**Team ID:** PNT2022TMID15947

**Project Title:** Industry-specific intelligent fire management system

**Team Members:**  1) Balaji P (Team Leader)

2) Akilan A

3) Dinesh s

4) Arun R

**Assignment 4 (code):**

|  |
| --- |
| /\* This simple project describes how to make an ultrasonic alarm system using |
|  | LED, Ultasonic Sensor(HC-SR04) and a buzzer.\*/ |
|  |  |
|  | //Firstly the connections of ultrasonic Sensor.Connect +5v and GND normally and trigger pin to 12 & echo pin to 13. |
|  |  |
|  | #define trigPin 12 |
|  | #define echoPin 13 |
|  | int Buzzer = 8; // Connect buzzer pin to 8 |
|  | int ledPin= 6; //Connect LEd pin to 6 |
|  | int duration, distance; //to measure the distance and time taken |
|  |  |
|  | void setup() { |
|  | Serial.begin (9600); |
|  | //Define the output and input objects(devices) |
|  | pinMode(trigPin, OUTPUT); |
|  | pinMode(echoPin, INPUT); |
|  | pinMode(Buzzer, OUTPUT); |
|  | pinMode(ledPin, OUTPUT); |
|  | } |
|  |  |
|  | void loop() { |
|  |  |
|  | digitalWrite(trigPin, HIGH); |
|  | delayMicroseconds(10); |
|  | digitalWrite(trigPin, LOW); |
|  | duration = pulseIn(echoPin, HIGH); |
|  | distance = (duration/2) / 29.1; |
|  | //when distance is greater than or equal to 200 OR less than or equal to 0,the buzzer and LED are off |
|  | if (distance < 100) |
|  | { |
|  | Serial.println("alert"); |
|  | digitalWrite(Buzzer,LOW); |
|  | digitalWrite(ledPin,LOW); |
|  | } |
|  | else { |
|  | Serial.println("object detected \n"); |
|  | Serial.print("distance= "); |
|  | Serial.print(distance); //prints the distance if it is between the range 0 to 200 |
|  | tone(Buzzer,400); // play tone of 400Hz for 500 ms |
|  | digitalWrite(ledPin,HIGH); |
|  | } |
|  | } |

**Simulation :**

