

## APPENDIX

```
// defines pins numbers
const int trigPin = 9;
const int echoPin = 10;
const int buzzer = 11;
const int ledPin = 13;
const int led2Pin = 7;

// title - ultrasonic sensor project

with buzzer and Arduino
// defines variables
long duration;
int distance;
int safetyDistance;

void setup()
{
  pinMode(trigPin, OUTPUT); // Sets the trigPin as an Output
  pinMode(echoPin, INPUT); // Sets the echoPin as an Input
  pinMode(buzzer, OUTPUT);
  pinMode(ledPin, OUTPUT);
  pinMode(led2Pin, OUTPUT);
  Serial.begin(9600); // Starts the serial communication
}
void loop()
{
  // Clears the trigPin
  digitalWrite(trigPin, LOW);
  delayMicroseconds(2);

  // Sets the trigPin on HIGH state for 10 micro seconds
  digitalWrite(trigPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin, LOW);

  // Reads the echoPin, returns the sound wave travel time in microseconds
  duration = pulseIn(echoPin, HIGH);

  // Calculating the distance
  distance= duration*0.034/2;

  safetyDistance = distance;
  if (safetyDistance <= 20) // You can change safe distance from here changing
  value Ex. 20 , 40 , 60 , 80 , 100, all in cm
  {
    digitalWrite(buzzer, HIGH);
    digitalWrite(ledPin, HIGH);
  }
}
```

```
    digitalWrite(led2Pin, LOW);  
}  
Else  
{  
    digitalWrite(buzzer, LOW);  
    digitalWrite(led2Pin, HIGH);  
    digitalWrite(ledPin, LOW);  
}  
}
```