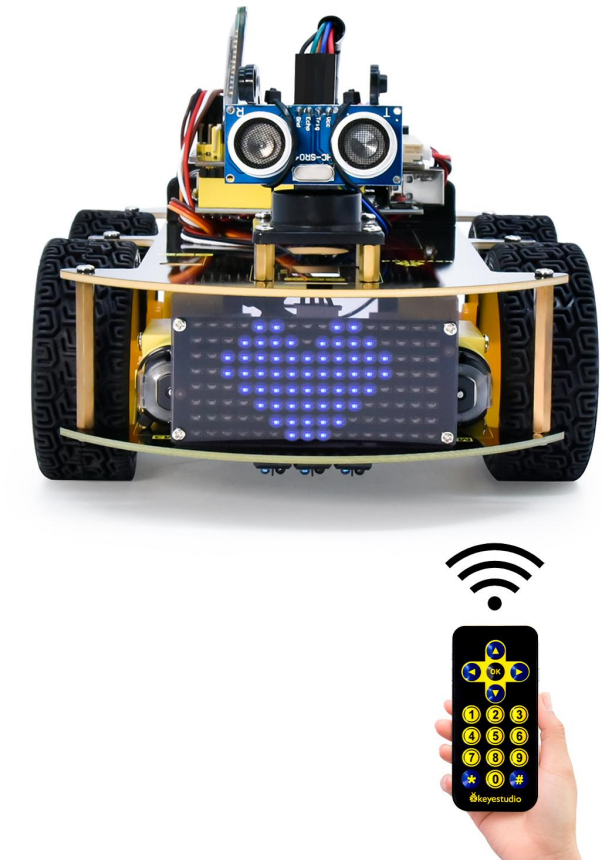
Project 14 IR Remote Control Smart Car



1.Description

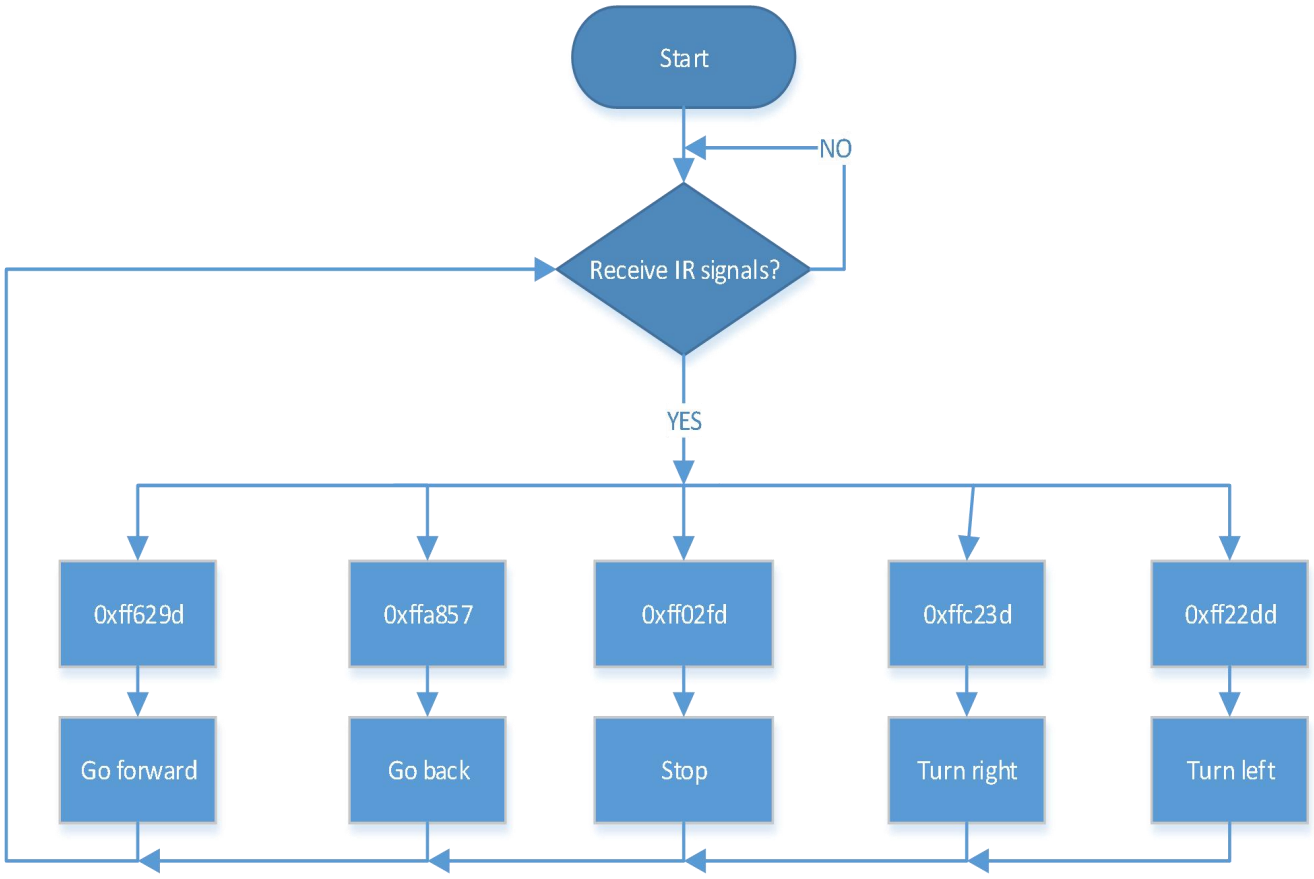
In this project, we will make an IR remote control smart car and press the button on the IR remote control to drive the car to move.

2.Flow Chart

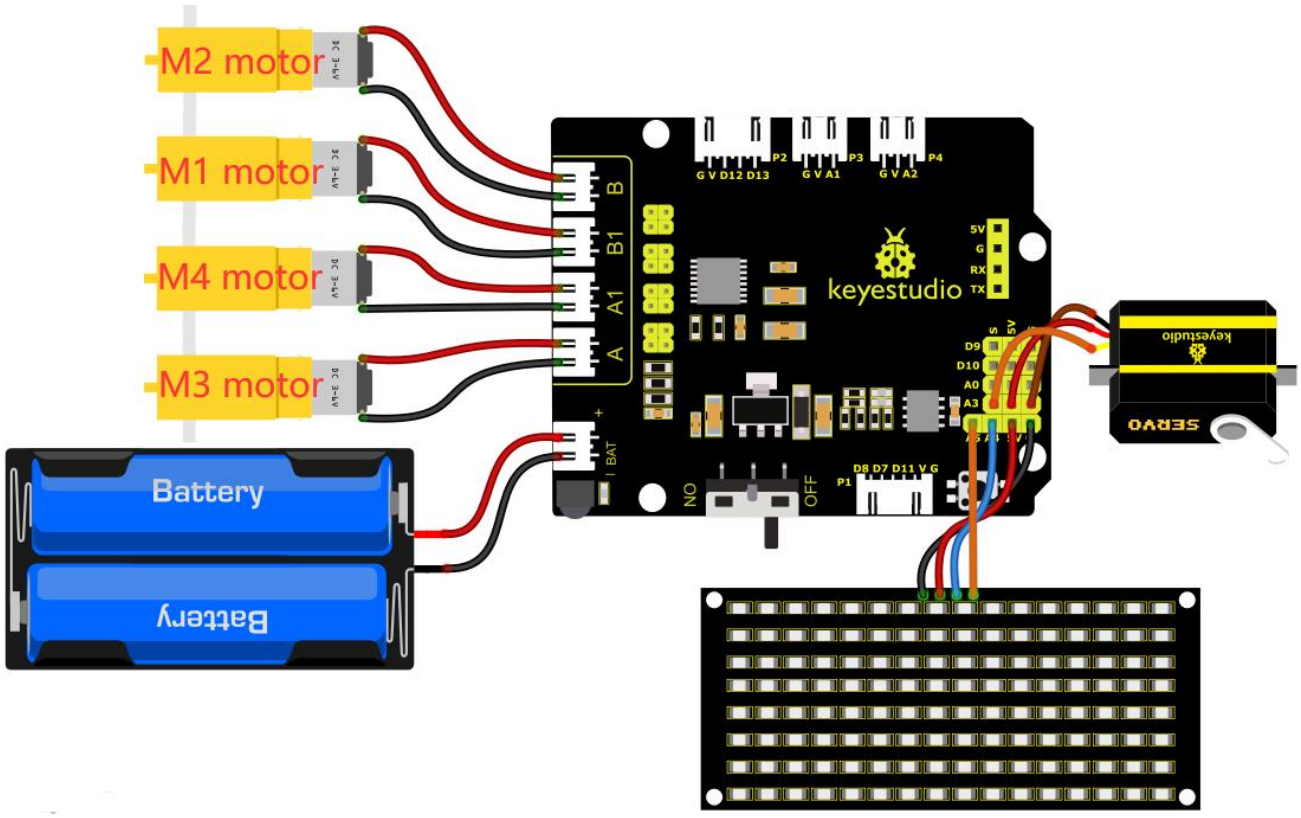
The specific logic of IR remote control smart car is shown below:

Initial setup	LED board displays smile face	
Remote control	Key value	Key state
	FF629D	Go front
		8*8 LED board shows front icon

	FFA857	Back
		8*8 LED board shows back icon
	FF22DD	Rotate to left
		8*8 LED board shows leftward icon
	FFC23D	Rotate to right
		8*8 LED board shows rightward icon
	FF02FD	Stop
		8*8 LED board shows “STOP”


Start
NO
Receive IR signals?
YES
0xff629d
0xffa857
0xff02fd
0xffc23d
0xff22dd
Go forward
Go back
Stop
Turn right
Turn left

3.Wiring Diagram



1. GND, VCC, SDA and SCL of the 8*8 LED board module are connected to G （GND), V （VCC), A4 and A5 of the expansion board.

2. As the IR receiver is integrated on the 8833 motor driver expansion board, there is no need for additional wiring. The pins of the IR receiver on the 8833 board are G (GND), V (VCC) and D3 respectively.

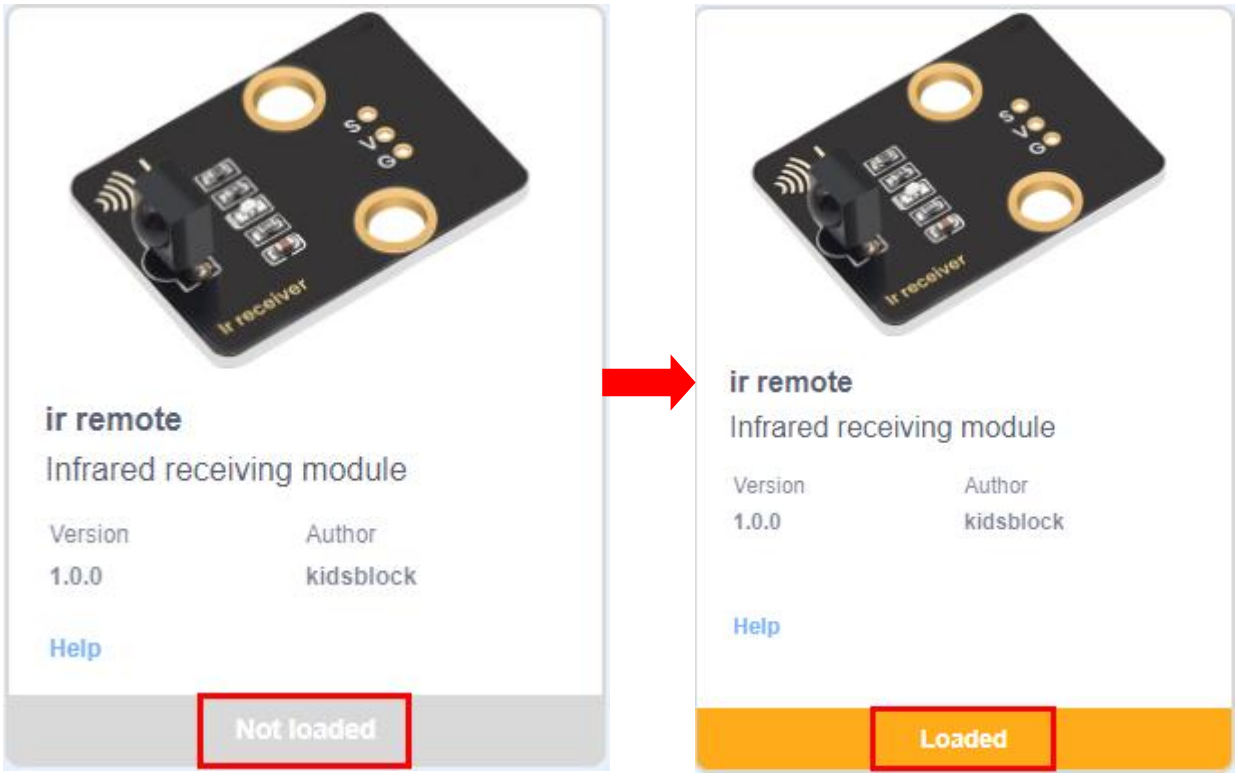
3. The servo is connected to G, V and A3. The brown wire is interfaced with Gnd(G), the red wire is interfaced with 5V(V) and the orange wire is interfaced with A3.

4. The power is connected to the BAT port

4.Test Code

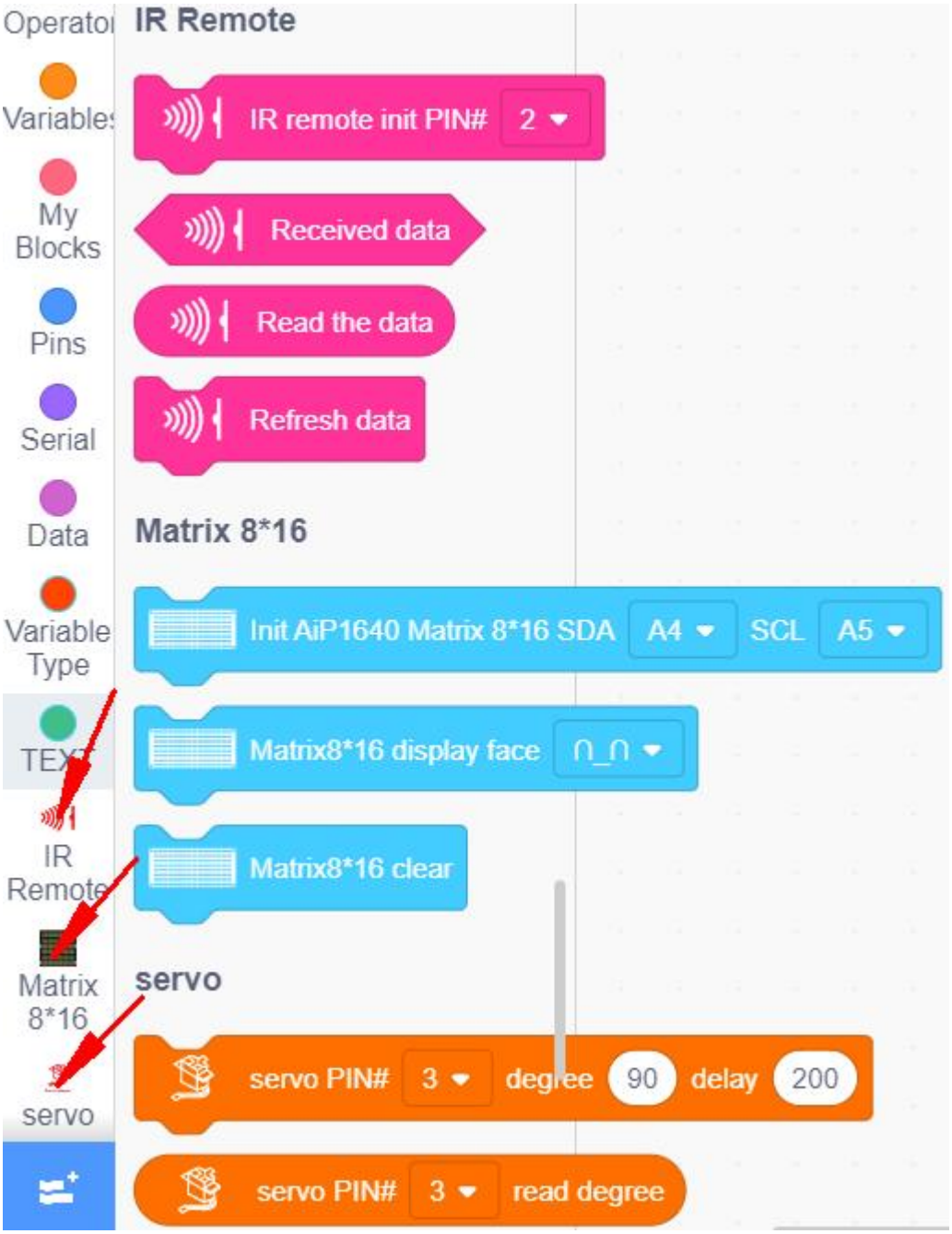
Before writing the code, it is necessary to import the library files of the ultrasonic sensor, 8x16 LED board and the servo. The specific steps are as follows:

Click  to enter the extension library interface of sensors/modules/components, then search for " ir remote " sensor  and click it. In this way, "Not loaded" changes to "loaded", indicating that the "ir remote" sensor was added successfully.



Click  to return to the code editor interface, the instruction block of the added "ir remote" sensor, "Matrix 8*16" module and "Servo"

component can be seen in the module area.



You can drag blocks to edit. Blocks listed below are for your reference

（1）


Events
Events
Control
when Arduino begin

（2）


Events
Control
Operator
Variables
My Blocks
forever
if
then

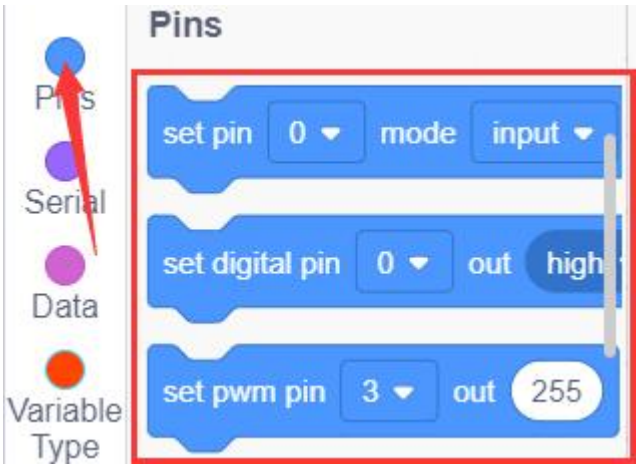
（3）


Operator
Variables
My
> 50
< 50
= 50

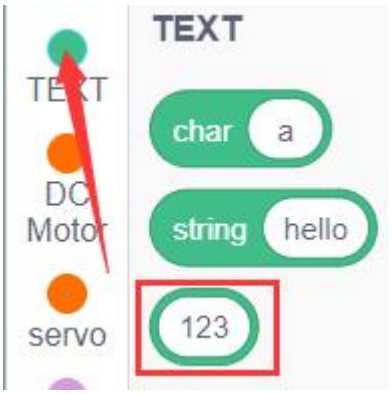
（4）


Serial
Serial
Data
Variable Type
serial begin baudrate 9600
serial print Hello KidsBlock

（5）


Pins
Pins
Serial
Data
Variable
Type
set pin 0 mode input
set digital pin 0 out high
set pwm pin 3 out 255

（6）


TEXT
TEXT
DC
Motor
servo
char a
string hello
123

（7）

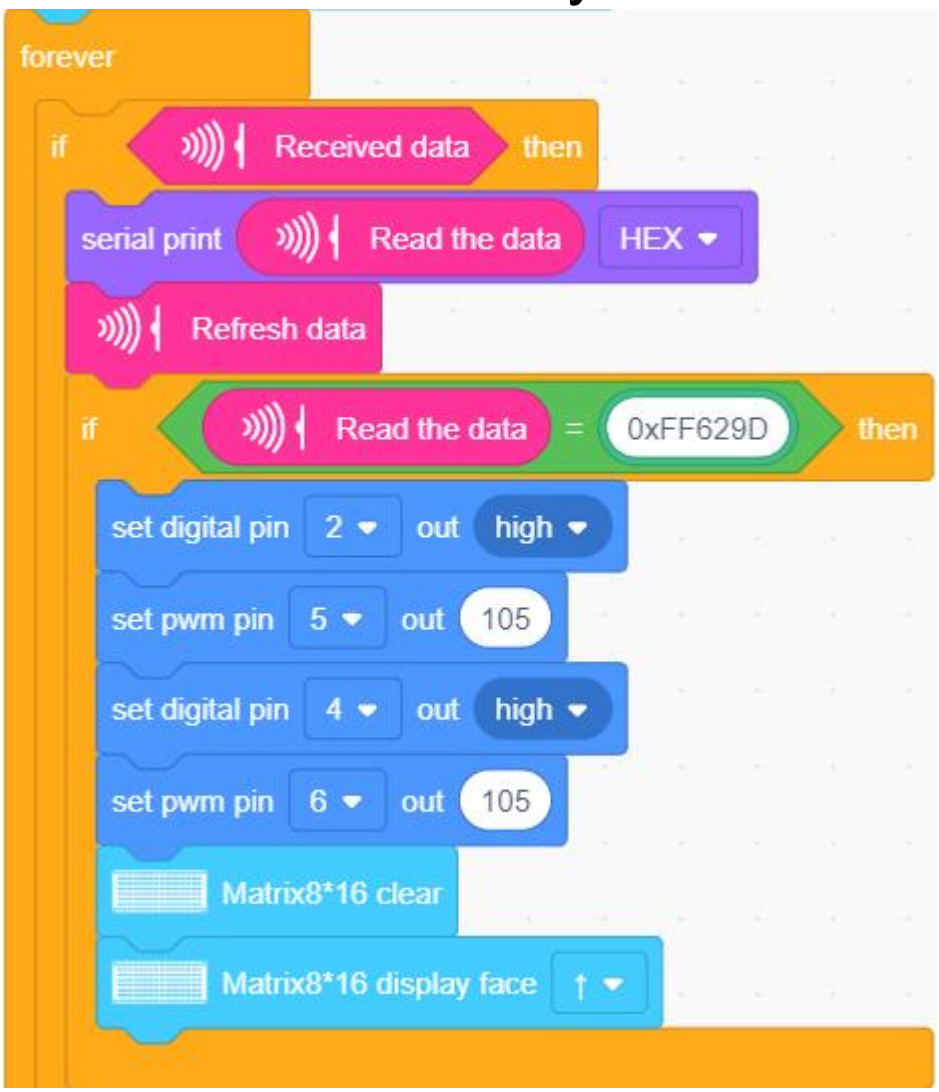

Matrix 8*16
Ultrason
servo
Matrix
8*16
Init AiP1640 Matrix 8*16 SDA A4 SCL A5
Matrix8*16 display face ∩_∩
Matrix8*16 clear

（8）

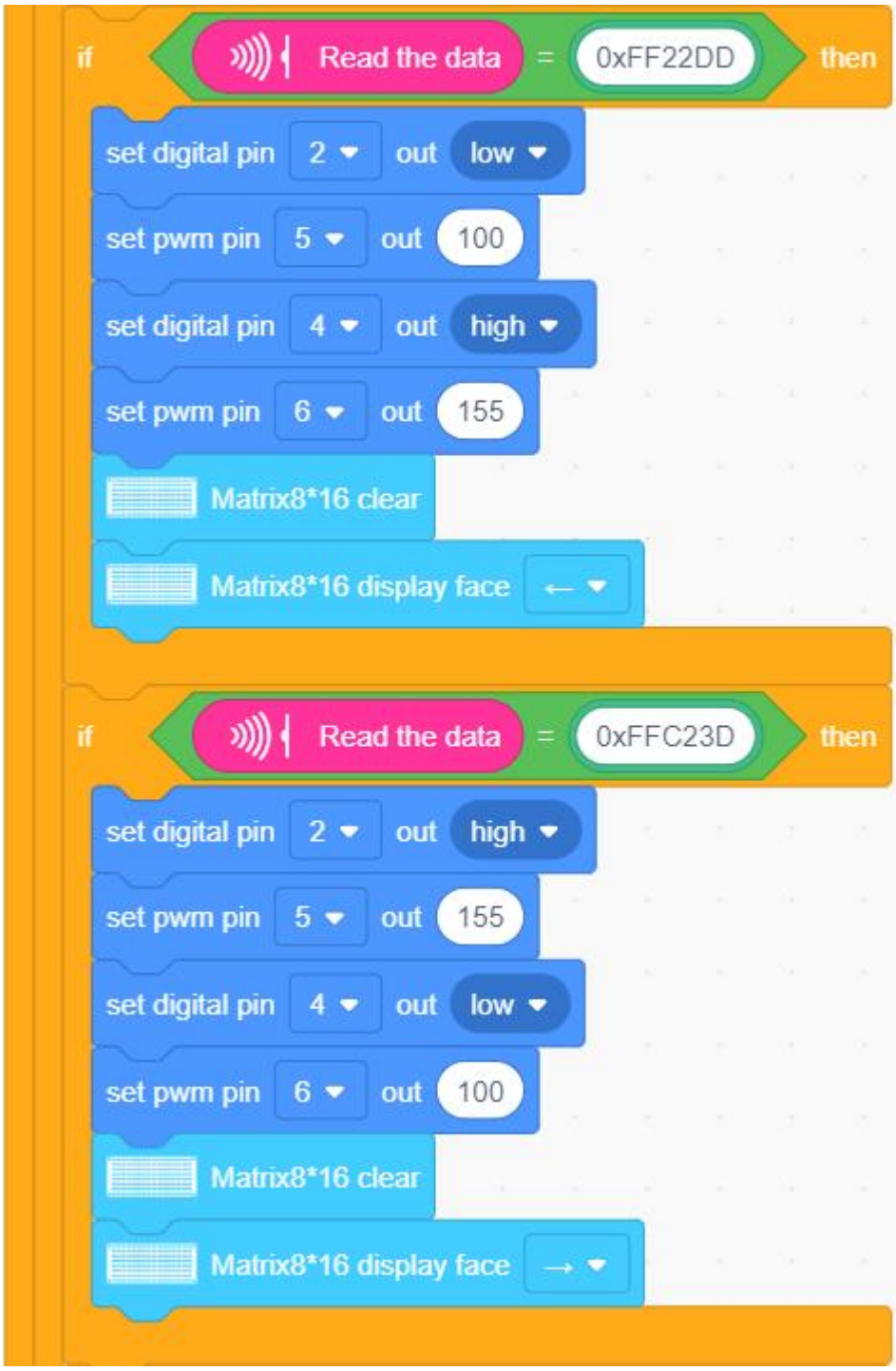


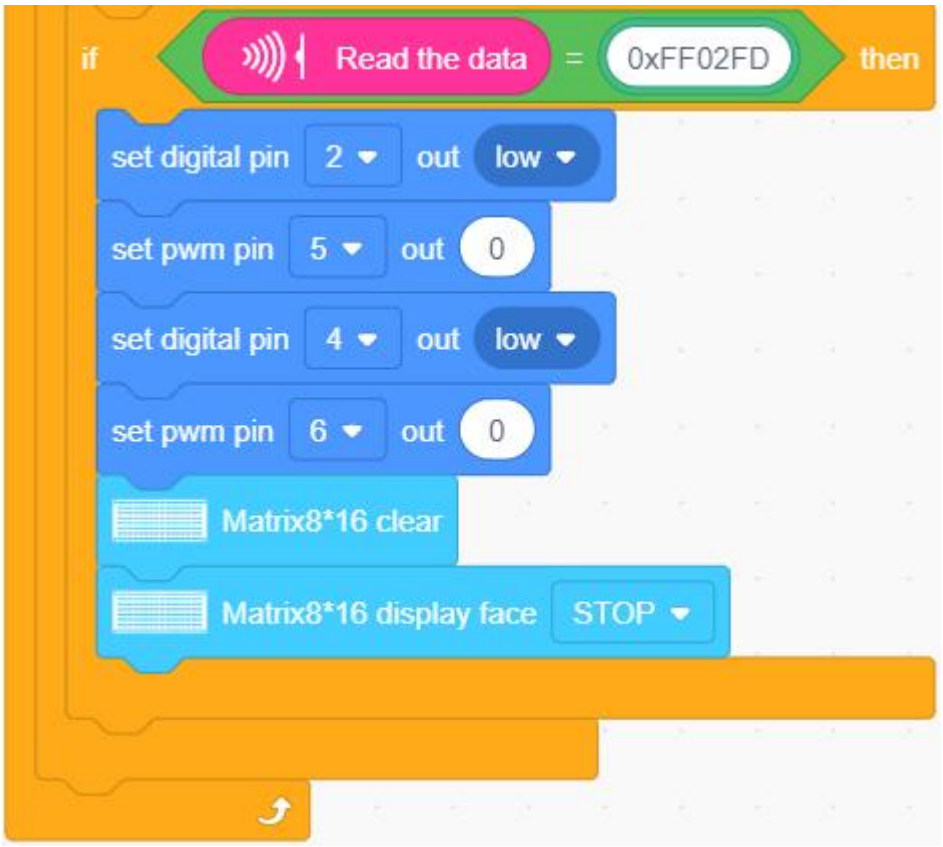
Complete Test Code




forever
if
Received data
then
serial print
Read the data
HEX
Refresh data
if
Read the data
=
0xFF629D
then
set digital pin
2
out
high
set pwm pin
5
out
105
set digital pin
4
out
high
set pwm pin
6
out
105
Matrix8*16 clear
Matrix8*16 display face
↑


if
Read the data
=
0xFFA857
then
set digital pin
2
out
low
set pwm pin
5
out
150
set digital pin
4
out
low
set pwm pin
6
out
150
Matrix8*16 clear
Matrix8*16 display face
↓


if
Read the data
=
0xFF22DD
then
set digital pin 2 out low
set pwm pin 5 out 100
set digital pin 4 out high
set pwm pin 6 out 155
Matrix8*16 clear
Matrix8*16 display face ←
if
Read the data
=
0xFFC23D
then
set digital pin 2 out high
set pwm pin 5 out 155
set digital pin 4 out low
set pwm pin 6 out 100
Matrix8*16 clear
Matrix8*16 display face →



5.Test Result

After successfully uploading the code to the V4.0 board, connect the wirings according to the wiring diagram, power on the external power then turn the DIP switch to ON. Then we enable to use the IR remote control drive the car to move to and the 8X16 LED board will display the corresponding status pattern.