**Cod FRANK**

#include<Servo.h>  
#include<AFMotor.h>  
#define LEFT A2  
#define echopin A0  
#define trigpin A1  
#define RIGHT A3  
#define MAX\_DISTANCE 90  
  
AF\_DCMotor Motor1(1,MOTOR12\_1KHZ);  
AF\_DCMotor Motor2(2,MOTOR12\_1KHZ);  
AF\_DCMotor Motor3(3,MOTOR34\_1KHZ  
  
  
  
);  
AF\_DCMotor Motor4(4,MOTOR34\_1KHZ);  
  
Servo myservo;  
   
int pos =0;  
long time;  
  
void setup(){  
  
Serial.begin(9600);  
myservo.attach(10);  
  
for(pos = 90; pos <= 180; pos += 1){  
myservo.write(pos);  
delay(15);  
}  
   
for(pos = 180; pos >= 0; pos-= 1) {  
myservo.write(pos);  
delay(15);  
}  
  
for(pos = 0; pos<=90; pos += 1) {  
myservo.write(pos);  
delay(15);  
}  
  
pinMode(RIGHT, INPUT);  
pinMode(LEFT, INPUT);  
  
pinMode(trigpin, OUTPUT);  
pinMode(echopin, INPUT);  
  
}  
  
void loop(){  
unsigned int distance = read\_cm();  
  
int Right\_Value = digitalRead(RIGHT);  
int Left\_Value  = digitalRead(LEFT);  
  
Serial.print(" Dreapta= ");  
Serial.print(Right\_Value);  
Serial.print(" Stânga= ");  
Serial.print(Left\_Value);  
Serial.print(" Distanța= ");  
Serial.println(distance);  
  
     if((Right\_Value==1) && (distance>=10 && distance<=30)&&(Left\_Value==1)){forword();}  
else if((Right\_Value==0) && (Left\_Value==1)){turnRight();}  
else if((Right\_Value==1) && (Left\_Value==0)){turnLeft();}  
else if((Right\_Value==1) && (Left\_Value==1)){stop();}  
else if(distance > 5 && distance < 10){stop();}  
else if(distance < 5){backword();}  
  
delay(50);  
}  
  
long read\_cm(){  
  digitalWrite(trigpin, LOW);  
  delayMicroseconds(2);  
  digitalWrite(trigpin, HIGH);  
  delayMicroseconds(10);  
  time = pulseIn (echopin, HIGH);  
  return time / 29 / 2;  
}  
  
void forword(){  
Motor1.setSpeed(120);  
Motor1.run(FORWARD);  
Motor2.setSpeed(120);  
Motor2.run(FORWARD);  
Motor3.setSpeed(120);  
Motor3.run(FORWARD);  
Motor4.setSpeed(120);  
Motor4.run(FORWARD);  
}  
  
void backword(){  
Motor1.setSpeed(120);  
Motor1.run(BACKWARD);  
Motor2.setSpeed(120);  
Motor2.run(BACKWARD);  
Motor3.setSpeed(120);  
Motor3.run(BACKWARD);  
Motor4.setSpeed(120);  
Motor4.run(BACKWARD);  
}  
  
void turnRight(){  
Motor1.setSpeed(200);  
Motor1.run(FORWARD);  
Motor2.setSpeed(200);  
Motor2.run(FORWARD);  
Motor3.setSpeed(100);  
Motor3.run(BACKWARD);  
Motor4.setSpeed(100);  
Motor4.run(BACKWARD);  
}  
  
void turnLeft(){  
Motor1.setSpeed(100);  
Motor1.run(BACKWARD);  
Motor2.setSpeed(100);  
Motor2.run(BACKWARD);  
Motor3.setSpeed(200);  
Motor3.run(FORWARD);  
Motor4.setSpeed(200);  
Motor4.run(FORWARD);  
}  
  
void stop(){  
Motor1.setSpeed(0);    
Motor1.run(RELEASE);  
Motor2.setSpeed(0);  
Motor2.run(RELEASE);  
Motor3.setSpeed(0);  
Motor3.run(RELEASE);  
Motor4.setSpeed(0);  
Motor4.run(RELEASE);    
}