#include <AFMotor.h>

#include <SoftwareSerial.h>

SoftwareSerial bluetoothSerial(9, 10);  // RX, TX

//initial motors pin

AF\_DCMotor motor1(1);

AF\_DCMotor motor2(2);

AF\_DCMotor motor3(3);

AF\_DCMotor motor4(4);

int speed = 200;

char command;

// for led and buzzer

int buzzer = A5;

int led = A1;

void setup() {

  pinMode(buzzer, OUTPUT);

  pinMode(led, OUTPUT);

  Serial.begin(9600);

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

}

void loop() {

  if (bluetoothSerial.available() > 0) {

    command = bluetoothSerial.read();

    Serial.println(command);

    Stop();  //initialize with motors stoped

    if (command == 'F') {

      forward();

    } else if (command == 'B') {

      back();

    } else if (command == 'L' || command == 'G' || command == 'J') {

      left();

    } else if (command == 'R' || command == 'I' || command == 'H') {

      right();

    } else if (command == 'V') {

      Horn();

    } else if (command == 'v') {

      Horn();

    } else if (command == 'W') {

      digitalWrite(led, HIGH);

    } else if (command == 'w') {

      digitalWrite(led, LOW);

    }

  }

}

void forward() {

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

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

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

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

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

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

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

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

}

void back() {

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

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

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

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

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

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

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

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

}

void left() {

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

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

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

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

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

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

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

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

}

void right() {

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

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

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

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

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

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

  motor4.setSpeed(speed);  //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

}

void Horn() {

  digitalWrite(buzzer, HIGH);

  delay(800);

  digitalWrite(buzzer, LOW);

}

// I for front right

// G for front left

// V for buzer on , v for buzzer off

// W for front led on , w for led off

// U for front led on , u for led off