भारतीय सूचना प्रौद्योगिकी संस्थान गुवाहाटी

Indian Institute of Information Technology Guwahati

Logistic bot processing.

Phase - 1

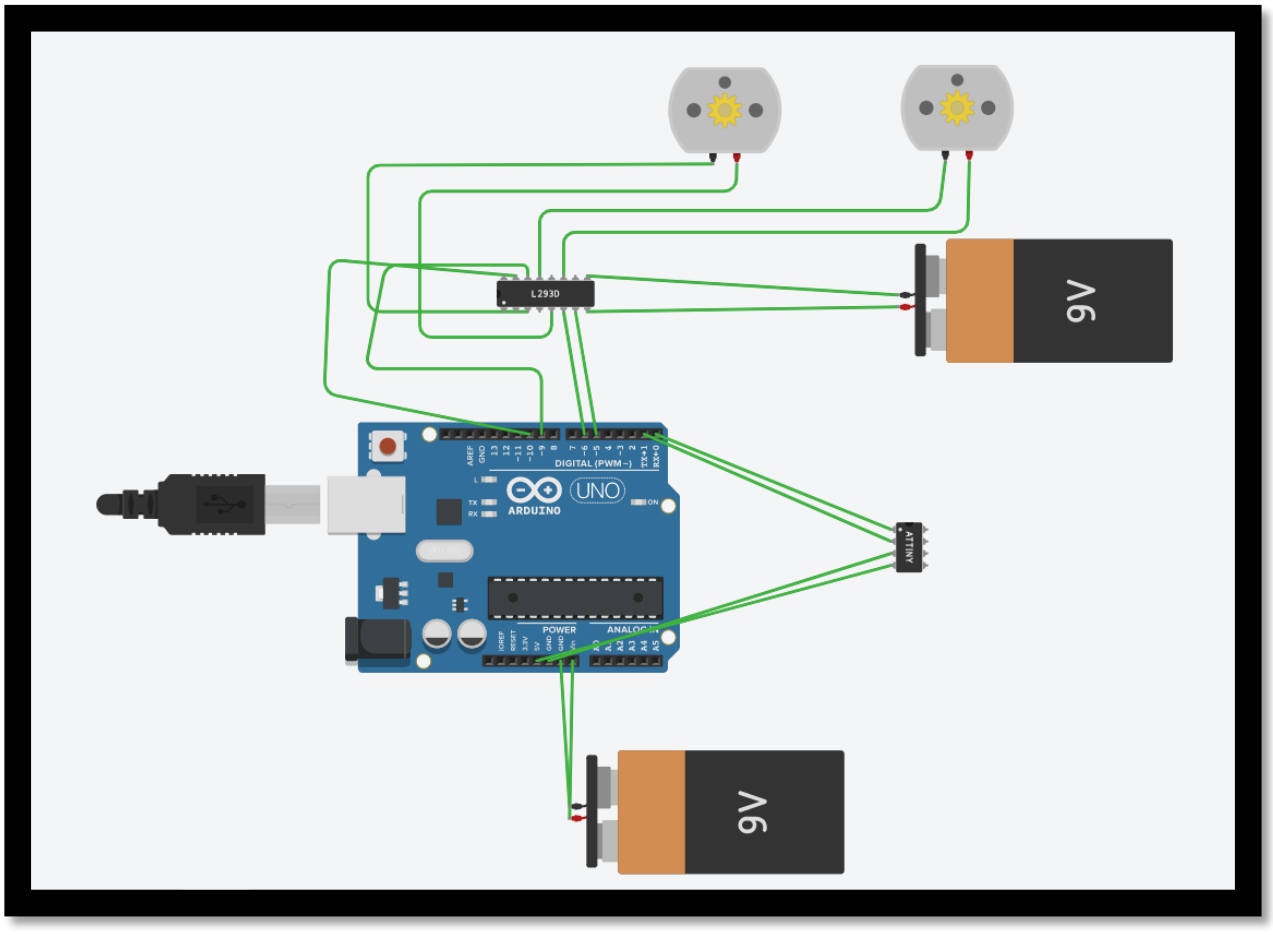
Index:

Introduction.

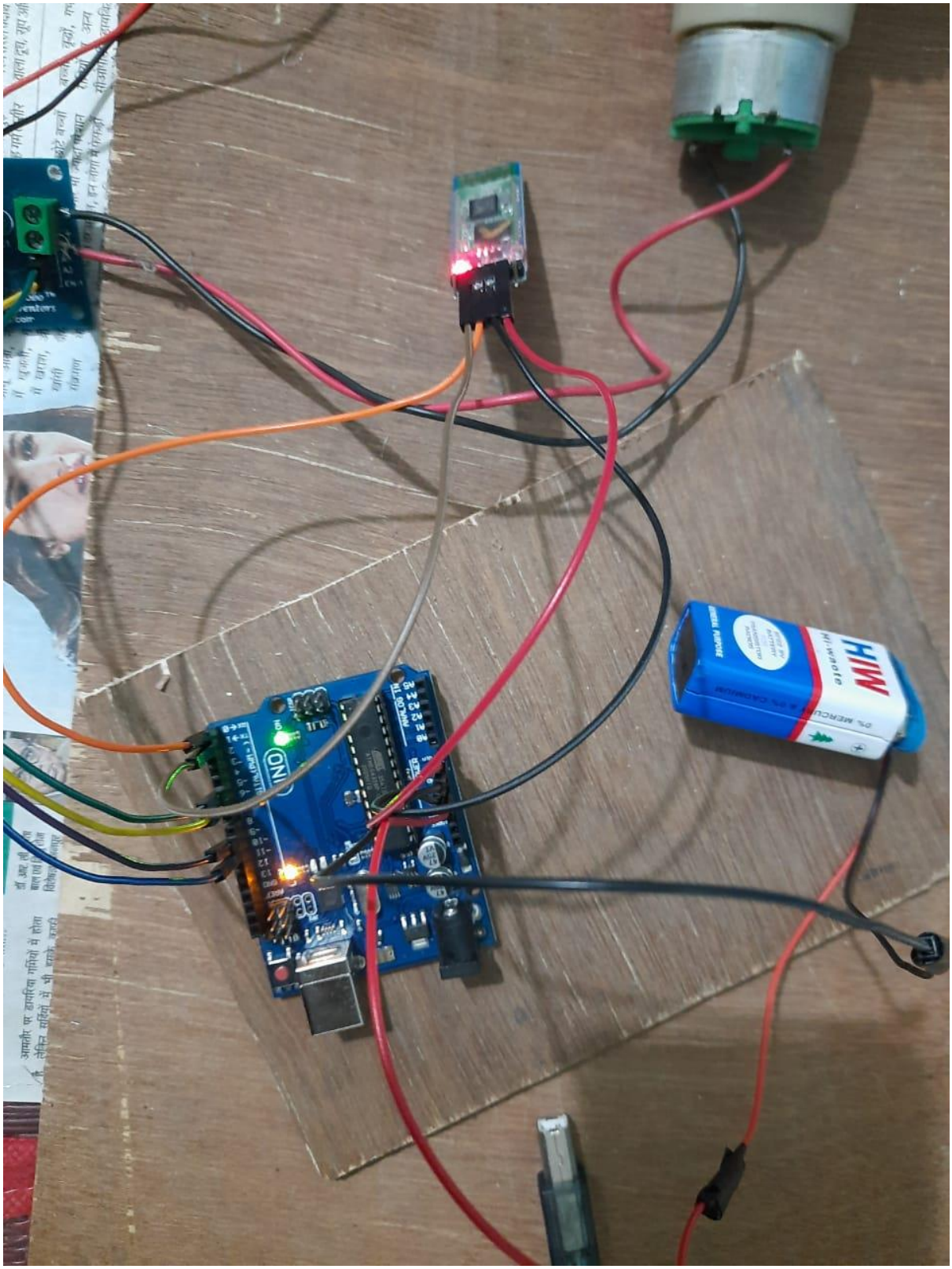
To make logistic bot we have to make a 4-wheeler car as its base. To do so, we need to make a 4*8 or 5*7 wooden piece as the car's base. Secondly, we need to make a circuit and make all the connections. Then after we need to write a code to run the device. In this file, I will help in doing so.

Let's begin.

Circuit Diagram



The actual circuit diagrams looks like these.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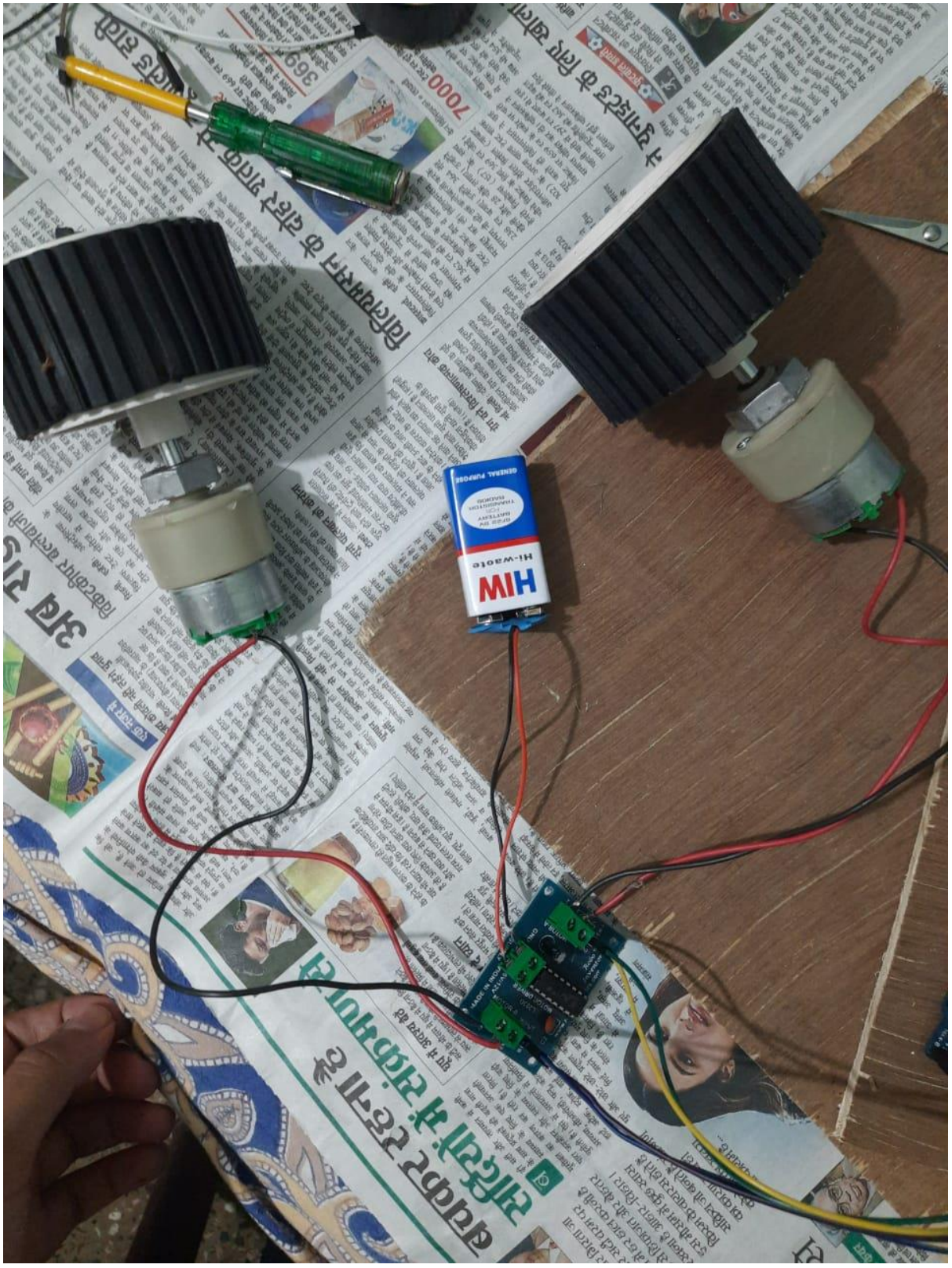
MH


HIW
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GENERAL PURPOSE

Connections and Process:

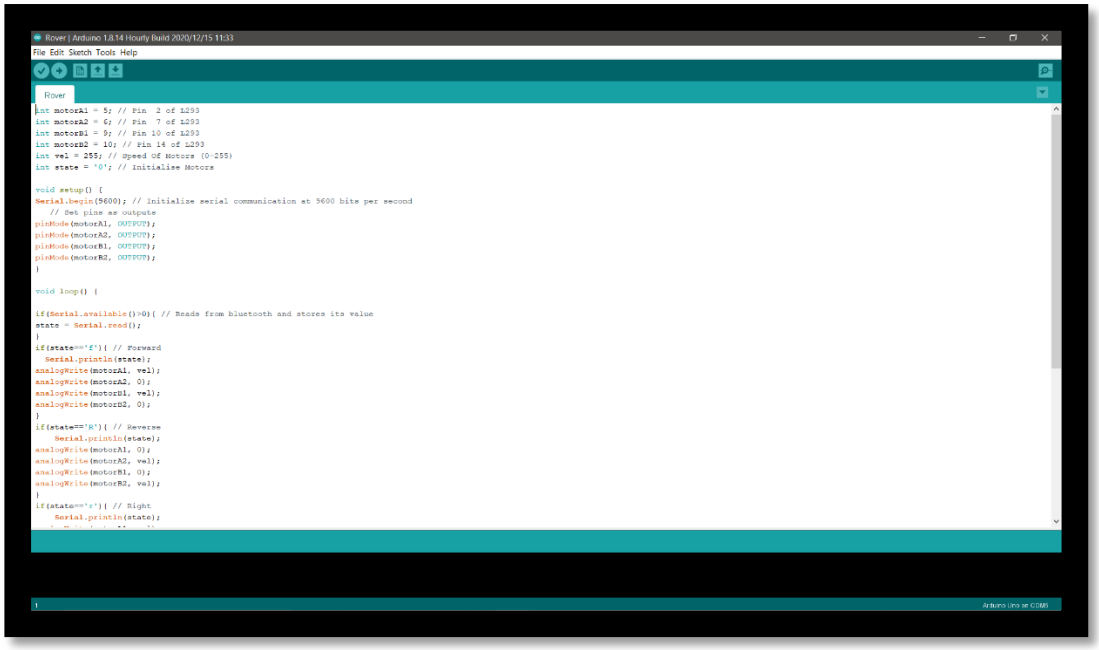
1. *Connect the positive terminal of a 9V battery to V_{cc} of Arduino Uno.*
2. *Connect the negative terminal of 9V battery to GND of Arduino Uno.*
3. *Connect the 5V battery of Arduino Uno to V_{cc} of the HC05.*
4. *Connect the GND of Arduino Uno to GND of HC05.*
5. *Connect the ~5 of Arduino Uno to A1 of Motor Driver L293D.*
6. *Connect the ~6 of Arduino Uno to A2 of Motor Driver L293D.*
7. *Connect the ~9 of Arduino Uno to B1 of Motor Driver L293D.*
8. *Connect the ~10 of Arduino Uno to B2 of Motor Driver L293D.*
9. *Connect the Output 1 of L293D to DC Motor 1.*
10. *Connect the Output 2 of L293D to DC Motor 2.*
11. *Connect the USB port of Arduino Uno to laptop.*
12. *Upload the code.*
13. *Disconnect the USB port.*
14. *Connect the TXD of HC05 to RX of UNO.*
15. *Connect the RXD of HC05 to TX of UNO.*
16. *Download a Bluetooth Car Controller App (or use this one - https://drive.google.com/file/d/1euHpH9ZGbXMEkqRFMuWxqMKz1Ytz6jH9/view?usp=sharing)*
17. *Pair the HC05 with your smartphone.*
18. *Connect the HC05 with your phone using app.*
19. *Control your car.*

Code:

You can write your own code if you have learnt or simply use my code from the link:

https://drive.google.com/file/d/11skAag2mu3pXtzvxvG0k2F5nBa5cMJOe/view?usp=sharing

It looks like this:



Do not forget to disconnect the RX and TX pins of UNO before uploading the code, else it will not be uploaded.

ONCE YOU COMPLETE THE ABOVE STEPS CORRECTLY, YOUR ROVER WILL WORK AS PLANNED.

Frequently Asked Questions:

1. **How many motors do I need to make the rover?**
   You need a minimum of 2 motors to make the rover. You can use 4 motors but make sure that your motor driver can power 4 motors and code your board accordingly.
2. **How to design the bot?**
   Use Tinkercad. If you don't know how to use it. Take it tutorial. Given on official website.
3. **How to design circuit?**
   Instructions are given above @Connections.
4. **How to make chassis?**
   Build your chassis using wooden plyboard or plastic sheets. Whichever you prefer.
5. **Which app to use for controlling car?**
   Use @Code.
   Or you can use any other app or create an app and set the values according to the code.
6. **How to make robotic arm and Lift?**
   I will come to that once everyone completes this rover part.
7. **How to code the Arduino Uno?**
   Use
   https://drive.google.com/file/d/11skAag2mu3pXtzvxvG0k2F5nBa5cMJOe/view?usp=sharing
   Or create your own code.

Do try to do everything by yourself. Google out your problems. You can call me if you find any difficulty in following this file.

Thanks and Regard

Nityanand Mathur.