programming: connect micro:bi with the computer through the USB cable, open my computer, find the MICROBIT memory disk and open it, double-click ICROBIT.HTM, and open the browser programming page. After creating a new project, click advanced, click expand, enter the extension package address <https://github.com/emakefun/pxt-magicbit.git> and press enter or search, add the Microbit extension package, you can start programming remote control Magic wheel car

(2) offline programming: open the offline programming software, enter the programming interface, create a new project, click advanced, click expand, enter the address <https://github.com/emakefun/pxt-magicbit.git> of the extension package, press enter or search, add the Microbit extension package, and then you can start programming remote control Magic wheel car

## Principle of remote control

Each key of the remote control corresponds to an infrared code. If the button of the remote control A is pressed, the infrared receiver will receive the infrared code of the key A. At this time, the motherboard will make corresponding actions after judgment.

## Block programming

- 1 Location of building blocks required

Search...

- Basic
- Input
- Music**
- Le 1
- Radio
- Loops
- Logic
- Variables
- Math
- IrRemote

**Music**

play tone Middle C for 1 beat

ring tone (Hz) Middle C

rest(ms) 1 beat

start melody dadadum repeating once

music on melody note played

- Loops
- Logic
- Variables
- Math
- IrRemote
- Magicbit**
- Neopix 1
- Advanced
- Functions
- Arrays
- Text

Stepper 28BYJ-48 STPM2 degree 0

Stepper 28BYJ-48 STPM2 turn 1/4

Dual Stepper(Degree) STPM1 0 STPM2 0

Car Forward Distance(cm) 10 Wheel Diameter(mm) 48

Car Turn Degree 90 Wheel Diameter(mm) 48 Track(mm) 125

Motor M3 speed 0

- Math
- IrRemote
- Magicbit**
- Neopix 1
- Advanced

Motor M3 speed 150 delay 1 s

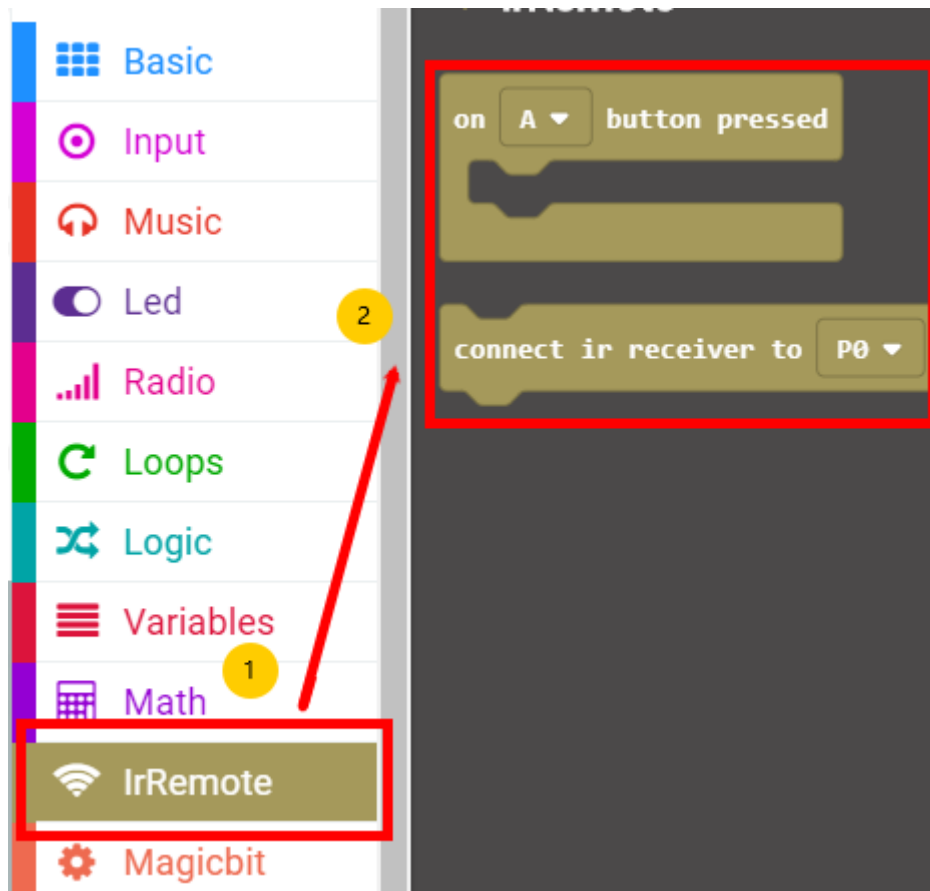
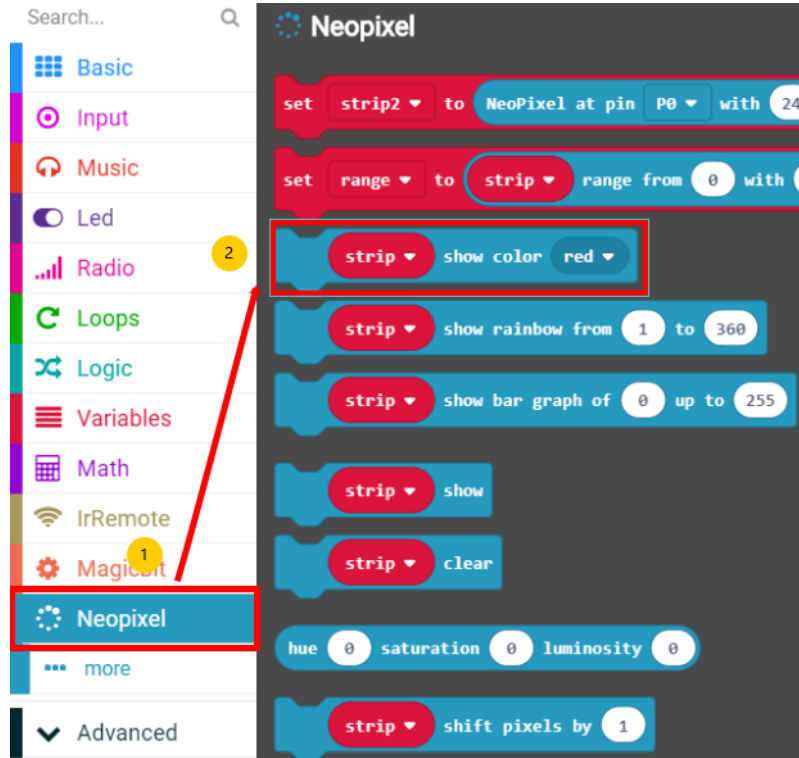
Motor Stop M3

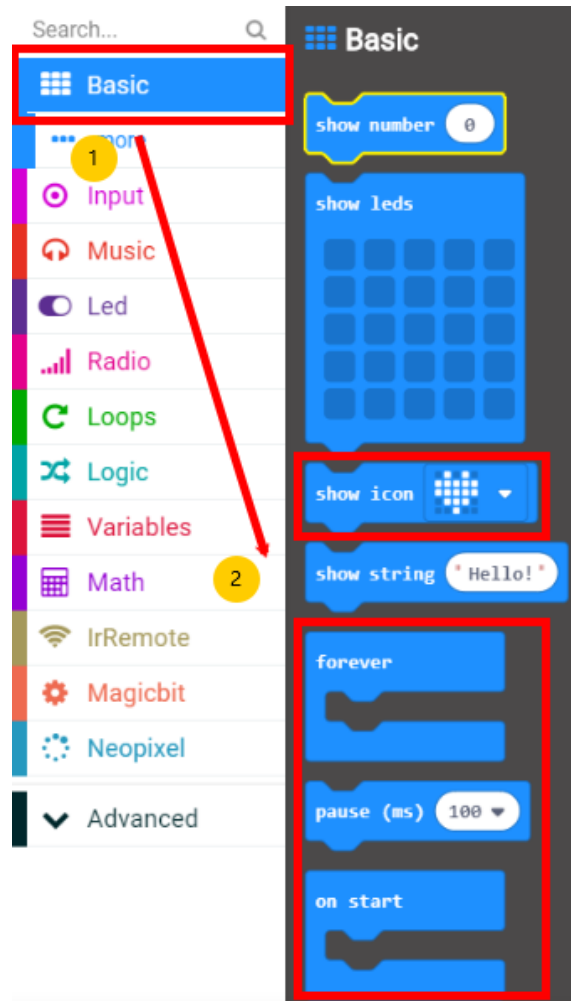
Motor Stop All

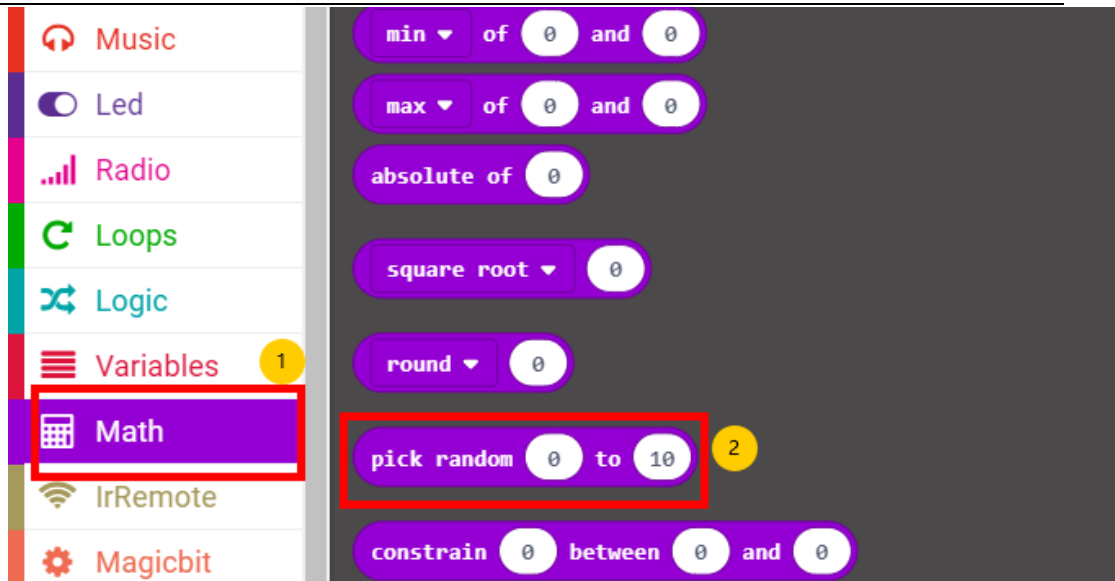
Read RgbUltrasonic Distance pin P0 cm

RgbUltrasonic left show color red effect none

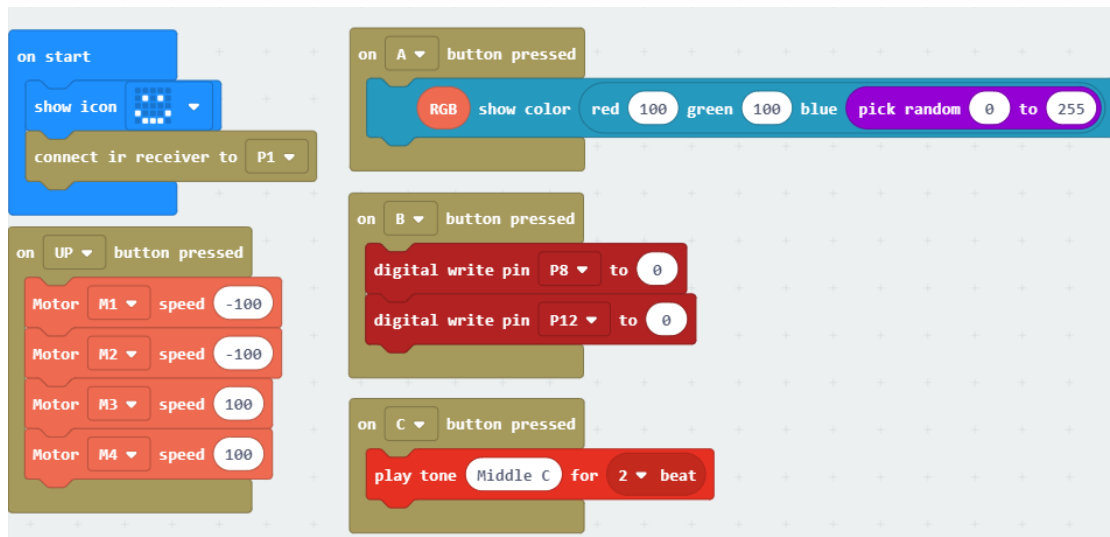
RGB







1、 Final program building block combination



## Wiring

### 1. Motor connection;

The motor of the car's left front wheel is connected to the extension plate M3 interface  
The motor of the car's left rear wheel is connected to the extension plate M4 interface  
The motor of the car's right front wheel is connected to the extended version M2 interface  
The motor of the right rear wheel of the car is connected to the expanded M1 interface

### 2. Wiring of car headlights;

The two front lights of the car are connected to the 3.3v red pins of the extension board, and the black lights are connected to the blue IO port P8 and P12 pins of the extension board

## The experimental results

After downloading the program to the microbit motherboard of the Magic wheel car, open the main switch of the expansion board. The microbit displays a smiley face. When the button up is pressed, the car will advance. When the button OK is pressed, the car will stop; When the key A is pressed, the car RGB will display different colors; When button B is pressed, the car headlights will be lit; When the key C is pressed, the car will play the note of C.