//Arduino Human Following Robot

// You have to Install the AFMotor and NewPing library Before Uploading the sketch//

// To install the libraries ( first download the AF Motor driver, NewPing and Servo Library zip file //

// then Go to Skecth >> Include Library >> Add .Zip Library >> Select The downloaded zip file >> Done)

#include<NewPing.h>

#include<Servo.h>

#include<AFMotor.h>

#define RIGHT A2

#define LEFT A3

#define TRIGGER\_PIN A1

#define ECHO\_PIN A0

#define MAX\_DISTANCE 100

NewPing sonar(TRIGGER\_PIN, ECHO\_PIN, MAX\_DISTANCE);

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;

void setup() {

 // put your setup code here, to run once:

 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);

}

void loop() {

 // put your main code here, to run repeatedly:

 delay(50);

 unsigned int distance = sonar.ping\_cm();

Serial.print("distance");

Serial.println(distance);

int Right\_Value = digitalRead(RIGHT);

int Left\_Value = digitalRead(LEFT);

Serial.print("RIGHT");

Serial.println(Right\_Value);

Serial.print("LEFT");

Serial.println(Left\_Value);

if((Right\_Value==1) && (distance>=10 && distance<=30)&&(Left\_Value==1)){

 Motor1.setSpeed(120);

 Motor1.run(FORWARD);

 Motor2.setSpeed(120);

 Motor2.run(FORWARD);

 Motor3.setSpeed(120);

 Motor3.run(FORWARD);

 Motor4.setSpeed(120);

 Motor4.run(FORWARD);

}else if((Right\_Value==0) && (Left\_Value==1)) {

 Motor1.setSpeed(200);

 Motor1.run(FORWARD);

 Motor2.setSpeed(200);

 Motor2.run(FORWARD);

 Motor3.setSpeed(100);

 Motor3.run(BACKWARD);

 Motor4.setSpeed(100);

 Motor4.run(BACKWARD);

}else if((Right\_Value==1)&&(Left\_Value==0)) {

 Motor1.setSpeed(100);

 Motor1.run(BACKWARD);

 Motor2.setSpeed(100);

 Motor2.run(BACKWARD);

 Motor3.setSpeed(200);

 Motor3.run(FORWARD);

 Motor4.setSpeed(200);

 Motor4.run(FORWARD);

}else if((Right\_Value==1)&&(Left\_Value==1)) {

 Motor1.setSpeed(0);

 Motor1.run(RELEASE);

 Motor2.setSpeed(0);

 Motor2.run(RELEASE);

 Motor3.setSpeed(0);

 Motor3.run(RELEASE);

 Motor4.setSpeed(0);

 Motor4.run(RELEASE);

}else if(distance > 1 && distance < 10) {

 Motor1.setSpeed(0);

 Motor1.run(RELEASE);

 Motor2.setSpeed(0);

 Motor2.run(RELEASE);

 Motor3.setSpeed(0);

 Motor3.run(RELEASE);

 Motor4.setSpeed(0);

 Motor4.run(RELEASE);

 }

 }