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OSOYOO V2.1 Robot car kit Lesson 2: IR Remote Control Robot Car

Post Time: 2020-05-12 18:05:37   Category: V2.1 Robot car kit

NOTE: ALL OSOYOO PRODUCTS FOR ARDUINO ARE THIRD PARTY BOARD WHICH IS FULLY COMPATI ARDUINO

OSOYOO V2.1 Robot Car for Arduino Lesson 2 : IR Remote controlled

Authorized Online Retailers

Where to buy the set with 18650 batteriese and USB charger

Buy from OSOYOO	Buy from US	Buy from UK	Buy from DE	Buy from IT	Buy from FR	Buy from ES	
OSOYOO Store	BUY NOW	BUY NOW	BUY NOW	BUY NOW	BUY NOW	BUY NOW	

Buy the V2.1 Robot car without Battery and charger:

Buy from OSOYOO	Buy from US	Buy from UK	Buy from DE	Buy from IT	Buy from FR	Buy from ES	
OSOYOO Store	BUY NOW	BUY NOW	BUY NOW	BUY NOW	BUY NOW	BUY NOW	

- **Objective**
- **Parts and Devices**
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- **Testing**
- **Trouble Shooting**
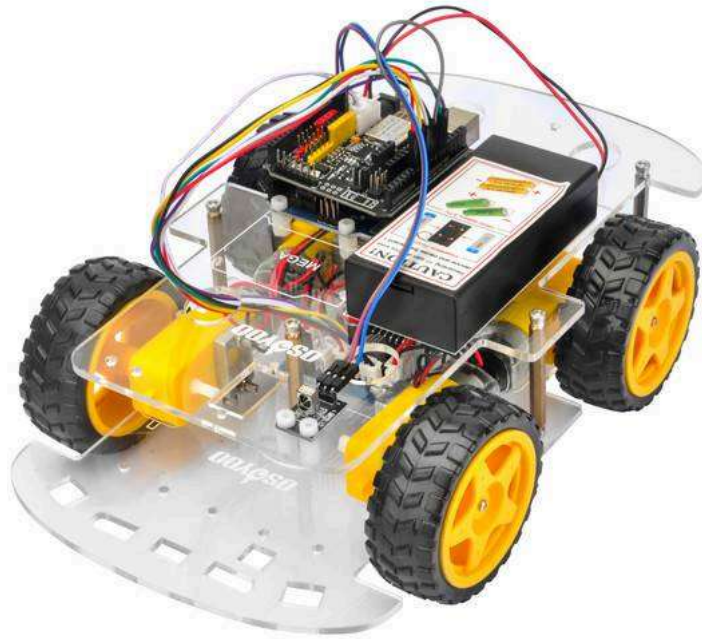
Objective:

In this tutorial, we will use Osoyoo Smart DIY kit to make a simple remote controlled smart car. Once the car installation is completed, we will use a Infrared Remote to control the car movements including go forward, go back, left turn and right t

Parts and Devices:

| No.	Picture	Device	Qty.	Accessories	Link
1		IR receiver	1	M3 Plastic Screw x 2 M3 Plastic Nut x 2 M3 Plastic Pillar x 2	Click here to buy
2		IR remote controller	1		Click here to buy
3		20Pin jumper wire Male to female 20cm	some		Click here to buy

| 4		Hex Screwdriver	1		Click here to buy
5		M3 plastic screw	2		
6		M3 plastic pillar	2		
7		M3 plastic nut	2		

Hardware Installation:

Step 1: Install the smart car basic frame work as per Smart Car Lesson 1 . If you have already completed installation in L just keep it as is.

Step 2: Add an IR receiver module onto the car. Install the IR receiver module with 2pcs M3 plastic screws, M3 plastic pi plastic nuts at the front of upper chassis.
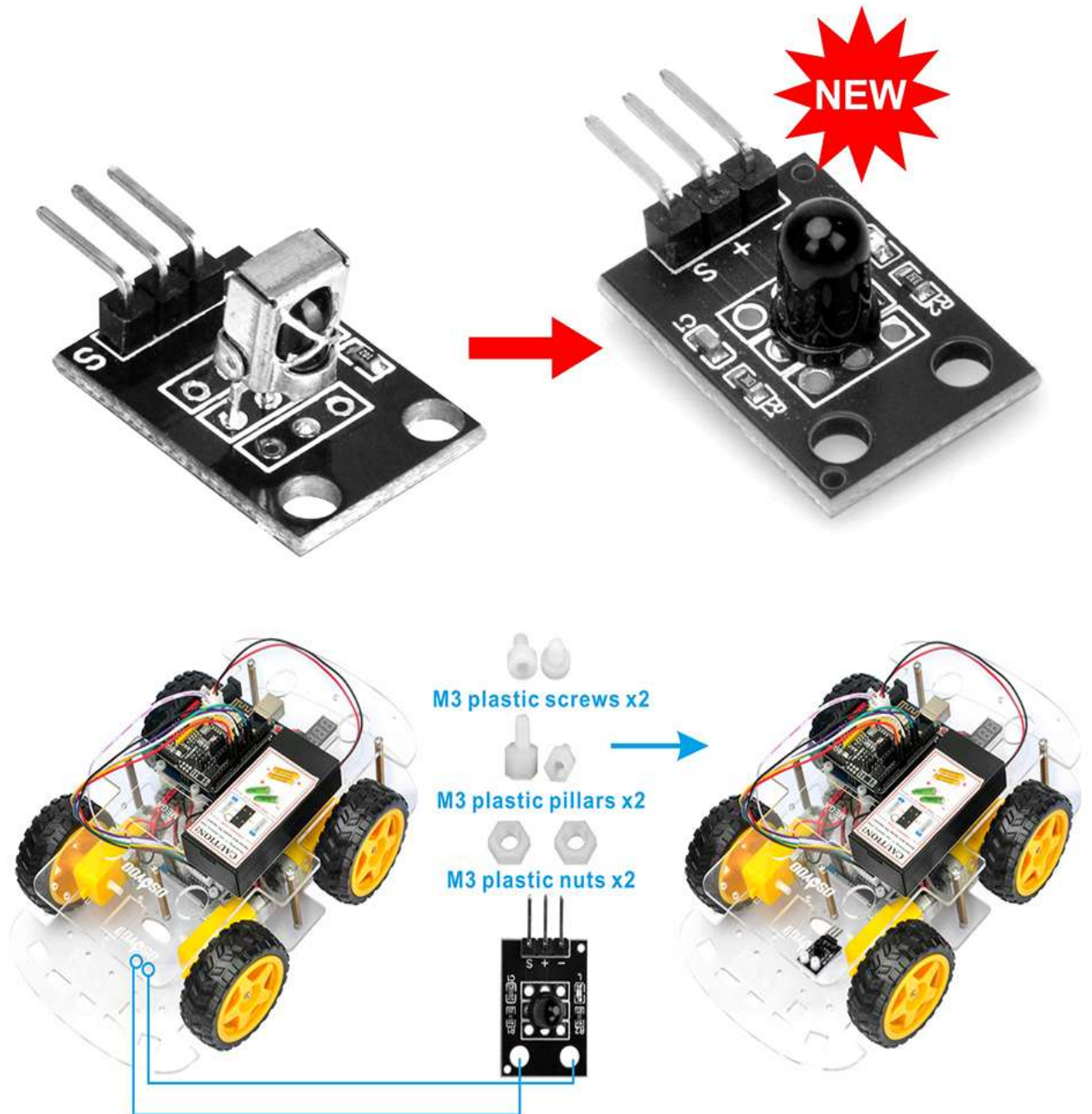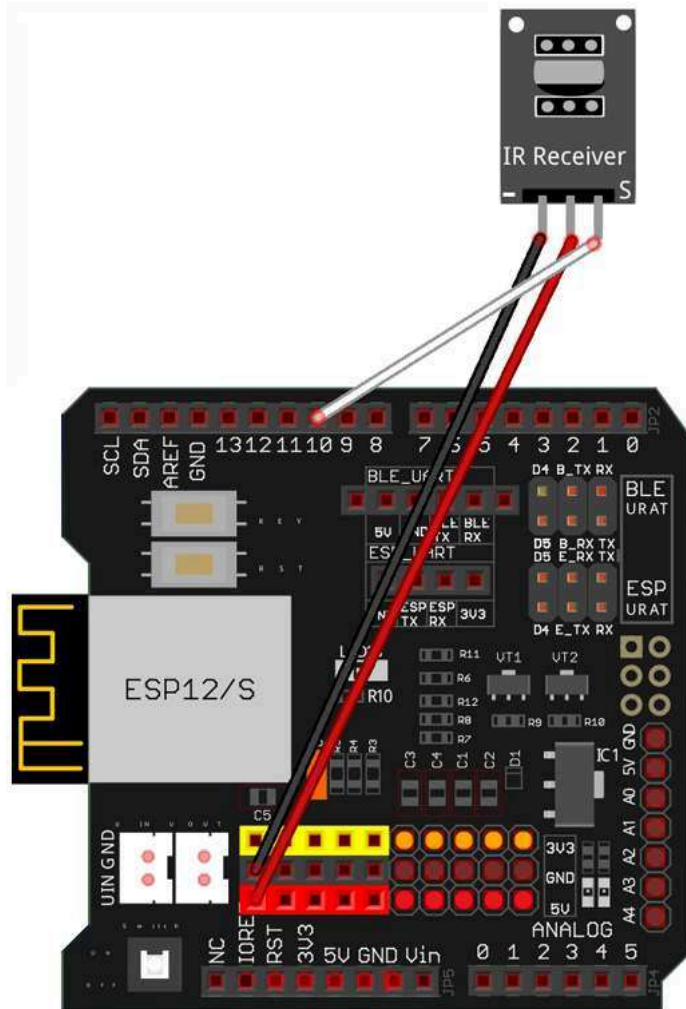
Step 3: Connect the S pin in IR receiver to D10 pin in your board, GND to GND, VCC to 5V, as the following photo (Rem NOT remove any existing wires installed in Lesson 1) :

OSOYOO Uart Wifi shield V1.3	IR Receiver
GND	—/GND
5V	VCC
D10	S

20pin = 17pin + 3pin
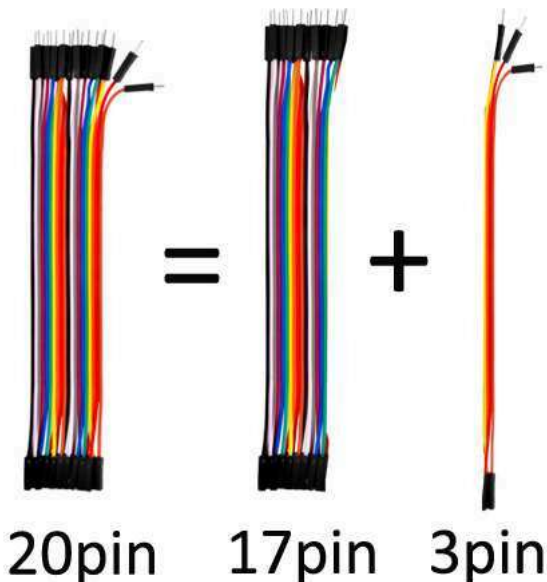
!!! Note:
Please separate 20pin jumper wires(male to female) to 17pin and 3pin which is used to connect IR receiver with UNO R3 board

Software Installation:

Open-source Arduino Software(IDE)		Download IDE here: https://www.arduino.cc/en/Main/Software?setlang=en
7 zip is a free zip utility that un-zips zip files		Download 7zip here for free https://www.7-zip.org/

Step 1: Install latest IDE (If you have IDE version after 1.1.16, please skip this step)
Download IDE from https://www.arduino.cc/en/Main/Software?setlang=en , then install the software.

Step 2: Install IRremote library into IDE (If you have already installed IRremote library, please skip this step)
Download IRremote library from https://downloads.arduino.cc/libraries/github.com/z3t0/IRremote-4.3.1.zip, then import th into IDE
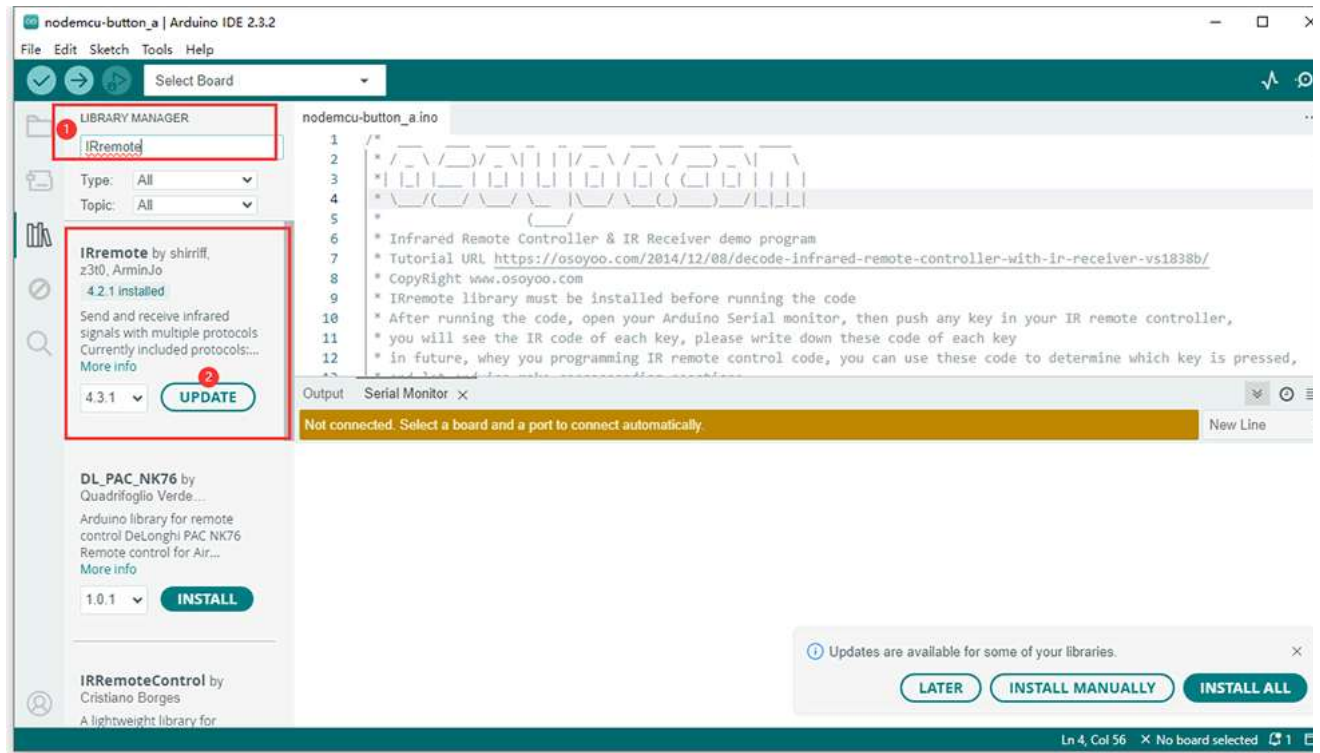
NOTE!!

1. If you have a late version of Arduino IDE with a library *IRRobotRemote*, it may conflict and you may have to remove library.Make sure to delete Arduino(root)/libraries/RobotIRremote. Where Arduino(root) refers to the install directory The library RobotIRremote has similar definitions to IRremote and causes errors.
2. Learn how to install an Arduino library on Arduino IDE, please visit https://osoyoo.com/2017/05/08/how-to-install-add arduino-libraries/

In the pop up window, go to your downloads folder, select the IRremote.zip file you downloaded just now.
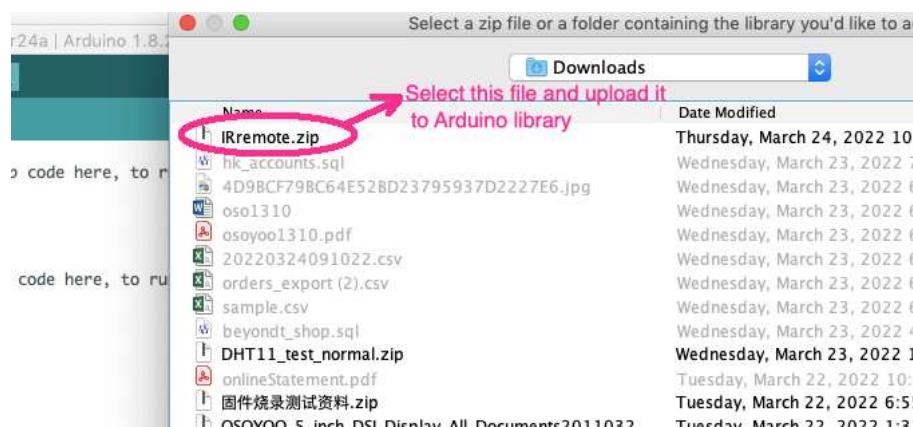
Step 3: Download Lesson 2 IRremote smart car sample code from https://osoyoo.com/driver/v2car-lesson2.zip and unzi download zip file smartcar-lesson2.zip, you will see a folder called smartcar-lesson2.

Step 4: Connect your board to PC with USB cable, Open IDE -> click file -> click Open -> choose code "smartcar-lesson smartcar-lesson2 folder, load the code into your board.
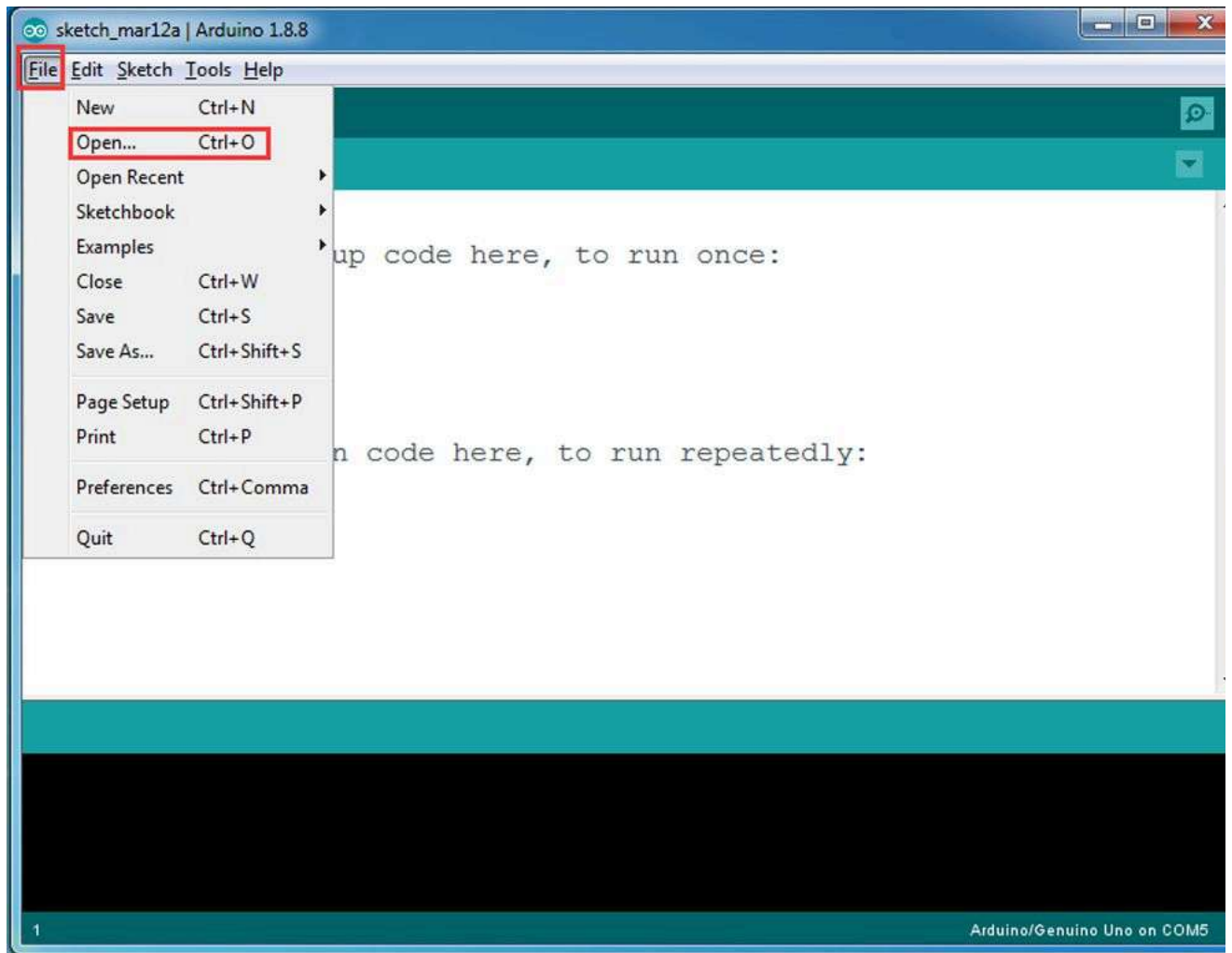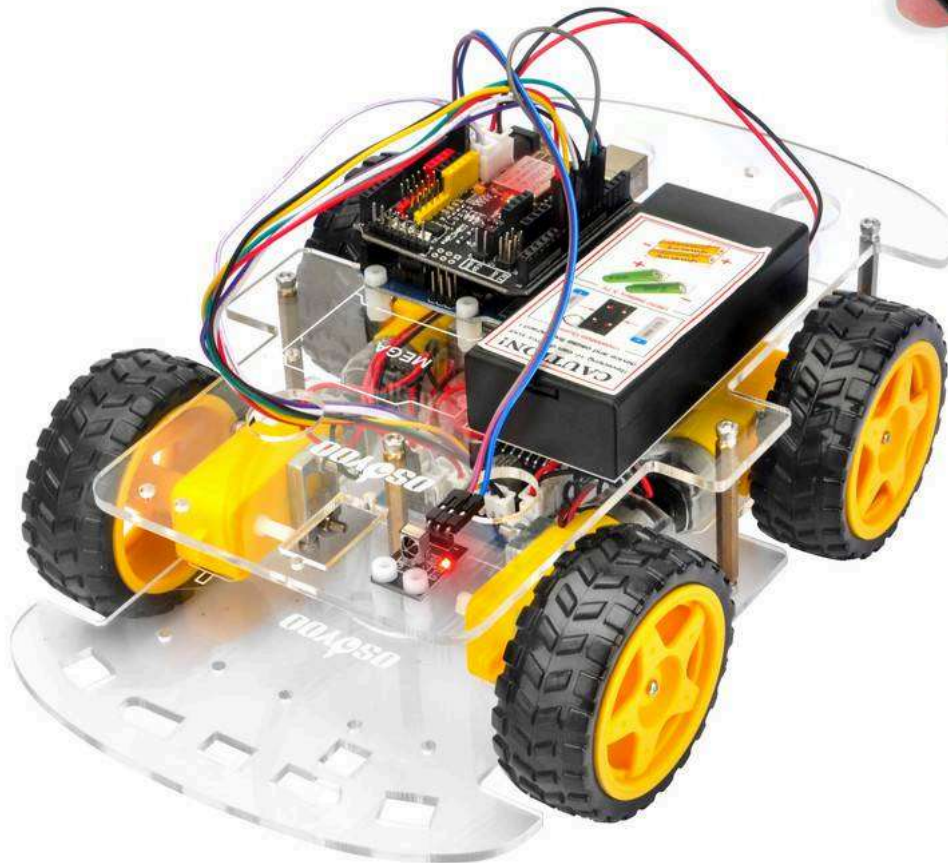
Step 5: Choose corresponding board and port for your project, upload the sketch to the board.
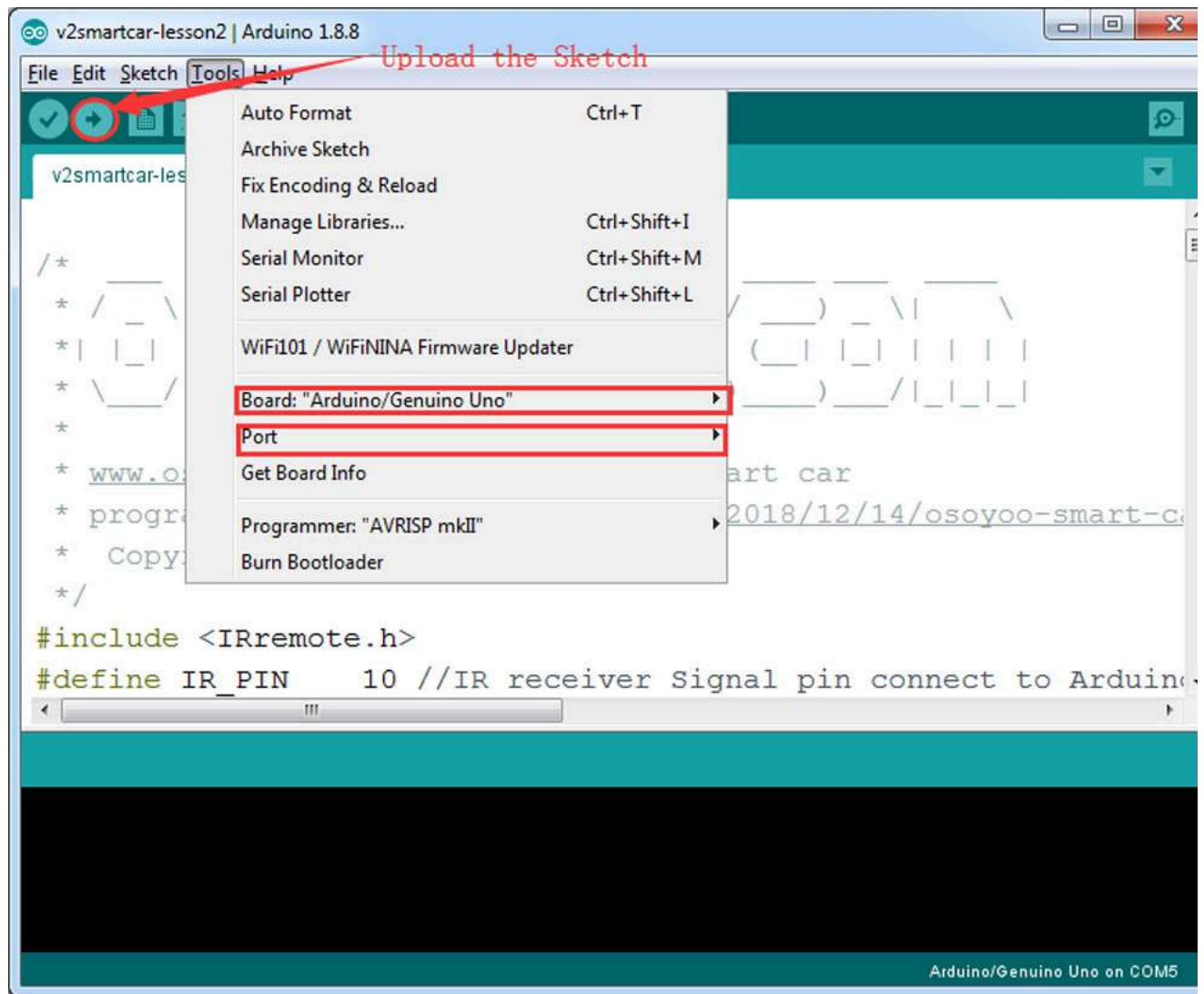
Testing:

Press IR controller keys to control the car movements as per following instruction table:

IR Remote Key	Car movement
▲	Go forward
▼	Go backward
◄	Turn left
►	Turn right

Note:

1) Please try to align the transmitter port of the IR remote control with the IR receiver head as the picture in the attachme

2) Please press remote control gently and at regular intervals
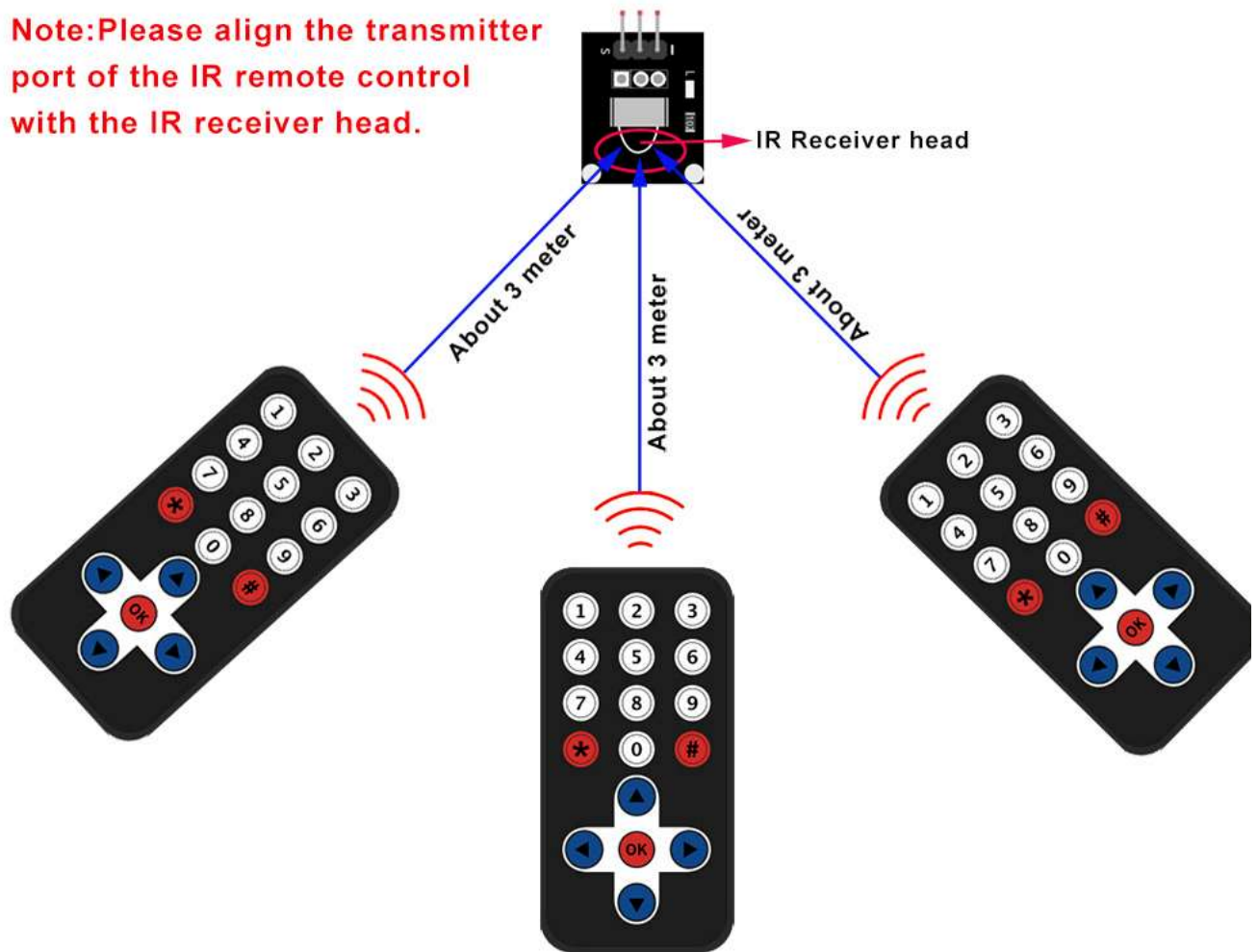
Trouble shooting:

Some user found that this IR remote does not work. The reason might be the IR remote sends different button code whic
match our sample code. In order to solve this problem. Please take following steps:

Step A) Get the IR code of each button in your IR remote.

https://osoyoo.com/download/driver/irdemo.zip

upload above sketch into your board and open the serial monitor in your upper-right corner.
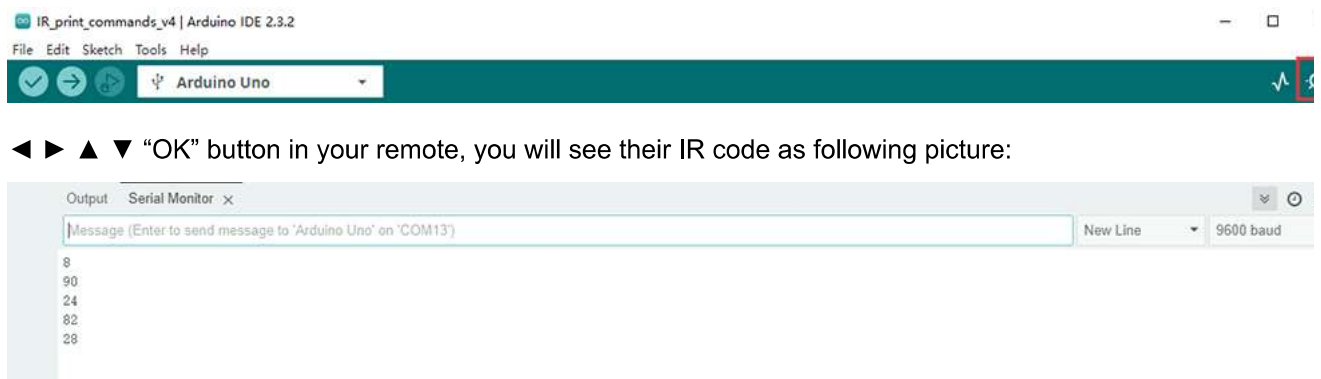
press the ◄ ► ▲ ▼ "OK" button in your remote, you will see their IR code as following picture:

Write down the IR code of your control buttons ◄ ► ▲ ▼ "OK" button,

STEP B)replace the IR code in lesson 2 sketch file:

Open your Lesson 2 code again, then you will see following lines define the IR CODE of each button:

#define IR_ADVANCE   24   //code from IR controller "▲" button

 #define IR_BACK   82   //code from IR controller "▼" button

```
#define IR_RIGHT          90      //code from IR controller ">" button
#define IR_LEFT           8      //code from IR controller "<" button
#define IR_STOP           28      //code from IR controller "OK" button
#define IR_turnsmallleft 13      //code from IR controller "#" button
```

Please change the value of each button in above lines to match the code from **Step A).** If you don't know how to change

Email to us and give us the code of each button from **Step A)**, I can help you to change the code and email new sketch f

Above method can also allow you to use other IR sending device (i.e TV remote, DVD remote, air conditioner remote etc)

the car. Just use Step A) to get the key code of your remote and change the sketch file in Step B), it will work.

Note:

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2) Please press remote control gently and at regular intervals
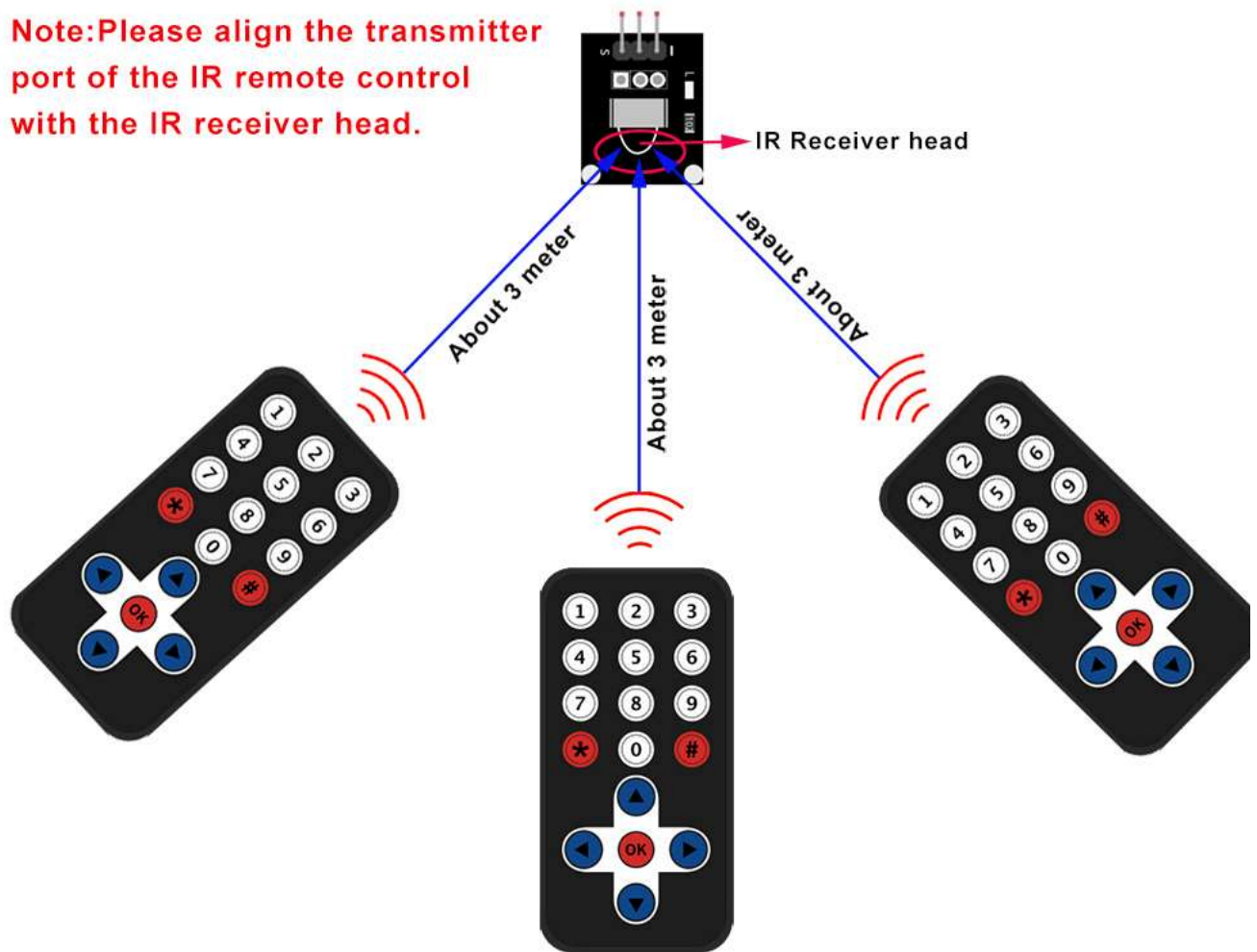
PREVIOUS LESSON   **ROBOT CAR V2 HOME**   **NEXT LESSON**

DownLoad Url :   osoyoo.com

15 Comments

James Robb says:
November 20, 2022 at 9:29 pm

Completed Lesson 1 with no problems.
Completed Lesson 2 but I have a problem. The IR controller does not work. I have used the troubleshooter
but got no results on the serial printer. Is there any other way to test the IR receiver and IR transmitter controller?

Log in to Reply

elaine says:
November 21, 2022 at 12:49 pm

Is there any error in the upload window?
Do you remove the plastic sheet in IR remote controller?

You can follow the tutorial to test IR receiver and IR transmitter controller:
https://osoyoo.com/2018/08/29/ir-remote-receiver-module-and-controller/
https://osoyoo.com/2017/11/05/infrared/

Log in to Reply

James Robb says:
December 2, 2022 at 7:12 pm

Everything is OK now and I have completed Lesson 2.
Many Thanks for your help.

Log in to Reply

James Robb says:
December 7, 2022 at 9:38 pm

I have gone back to go over the lessons again. I have found that I had missed out part of lesson2. I have now carried out the changing of the remote control codes but now have a problem. The compile. I will send a copy of the sketch to your email.

Log in to Reply

elaine says:
December 8, 2022 at 4:30 pm

Please send the sketch to my email: elaine@vership.com

Log in to Reply

wenwei says:
January 2, 2023 at 6:47 am

Hi whom may concern, each time I press the left, right, forward and backward button, it return different codes. I don't know what mistake I have done here. Thanks

Log in to Reply

elaine says:
January 3, 2023 at 10:43 am

Please provide your order ID and full address to my email address: elaine@vership.com.
I'll send the IR receiver as the replacement to you.

Log in to Reply

TF says:
April 27, 2023 at 3:03 pm

Hi
My remote doesn't work and I tried taking Step A to find the code for each button, the sketch was uploaded successfully, however, the serial monitor doesn't show anything when I press buttons

And FYI when I pressed the button, the IR module doesn't light up like what was shown in the video(I believe a different IR module was used between the video and what is shipped now?)

Log in to Reply

koihoz says:
June 2, 2023 at 1:37 am

My robot has problem

when driving backwards, all wheels go backwards, and when forward, only two right wheels go forward.
when turning right, all wheels work, and when turning left, only the right wheels work

what should i check?

Log in to Reply

vnunna@gmail.com says:
July 18, 2023 at 4:54 am

Hello,

We bought your Model N0. 2019005000 thru Amazon. We are doing lesson 2. When we are pressing remote buttons the car unit is going in incorrect directions. None of the direction buttons a
forward advance though. We uploaded the troubleshooting sketch and found that codes on the serial monitor match the codes in your lesson 2 however the car is not advancing correctly excep
For example Forward button right movement(sometimes no movement), left button car going backwards, right button going backwards left, back button going backwards left. Wondering if there
the IR receiver or some other. Thanks

Log in to Reply

vnunna@gmail.com says:
July 18, 2023 at 6:29 am

Making corrections to the above as my front and back of the car was mixed up. Left Remote button is activating forward move; Forward button is activating rotating right in the same p
is activating going back left; back button is activating going forward left. Thanks

Log in to Reply

idkanything says:
August 14, 2023 at 9:09 am

I Have Question I completed the first part but the second part i can't understand i did the IF IR remote doesn't work I did that part to but I don't think the IR REMOTE doesn't work

Log in to Reply

A.A. says:
August 27, 2023 at 8:55 am

My IR receiver is not working at all

Log in to Reply

NoNameGamer says:
March 7, 2024 at 9:55 am

When i try to use the serial moniter all buttons return the same code, What do i do???

Log in to Reply

Elderied48 says:
August 10, 2024 at 1:56 pm

when you setup the cords you have make sure s is in d10 slot

Log in to Reply

Leave a Reply

You must be logged in to post a comment.