

Scratch course ---15.IR control

Note:

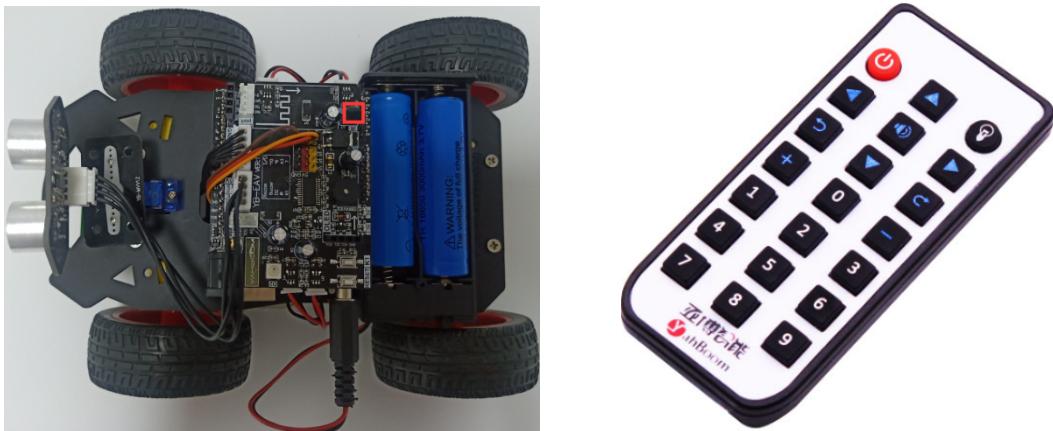
1. In order to avoid the interference of sunlight on infrared sensor, we need to carry out this experiment indoors.
2. During remote control, the infrared remote control needs to face the infrared receiver on the expansion board.

1. Learning goal

In this lesson, we will learn how to control the car by infrared controller.

2. Preparation

2.1 The position of the infrared receiver on the robot car. As shown below.

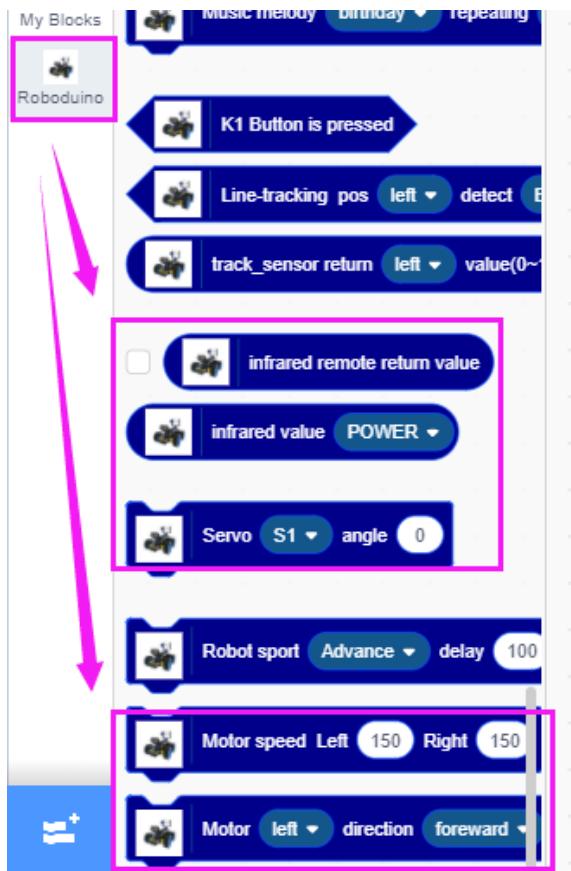


2.2 Learn how to use infrared remote return value graphically program building blocks.

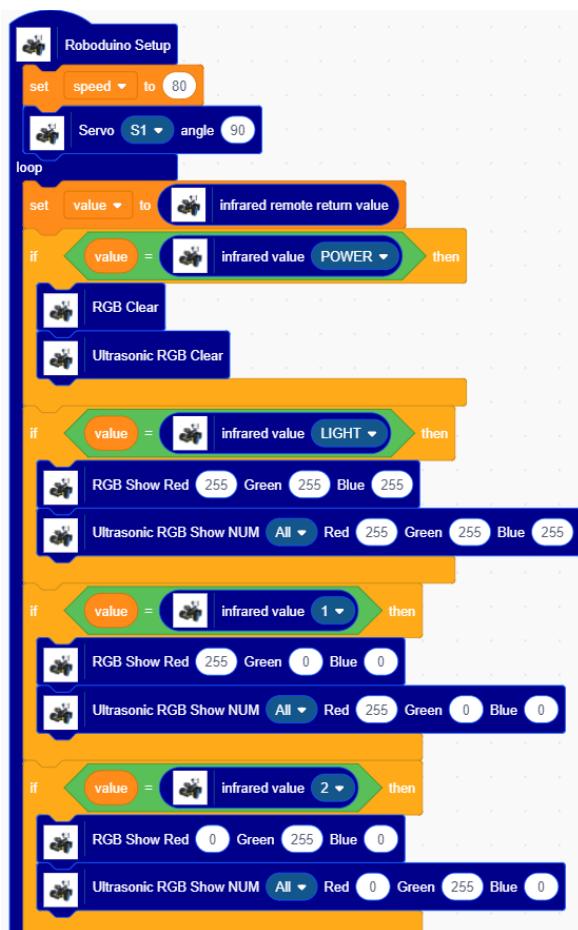
3. Search for blocks

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





4. Combine blocks



```

if <value> = [infrared value] UP then
    [RGB Show Red] 0 Green 0 Blue 255
    [Ultrasonic RGB Show NUM] All ▾ Red 0 Green 0 Blue 255
if <value> = [infrared value] 4 then
    [RGB Show Red] 255 Green 255 Blue 0
    [Ultrasonic RGB Show NUM] All ▾ Red 255 Green 255 Blue 0
if <value> = [infrared value] 5 then
    [RGB Show Red] 255 Green 0 Blue 255
    [Ultrasonic RGB Show NUM] All ▾ Red 255 Green 0 Blue 255
if <value> = [infrared value] 6 then
    [RGB Show Red] 0 Green 255 Blue 255
    [Ultrasonic RGB Show NUM] All ▾ Red 0 Green 255 Blue 255
if <value> = [infrared value] BEEP then
    [Buzzer Play Tone] D5 ▾ Beats 1/4

```

```

if <value> = [infrared value] UP then
    [Motor] left ▾ direction forward ▾ speed speed
    [Motor] right ▾ direction forward ▾ speed speed
    wait 0.1 seconds
    [Motor speed] Left 0 Right 0
if <value> = [infrared value] DOWN then
    [Motor] left ▾ direction reversal ▾ speed speed
    [Motor] right ▾ direction reversal ▾ speed speed
    wait 0.1 seconds
    [Motor speed] Left 0 Right 0
if <value> = [infrared value] LEFT then
    [Motor] left ▾ direction forward ▾ speed 0
    [Motor] right ▾ direction forward ▾ speed speed
    wait 0.1 seconds
    [Motor speed] Left 0 Right 0

```

```

if <value> = [infrared value] RIGHT then
    [Motor] left ▾ direction forward ▾ speed speed
    [Motor] right ▾ direction forward ▾ speed 0
    wait 0.1 seconds
    [Motor speed] Left 0 Right 0
if <value> = [infrared value] TLEFT then
    [Motor] left ▾ direction reversal ▾ speed speed
    [Motor] right ▾ direction forward ▾ speed speed
    wait 0.1 seconds
    [Motor speed] Left 0 Right 0
if <value> = [infrared value] TRIGHT then
    [Motor] left ▾ direction forward ▾ speed speed
    [Motor] right ▾ direction reversal ▾ speed speed
    wait 0.1 seconds
    [Motor speed] Left 0 Right 0

```

```

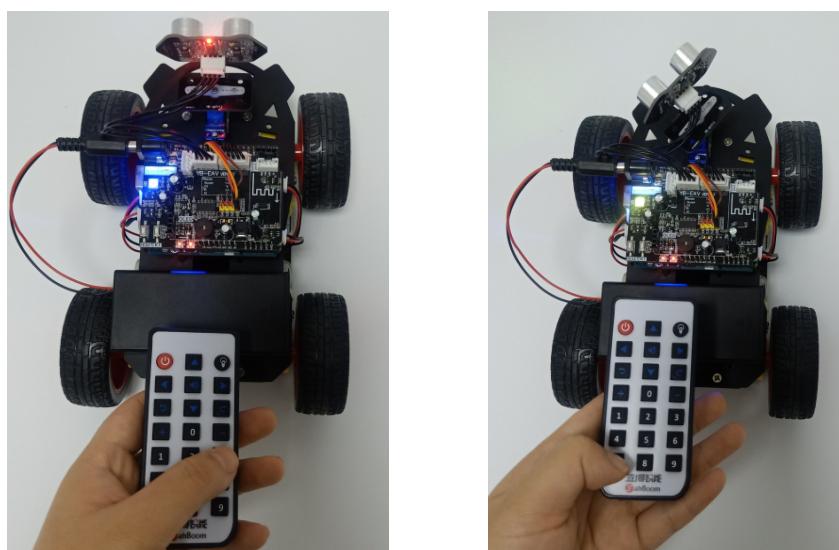
if <value> = [infrared value] ADD then
    change speed ▾ by 30
    if speed > 150 then
        set speed ▾ to 150
if <value> = [infrared value] REDUCE then
    change speed ▾ by -30
    if speed < 50 then
        set speed ▾ to 50
if <value> = [infrared value] 7 then
    [Servo] S1 ▾ angle 180
if <value> = [infrared value] 8 then
    [Servo] S1 ▾ angle 90
if <value> = [infrared value] 9 then
    [Servo] S1 ▾ angle 0

```



5. Experimental phenomena

After the program is downloaded, we can control robot car by infrared controller. As shown below.



The following functions are controlled by the infrared remote controller.

