

SIMULATION CODE:**Arduino Code:**

```
#include <dht.h> //Temprature and Humidity Library
#define outPin 8 //
const int trigPin = 9;
const int echoPin = 10;
const int led = 2;
long duration;
int distance;
int safetyDistance;
dht DHT;
void setup() {
pinMode(trigPin, OUTPUT); // Sets the trigPin as an Output
pinMode(echoPin, INPUT); // Sets the echoPin as an Input
pinMode(led, OUTPUT);
pinMode(13, OUTPUT);
Serial.begin(9600);
}
void loop() {
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;
if (distance<10){
digitalWrite(13, HIGH);
}
else { 15
```

```
digitalWrite(13, LOW);
}
int readData = DHT.read11(outPin);
float t = DHT.temperature; // Read temperature
float h = DHT.humidity; // Read humidity
// Prints the distance on the Serial Monitor
Serial.print("Distance: ");
Serial.println(distance);
Serial.print("Temperature = ");
Serial.print(t);
Serial.print("°C | ");
Serial.print((t*9.0)/5.0+32.0); // Convert celsius to fahrenheit
Serial.println("°F ");
Serial.print("Humidity = ");
Serial.print(h);
Serial.println("% ");
Serial.println("");
delay(3000); // wait two seconds
}
```