**ARDUINO IDE CODE**

# Code to measure distance using ultrasonic sensor and switch different Led

# according to data we read from Python

#Face Recognition using Webcamera and embedded system #

#define TRIGGER 5

#define ECHO 16

int data;

void setup() {

Serial.begin (9600);

pinMode(TRIGGER, OUTPUT);

pinMode(ECHO, INPUT);

pinMode(LED\_BUILTIN, OUTPUT);

pinMode(14, OUTPUT);

pinMode(13, OUTPUT);

pinMode(0, OUTPUT);

digitalWrite (0, LOW);

digitalWrite (14, LOW);

digitalWrite (13, LOW);

delay(1000);

}

void loop() {

long duration, distance;

digitalWrite(TRIGGER, LOW);

delayMicroseconds(2);

digitalWrite(TRIGGER, HIGH);

delayMicroseconds(10);

digitalWrite(TRIGGER, LOW);

duration = pulseIn(ECHO, HIGH);

distance = (duration/2) / 29.1;

//Serial.println(distance);

if(distance<=30){

Serial.println("Person Detected");

delay(50);

digitalWrite (0, HIGH);

delay(3000);

digitalWrite (0, LOW);

}

else{

Serial.println("No one Detected");

delay(2000);

}

while (Serial.available())

{

data = Serial.read();

Serial.println(data);

delay(2000);

}

if (data == 'H'){

digitalWrite (13, HIGH);

delay(3000);

digitalWrite (13, LOW);

//delay(2000);

}

while (Serial.available())

{

data = Serial.read();

Serial.println(data);

delay(2000);

}

if (data == 'R'){

digitalWrite (14, HIGH);

delay(3000);

digitalWrite (14, LOW);

//delay(2000);

}

else if (data == 'N'){

digitalWrite (0, LOW);

digitalWrite (14, LOW);

digitalWrite (13, LOW);

}

while (Serial.available())

{

data = Serial.read();

Serial.println(data);

delay(2000);

}

if (data == 'N'){

digitalWrite (0, LOW);

digitalWrite (14, LOW);

digitalWrite (13, LOW);

}

}