/\*/ Android Based Robot Car //

// Interface : HC-05 Bluetooth //

// Powered by e-logic Embedded //

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//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

#include <Servo.h>

Servo servoDig;

Servo servoSeed;

int digg1 = 90;

int digg = 50;

int seed = 90;

int seed1 = 75;

int count = 0;

#define maximum 255

#define minimum 150

#define BAUDRATE 9600

const int MotR\_B = 4;

const int MotR\_A = 5;

const int MotL\_B = 6;

const int MotL\_A = 7;

const int Soil = A1;

const int pump\_A = 3;

String command;

byte GetValue;

int valor = 0;

int cm = 0;

boolean flag = 0;

boolean flag1 = 0;

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

void setup()

{

Serial.begin(BAUDRATE);

servoDig.attach(8); servoDig.write(digg1);

servoSeed.attach(2); servoSeed.write(seed);

//pinMode (enable\_R, OUTPUT); pinMode (enable\_L, OUTPUT);

//analogWrite(enable\_R, maximum); analogWrite(enable\_L, maximum);

pinMode(Soil, INPUT);

pinMode(MotR\_A, OUTPUT); pinMode(MotR\_B, OUTPUT);

pinMode(MotL\_A, OUTPUT); pinMode(MotL\_B, OUTPUT);

pinMode(pump\_A, OUTPUT); digitalWrite(pump\_A, LOW);

delay(1000);

Serial.println("Wel-Come");

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

void loop()

{

while(Serial.available())

{

delay(20);

char c = Serial.read(); command = c;

//Serial.println(command);

}

//................................................................

if (command.length() > 0)

{

delay(10);

if(command == "F") { Robot\_Forword(); }

else if (command == "B") { Robot\_Reverse(); }

else if (command == "L") { Robot\_Left(); }

else if (command == "R") { Robot\_Right(); }

else if (command == "S") { Robot\_Stop(); }

else if (command == "U") { servoDig.write(digg1); }

else if (command == "D") { servoDig.write(digg); }

else if (command == "s") { Seed(); }

else if (command == "P") { Pwm\_pump(); }

else if (command == "A")

{

if(digitalRead(Soil) == 1 && flag1 == 0)

{

Serial.println("Soil:Dry");

flag1 = 1;

}

else if(digitalRead(Soil) == 0 && flag1 == 1)

{

Serial.println("Soil:Wet");

flag1 = 0;

}

}

command = "";

}

//.....................................................

} //loop

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

void Pwm\_pump()

{

for(int motorSpeed = 0; motorSpeed < minimum; motorSpeed++)

{ analogWrite(pump\_A, motorSpeed); delay(10); }

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

void Seed()

{

servoSeed.write(seed1); delay(1000);

servoSeed.write(seed); delay(1000);

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

void Robot\_Forword()

{

digitalWrite(MotR\_A, LOW); digitalWrite(MotR\_B, HIGH);

digitalWrite(MotL\_B, HIGH); digitalWrite(MotL\_A, LOW);

delay(500);

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

void Robot\_Reverse()

{

digitalWrite(MotR\_A, HIGH); digitalWrite(MotR\_B, LOW);

digitalWrite(MotL\_B, LOW); digitalWrite(MotL\_A, HIGH);

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

void Robot\_Left()

{

digitalWrite(MotR\_A, HIGH); digitalWrite(MotR\_B, LOW);

digitalWrite(MotL\_B, HIGH); digitalWrite(MotL\_A, LOW);

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

void Robot\_Right()

{

digitalWrite(MotR\_A, LOW); digitalWrite(MotR\_B, HIGH);

digitalWrite(MotL\_B, LOW); digitalWrite(MotL\_A, HIGH);

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

void Robot\_Stop()

{

digitalWrite(MotR\_A, LOW); digitalWrite(MotR\_B, LOW);

digitalWrite(MotL\_B, LOW); digitalWrite(MotL\_A, LOW);

analogWrite(pump\_A, 0);

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*