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## ASSIGNMENT 1

### OBJECTIVE:

Make a smart Home in, using 2+ sensors, led, buzzer in single code and circuit.

### CODE:

```
// C++ code

int trig=13;

int echo=12;

void setup()

{

    pinMode(trig,OUTPUT);

    pinMode(echo,INPUT);

    pinMode(11,INPUT);

    Serial.begin(9600);

    pinMode(10,OUTPUT); // buzzer for temp

    pinMode(8,OUTPUT); //led of ultrasonic

    pinMode(9,OUTPUT); //led of pir

}

void loop()

{

    double a=analogRead(A5);

    Serial.print("adc value:");

    Serial.println(a);
```

```

double v=a/1024;

double tvolt=v*5; // here 5 is in volt and thhiseqe for elect to temp volt

Serial.print("temp volt:");

Serial.println(tvolt);

double o=tvolt-0.5; //for octol and 0.5 for min volt for octal

double t=o*100;// this two eqe for volt to temp

Serial.print("temp is:");

Serial.println(t);

//delay(2000);

digitalWrite(trig,LOW); //off

digitalWrite(trig,HIGH);

delayMicroseconds(10);

digitalWrite(trig,LOW); // till this for trigger

float dur=pulseIn(echo,HIGH); // echo on

float dist=(dur*0.0343)/4; //cm to m

Serial.println("distance:");

Serial.println(dist); //ultra sonic

int m=digitalRead(11);

Serial.print("motion detected : ");

Serial.println(m);

if(t>=40)

{

    Serial.println("*****house on fire*****");

    digitalWrite(10,HIGH);//to get

}

else

{

    digitalWrite(10,LOW);

}

//delay(2000)

```

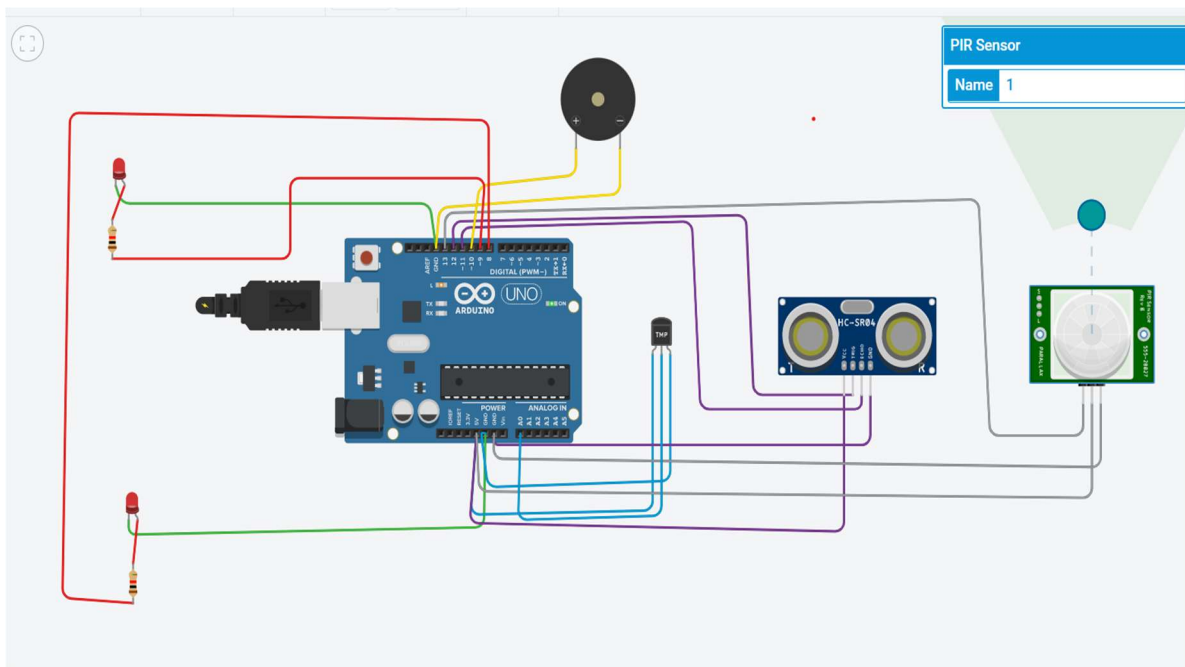
```
if(dist<=18)
{
    Serial.println("**please kindly turn on light and fan**");
    digitalWrite(8,HIGH); //
}
else
{
    Serial.println("*****turn off light and fan****");
    digitalWrite(2,LOW);
}
if(m==1)
{
    Serial.println("*****open the cupboard*****");
    digitalWrite(9,HIGH);
    delay(50);
}
else
{
    Serial.println("*****close the cupboard*****");
    digitalWrite(9,LOW);
}
delay(50);
}
```

OUTPUT:

```
File Edit Selection View Go Run Terminal Help
tinkercad X
C:\Users\sathya R > OneDrive > Documents > Resume folder > tinkercad

1 CODE:
2 // C++ code
3 //
4 int trig=13;
5 int echo=12;
6 void setup()
7 {
8   pinMode(trig,OUTPUT);
9   pinMode(echo,INPUT);
10  pinMode(11,INPUT);
11  Serial.begin(9600);
12  pinMode(10,OUTPUT); // buzzer for temp
13  pinMode(8,OUTPUT); //led of ultrasonic
14  pinMode(9,OUTPUT); //led of pir
15 }
16
17 void loop()
18 {
19   double a=analogRead(A5);
20   Serial.print("adc value:");
21   Serial.println(a);

```



STIMULATION LINK:

<https://www.tinkercad.com/things/4P62geulvcp-terrific-bruticus-jaagub/editel>