[Interfacing & Programming of Ultrasonic Sensor HC-SR04](http://mechstuff.com/connection-interfacing-programming-of-ultrasonic-sensor-hc-sr04/)

About Ultrasonic sensor HC-SR04 :-

The transmitter transmits ultrasonic pulses & they are reflected back & gets sensed by the receiver if any obstacle lies between the path.  
The range of this ultrasonic is about 4 metres. There is a chance of error of +-3cm in measuring the distance.  
It measures the time interval between sending & receiving the pulse & then by a formula – gives us the distance.

It has got 4 pins :-  
VCC –                             connect it to 5V supply.  
GND –                            connect it to ground.  
echopin, trigpin –  connect it to any digital pin (as of here, we’ve connected them to 9, 10).

& the positive terminal of the LED is connected to pin number 7 on Arduino !

Code for the Ultrasonic sensor :-

int trigPin = 9;

int echoPin = 10;

int led = 7;

void setup() {

Serial.begin(9600);

pinMode(led, OUTPUT);

pinMode(trigPin, OUTPUT);

pinMode(echoPin, INPUT);

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

}

void loop() {

long duration, distance;

digitalWrite(trigPin,HIGH);

delayMicroseconds(1000);

digitalWrite(trigPin, LOW);

duration=pulseIn(echoPin, HIGH);

distance =(duration/2)/29.1;

Serial.print(distance);

Serial.println("CM");

delay(10);

if((distance<=10))

{

digitalWrite(led, HIGH);

}

else if(distance>10)

{

digitalWrite(led, LOW);

}

}