

Project 18 - Ultrasonic Security System Code

Copy and Paste the code below into the Arduino sketch window. Verify and upload the code to the board.

```
#define trigPin 7
#define echoPin 6
#define LEDlampRed 9
#define LEDlampYellow 10
#define LEDlampGreen 11
#define soundbuzzer 3
int sound = 500;

void setup() {
  Serial.begin (9600);
  pinMode(trigPin, OUTPUT);
  pinMode(echoPin, INPUT);
  pinMode(LEDlampRed, OUTPUT);
  pinMode(LEDlampYellow, OUTPUT);
  pinMode(LEDlampGreen, OUTPUT);
  pinMode(soundbuzzer, OUTPUT);
}
void loop() {
  long durationindigit, distanceincm;
  digitalWrite(trigPin, LOW);
  delayMicroseconds(2);
  digitalWrite(trigPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin, LOW);
  durationindigit = pulseIn(echoPin, HIGH);
  distanceincm = (durationindigit/5) / 29.1;

  digitalWrite(LEDlampGreen, HIGH);
  digitalWrite(LEDlampYellow, HIGH);
  digitalWrite(LEDlampRed, HIGH);

  if (distanceincm < 50) {
    digitalWrite(LEDlampGreen, HIGH);
  }
  else {
    digitalWrite(LEDlampGreen, LOW);
  }
}
```

```
if (distanceincm < 20) {  
  digitalWrite(LEDlampYellow, HIGH);  
}  
else {  
  digitalWrite(LEDlampYellow,LOW);  
}  
if (distanceincm < 5) {  
  digitalWrite(LEDlampRed, HIGH);  
  sound = 1000;  
}  
else {  
  digitalWrite(LEDlampRed,LOW);  
}  
  
if (distanceincm > 5 || distanceincm <= 0){  
  Serial.println("Outside the permissible range of distances");  
  noTone(soundbuzzer);  
}  
else {  
  Serial.print(distanceincm);  
  Serial.println(" cm");  
  tone(soundbuzzer, sound);  
}  
  
delay(300);  
}
```