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Code Name: Arduino Bluetooth Car with Front and Back Light Control

Before uploading the code you have to install the "Adafruit Motor Shield" library

Open Arduino IDE >> Go to sketch >> Include Libray >> Manage Librays... >> Search "Adafruit Motor Shield" >> Install the Library

AFMotor Library: https://learn.adafruit.com/adafruit-motor-shield/library-install

Description: This program is used to control a robot using an app that communicates with Arduino through an HC-05 Bluetooth Module.

App URI: https://bit.ly/3mn6LuZ

Version: 1.0

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#include <AFMotor.h>

//initial motors pin

AF\_DCMotor motor1(1, MOTOR12\_1KHZ);

AF\_DCMotor motor2(2, MOTOR12\_1KHZ);

AF\_DCMotor motor3(3, MOTOR34\_1KHZ);

AF\_DCMotor motor4(4, MOTOR34\_1KHZ);

int val;

int Speeed = 255;

void setup()

{

Serial.begin(9600); //Set the baud rate to your Bluetooth module.

}

void loop(){

if(Serial.available() > 0){

val = Serial.read();

Stop(); //initialize with motors stoped

if (val == 'F'){

forward();

}

if (val == 'B'){

back();

}

if (val == 'L'){

left();

}

if (val == 'R'){

right();

}

if (val == 'I'){

topright();

}

if (val == 'J'){

topleft();

}

if (val == 'K'){

bottomright();

}

if (val == 'M'){

bottomleft();

}

if (val == 'T'){

Stop();

}

}

}

void forward()

{

motor1.setSpeed(Speeed); //Define maximum velocity

motor1.run(FORWARD); //rotate the motor clockwise

motor2.setSpeed(Speeed); //Define maximum velocity

motor2.run(FORWARD); //rotate the motor clockwise

motor3.setSpeed(Speeed);//Define maximum velocity

motor3.run(FORWARD); //rotate the motor clockwise

motor4.setSpeed(Speeed);//Define maximum velocity

motor4.run(FORWARD); //rotate the motor clockwise

}

void back()

{

motor1.setSpeed(Speeed); //Define maximum velocity

motor1.run(BACKWARD); //rotate the motor anti-clockwise

motor2.setSpeed(Speeed); //Define maximum velocity

motor2.run(BACKWARD); //rotate the motor anti-clockwise

motor3.setSpeed(Speeed); //Define maximum velocity

motor3.run(BACKWARD); //rotate the motor anti-clockwise

motor4.setSpeed(Speeed); //Define maximum velocity

motor4.run(BACKWARD); //rotate the motor anti-clockwise

}

void left()

{

motor1.setSpeed(Speeed); //Define maximum velocity

motor1.run(BACKWARD); //rotate the motor anti-clockwise

motor2.setSpeed(Speeed); //Define maximum velocity

motor2.run(BACKWARD); //rotate the motor anti-clockwise

motor3.setSpeed(Speeed); //Define maximum velocity

motor3.run(FORWARD); //rotate the motor clockwise

motor4.setSpeed(Speeed); //Define maximum velocity

motor4.run(FORWARD); //rotate the motor clockwise

}

void right()

{

motor1.setSpeed(Speeed); //Define maximum velocity

motor1.run(FORWARD); //rotate the motor clockwise

motor2.setSpeed(Speeed); //Define maximum velocity

motor2.run(FORWARD); //rotate the motor clockwise

motor3.setSpeed(Speeed); //Define maximum velocity

motor3.run(BACKWARD); //rotate the motor anti-clockwise

motor4.setSpeed(Speeed); //Define maximum velocity

motor4.run(BACKWARD); //rotate the motor anti-clockwise

}

void topleft(){

motor1.setSpeed(Speeed); //Define maximum velocity

motor1.run(FORWARD); //rotate the motor clockwise

motor2.setSpeed(Speeed); //Define maximum velocity

motor2.run(FORWARD); //rotate the motor clockwise

motor3.setSpeed(Speeed/3.1);//Define maximum velocity

motor3.run(FORWARD); //rotate the motor clockwise

motor4.setSpeed(Speeed/3.1);//Define maximum velocity

motor4.run(FORWARD); //rotate the motor clockwise

}

void topright()

{

motor1.setSpeed(Speeed/3.1); //Define maximum velocity

motor1.run(FORWARD); //rotate the motor clockwise

motor2.setSpeed(Speeed/3.1); //Define maximum velocity

motor2.run(FORWARD); //rotate the motor clockwise

motor3.setSpeed(Speeed);//Define maximum velocity

motor3.run(FORWARD); //rotate the motor clockwise

motor4.setSpeed(Speeed);//Define maximum velocity

motor4.run(FORWARD); //rotate the motor clockwise

}

void bottomleft()

{

motor1.setSpeed(Speeed); //Define maximum velocity

motor1.run(BACKWARD); //rotate the motor anti-clockwise

motor2.setSpeed(Speeed); //Define maximum velocity

motor2.run(BACKWARD); //rotate the motor anti-clockwise

motor3.setSpeed(Speeed/3.1); //Define maximum velocity

motor3.run(BACKWARD); //rotate the motor anti-clockwise

motor4.setSpeed(Speeed/3.1); //Define maximum velocity

motor4.run(BACKWARD); //rotate the motor anti-clockwise

}

void bottomright()

{

motor1.setSpeed(Speeed/3.1); //Define maximum velocity

motor1.run(BACKWARD); //rotate the motor anti-clockwise

motor2.setSpeed(Speeed/3.1); //Define maximum velocity

motor2.run(BACKWARD); //rotate the motor anti-clockwise

motor3.setSpeed(Speeed); //Define maximum velocity

motor3.run(BACKWARD); //rotate the motor anti-clockwise

motor4.setSpeed(Speeed); //Define maximum velocity

motor4.run(BACKWARD); //rotate the motor anti-clockwise

}

void Stop()

{

motor1.setSpeed(0); //Define minimum velocity

motor1.run(RELEASE); //stop the motor when release the button

motor2.setSpeed(0); //Define minimum velocity

motor2.run(RELEASE); //rotate the motor clockwise

motor3.setSpeed(0); //Define minimum velocity

motor3.run(RELEASE); //stop the motor when release the button

motor4.setSpeed(0); //Define minimum velocity

motor4.run(RELEASE); //stop the motor when release the button