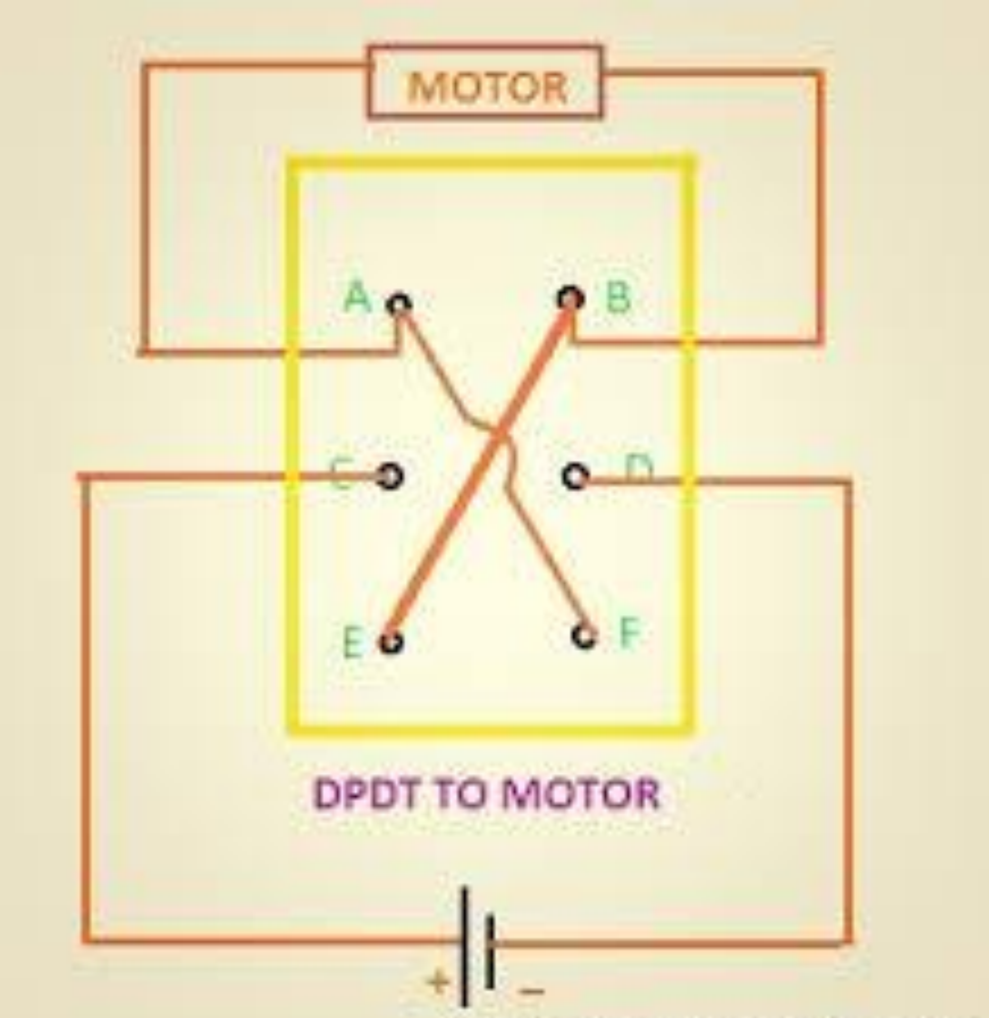
RC COMMUNICATION ROBOT

ROBOTICS CLUB - SESSION 4

-: CONTAINS :-

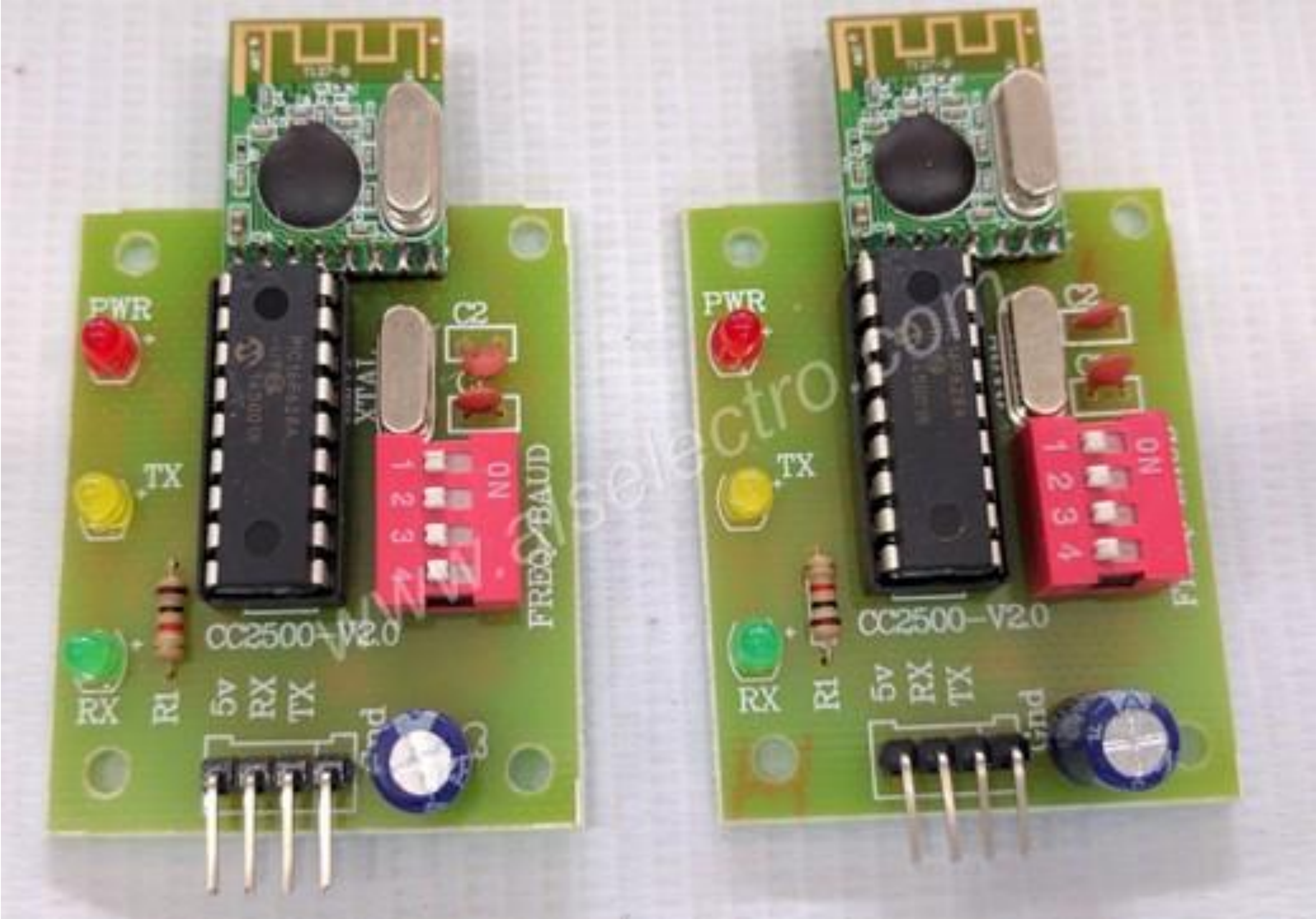
1) DPDT SWITCH CONTROL
2) CC 2500
3) RC REMOTE
4) HC-05 BLUETOOTH MODULE
5) WiFi module and esp8266(Next semster)

1) DPDT SWITCH



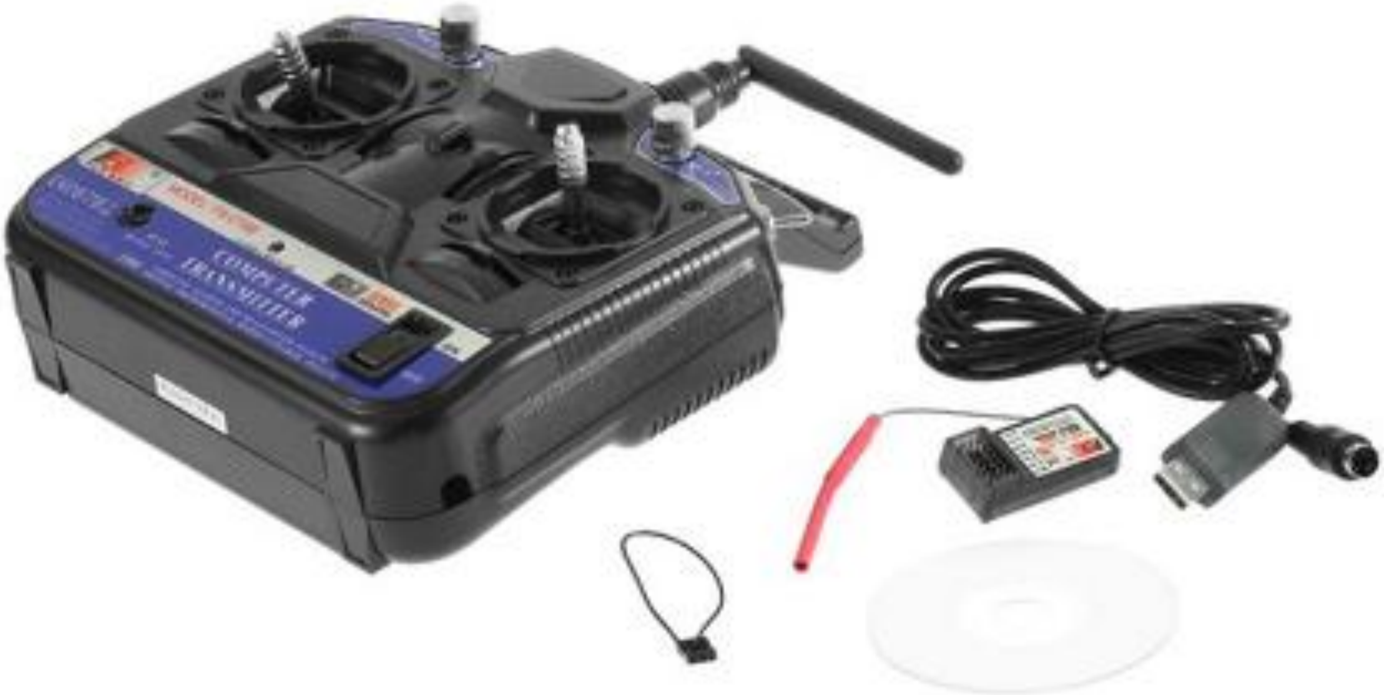
DPDT TO MOTOR

2) CC 2500

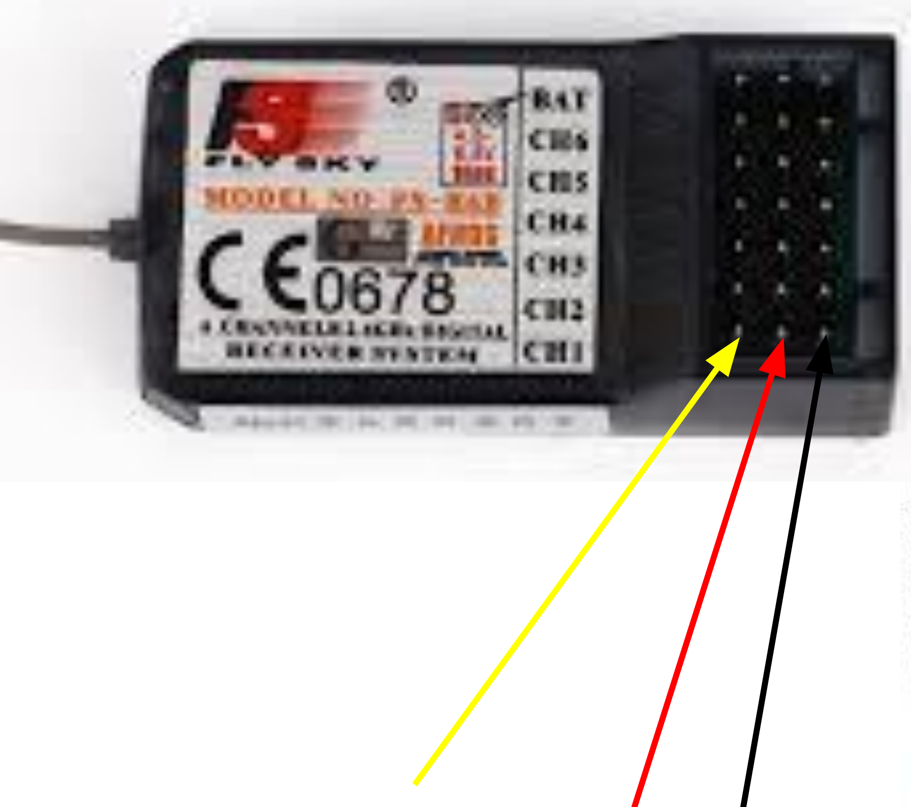

PWR
TX
RX
R1
5v
RX
TX
Gnd
CC2500-V2.0
XTAL
C2
ON
1
2
3
4
FREQ/BAUD

3) RC REMOTE

RC Transmitter & Receiver kit



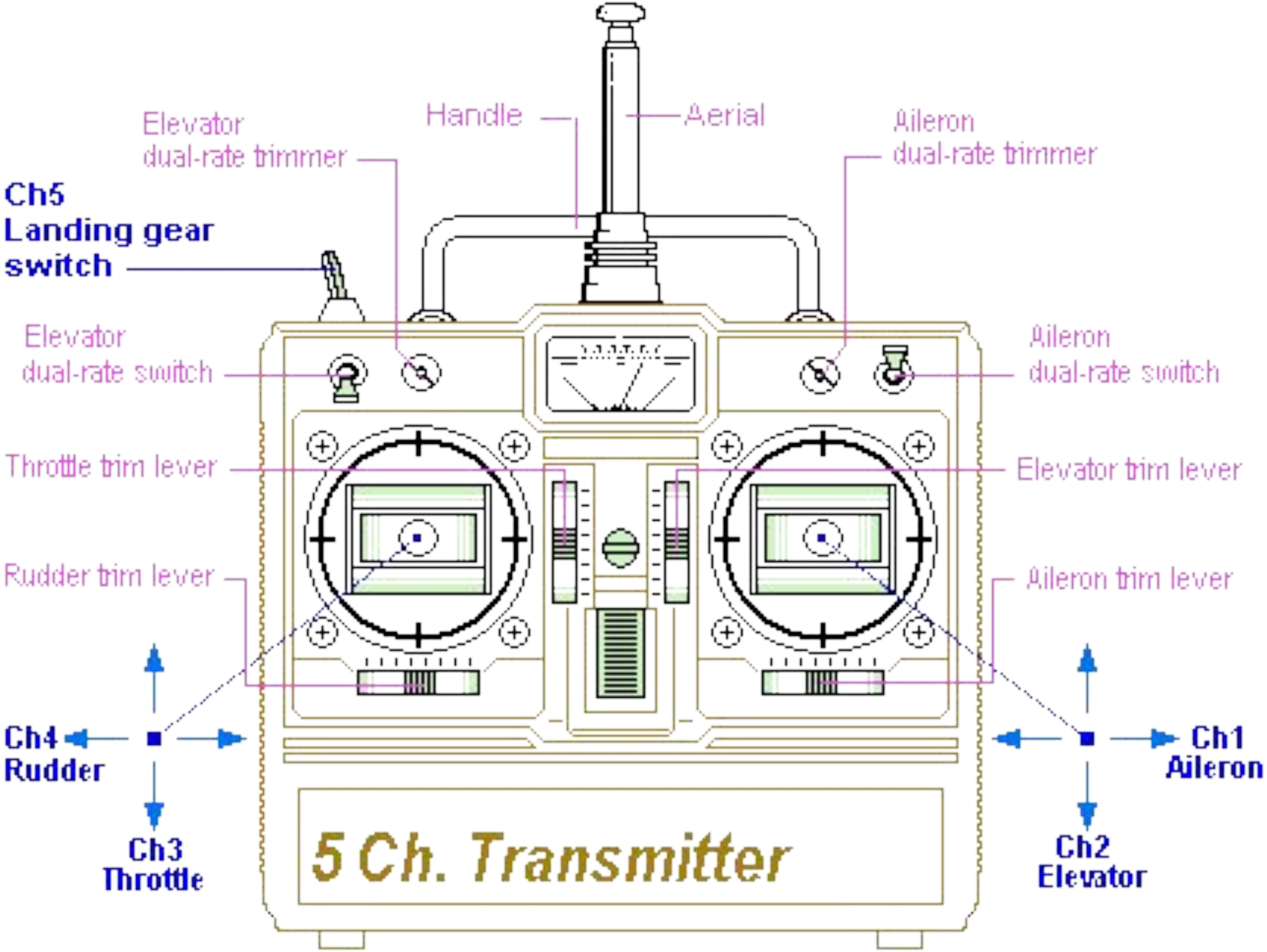
www.microchip.lk

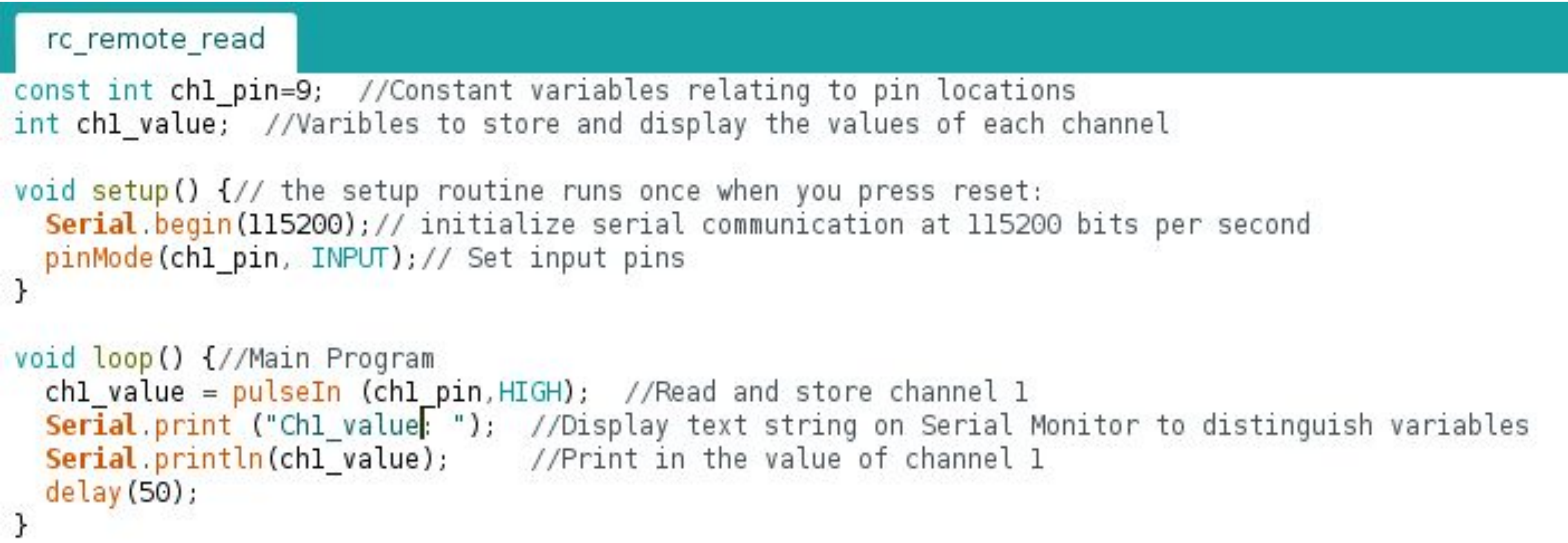


SIGNAL
(yellow
or
orange
or
white)

VCC(5)
(red)

GND
(black
or
brown)


Elevator dual-rate trimmer
Handle
Aerial
Aileron dual-rate trimmer
Ch5 Landing gear switch
Elevator dual-rate switch
Aileron dual-rate switch
Throttle trim lever
Elevator trim lever
Rudder trim lever
Aileron trim lever
Ch4 Rudder
Ch3 Throttle
Ch1 Aileron
Ch2 Elevator
5 Ch. Transmitter



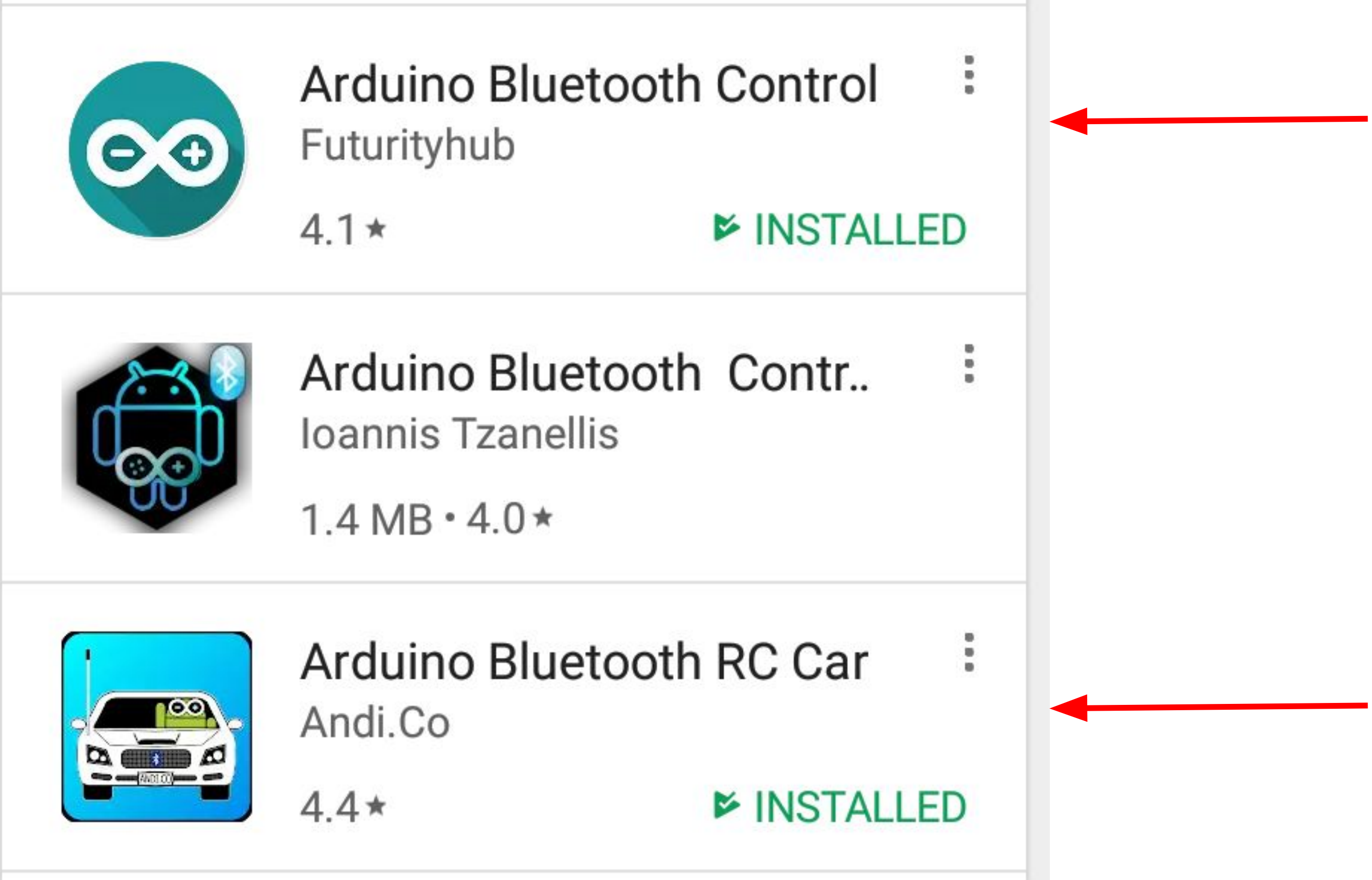
```
const int ch1_pin=9;  //Constant variables relating to pin locations
int ch1_value;  //Varibles to store and display the values of each channel

void setup() {// the setup routine runs once when you press reset:
  Serial.begin(115200);// initialize serial communication at 115200 bits per second
  pinMode(ch1_pin, INPUT);// Set input pins
}

void loop() {//Main Program
  ch1_value = pulseIn (ch1_pin,HIGH);  //Read and store channel 1
  Serial.print ("Ch1_value: ");  //Display text string on Serial Monitor to distinguish variables
  Serial.println(ch1_value);     //Print in the value of channel 1
  delay(50);
}
```

4) BLUETOOTH MODULE

DOWNLOAD THESE TWO APPS

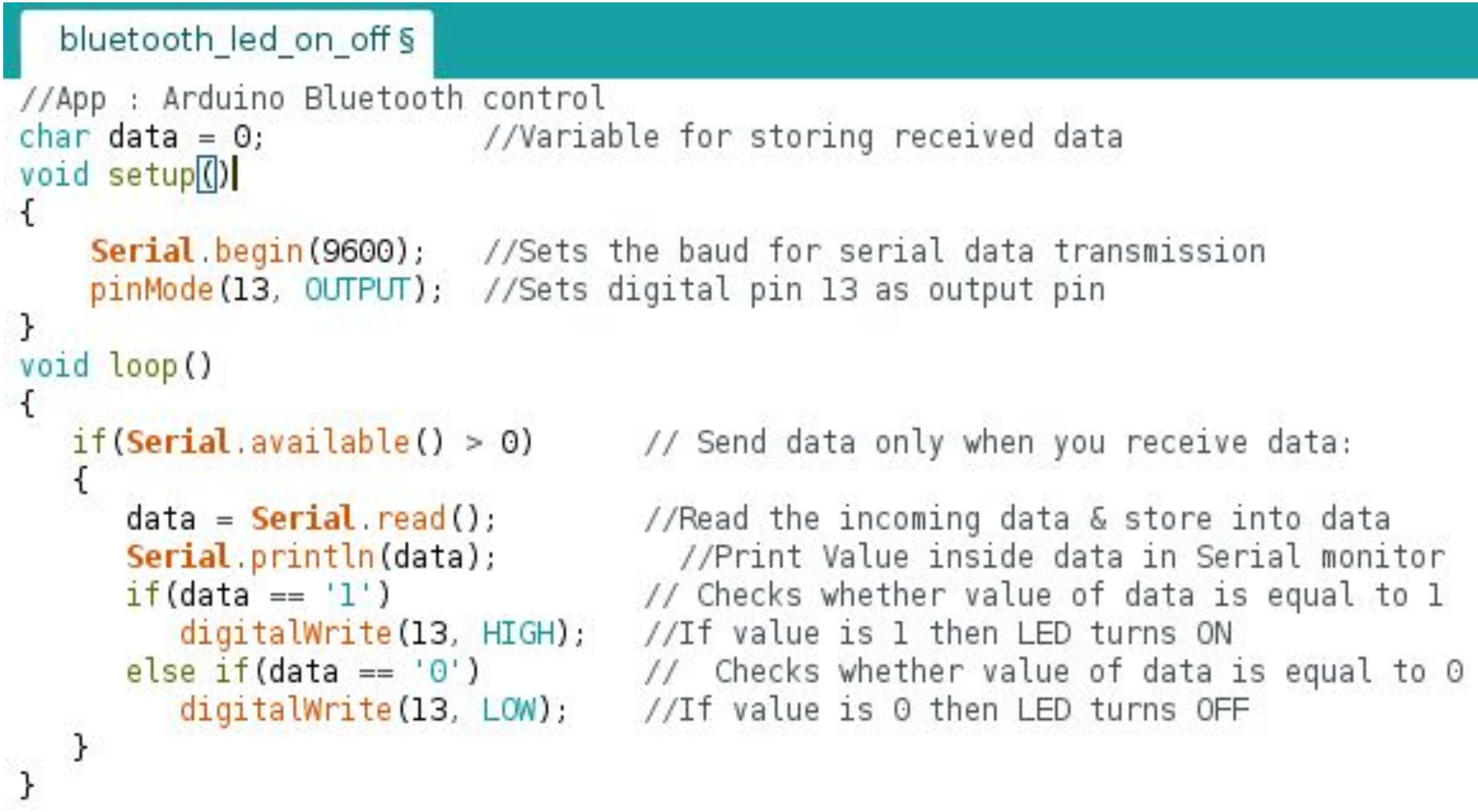


Arduino Bluetooth Control
Futurityhub
4.1★ INSTALLED

Arduino Bluetooth Contr..
Ioannis Tzanellis
1.4 MB • 4.0★

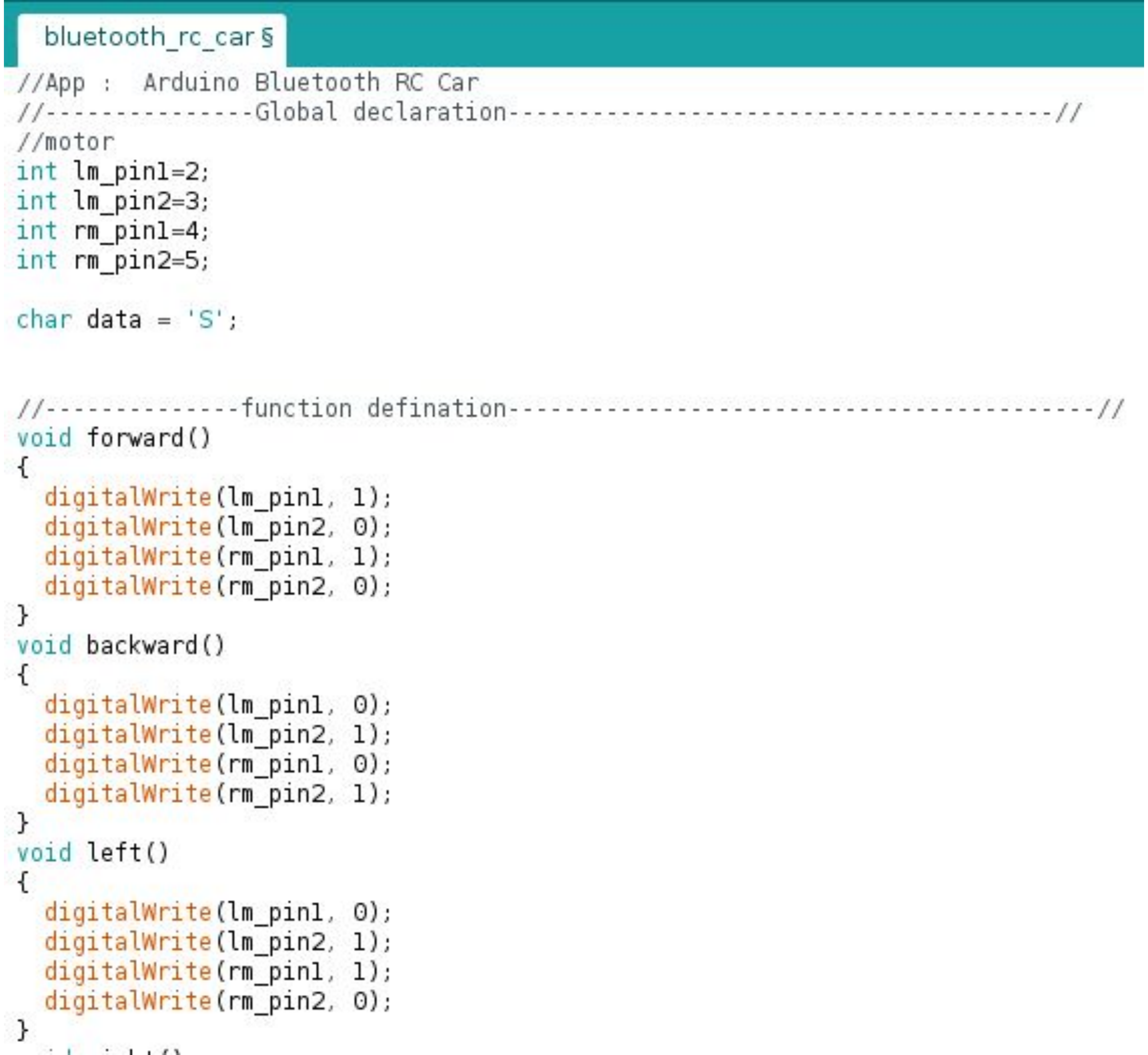
Arduino Bluetooth RC Car
Andi.Co
4.4★ INSTALLED

4.1) LED ON-OFF USING BLUETOOTH CONTROL



```
//App : Arduino Bluetooth control
char data = 0;              //Variable for storing received data
void setup()
{
    Serial.begin(9600);     //Sets the baud for serial data transmission
    pinMode(13, OUTPUT);    //Sets digital pin 13 as output pin
}
void loop()
{
   if(Serial.available() > 0)        // Send data only when you receive data:
   {
      data = Serial.read();          //Read the incoming data & store into data
      Serial.println(data);            //Print Value inside data in Serial monitor
      if(data == '1')                // Checks whether value of data is equal to 1
         digitalWrite(13, HIGH);     //If value is 1 then LED turns ON
      else if(data == '0')           //  Checks whether value of data is equal to 0
         digitalWrite(13, LOW);      //If value is 0 then LED turns OFF
   }
}
```

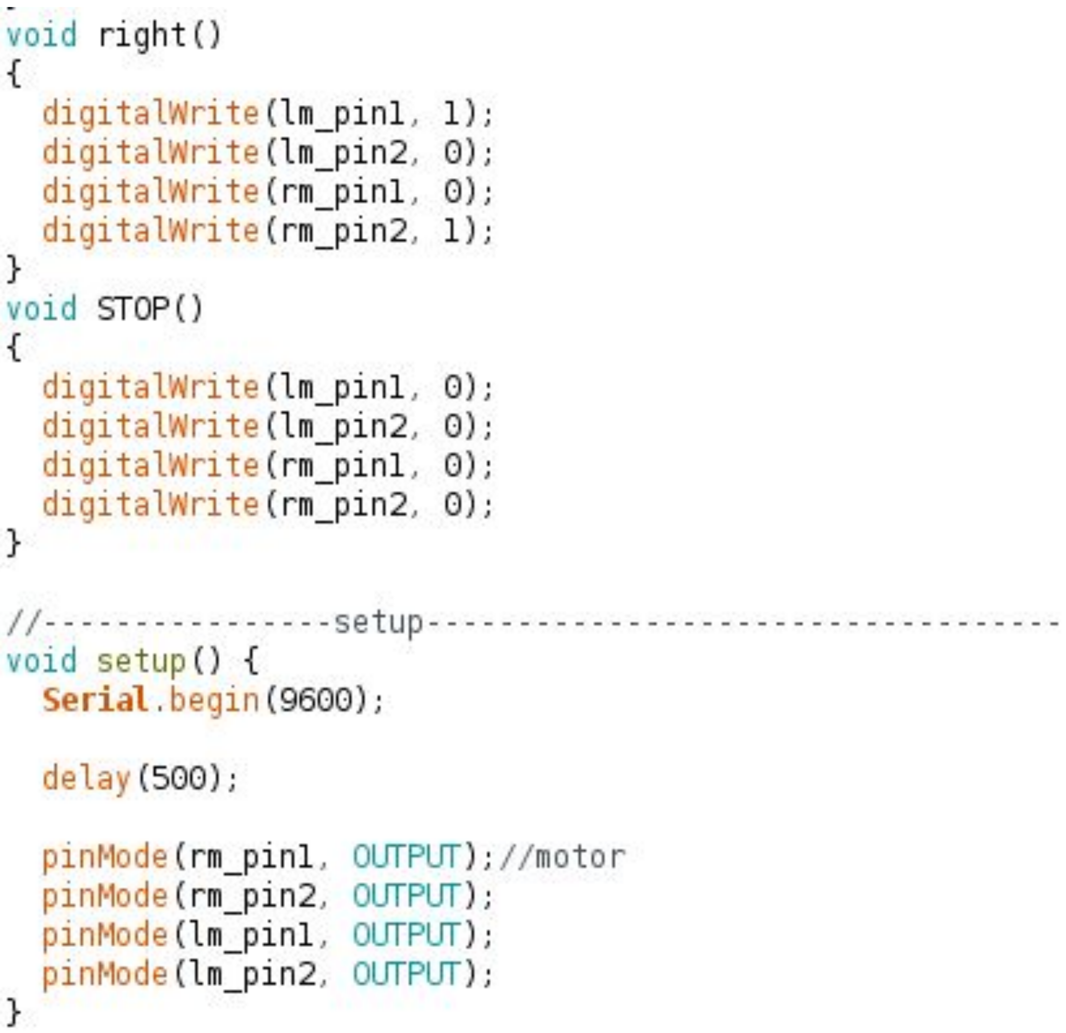
4.2) BLUETOOTH CONTROLLED RC ROBOT



```
//App :  Arduino Bluetooth RC Car
//--------------Global declaration----------------------------------------//
//motor
int lm_pin1=2;
int lm_pin2=3;
int rm_pin1=4;
int rm_pin2=5;

char data = 'S';


//-------------function defination------------------------------------------//
void forward()
{
  digitalWrite(lm_pin1, 1);
  digitalWrite(lm_pin2, 0);
  digitalWrite(rm_pin1, 1);
  digitalWrite(rm_pin2, 0);
}
void backward()
{
  digitalWrite(lm_pin1, 0);
  digitalWrite(lm_pin2, 1);
  digitalWrite(rm_pin1, 0);
  digitalWrite(rm_pin2, 1);
}
void left()
{
  digitalWrite(lm_pin1, 0);
  digitalWrite(lm_pin2, 1);
  digitalWrite(rm_pin1, 1);
  digitalWrite(rm_pin2, 0);
}
void right()
```

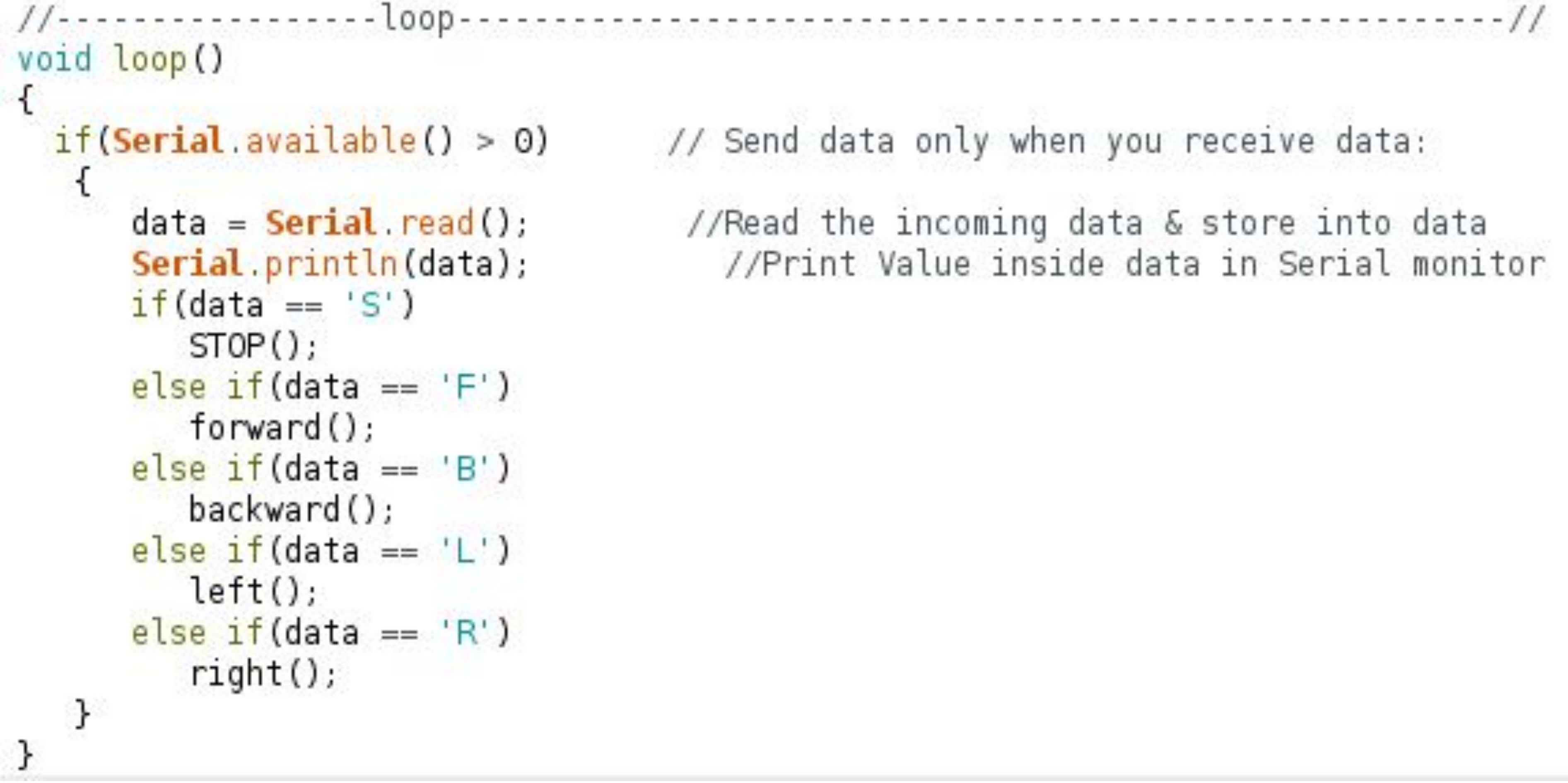


```
void right()
{
  digitalWrite(lm_pin1, 1);
  digitalWrite(lm_pin2, 0);
  digitalWrite(rm_pin1, 0);
  digitalWrite(rm_pin2, 1);
}
void STOP()
{
  digitalWrite(lm_pin1, 0);
  digitalWrite(lm_pin2, 0);
  digitalWrite(rm_pin1, 0);
  digitalWrite(rm_pin2, 0);
}

//---------------setup-----------------------------------
void setup() {
  Serial.begin(9600);

  delay(500);

  pinMode(rm_pin1, OUTPUT);//motor
  pinMode(rm_pin2, OUTPUT);
  pinMode(lm_pin1, OUTPUT);
  pinMode(lm_pin2, OUTPUT);
}
```



```
//-----------------loop-------------------------------------------------------//
void loop()
{
  if(Serial.available() > 0)      // Send data only when you receive data:
   {
      data = Serial.read();        //Read the incoming data & store into data
      Serial.println(data);          //Print Value inside data in Serial monitor
      if(data == 'S')
         STOP();
      else if(data == 'F')
         forward();
      else if(data == 'B')
         backward();
      else if(data == 'L')
         left();
      else if(data == 'R')
         right();
   }
}
```