```arduino
int a=0;

void setup()
{
 pinMode(2,INPUT);
 pinMode(13,OUTPUT);
 Serial.begin(9600);
 }

void loop()
{
 //read the state of the sensor/digital input
 digitalWrite(13,LOW);
 int a=digitalRead(2);
 //check the sensor pin is HIGH if it is set then
 //LED on
 if(a==1)
  {
   Serial.println("Sensor activated");
   digitalWrite(13,HIGH);
  }
 delay(1000);
}


//--------------------------------------------------------------------//
//----------------------ULTRASONIC SENSOR----------------------------//
//--------------------------------------------------------------------//



int e =3;
int b = 10;
int time;
int distance;
void setup()
{
Serial.begin(9600);
pinMode(t,OUTPUT);
pinMode(e,INPUT);
pinMode(b,OUTPUT);
}
void loop()
{
digitalWrite(t,LOW);
digitalWrite(t,HIGH);
float dur=pulseIn(e,HIGH);
float dis=(dur*0.034)/2;

 (distance <=10);

Serial.print("Door Open");
Serial.println("Distance=");
Serial.println(distance);
```

```
digitalWrite (b,HIGH);
delayMicroseconds(10);
Serial.println("Door Closed");
Serial.print("Distance=");
Serial.println(distance);
digitalWrite(b,LOW);
}
```