

PRASATH V

PNT2022TMID01111

ASSIGNMENT 1

OBJECTIVE:

Make a Smart Home in Tinkercad, using 2+ sensors, Led, Buzzer in single code and circuit.

CODE:

```
// C++ code

//

int trig=12;

int echo=11;

void setup()

{

    pinMode(trig,OUTPUT);

    pinMode(echo,INPUT);

    pinMode(13,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(A0);
```

```
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(13);
```

```
Serial.print("motion detected : ");

Serial.println(m);

if(t>=45)

{

    Serial.println("*****FIRE ALERT*****");

    digitalWrite(10,HIGH);//to get

}

else

{

    digitalWrite(10,LOW);

}

//delay(2000);


if(dist<=20)

{

    Serial.println("turn on light and fan");

    digitalWrite(8,HIGH); //

}

else

{

    Serial.println("turn off light and fan");

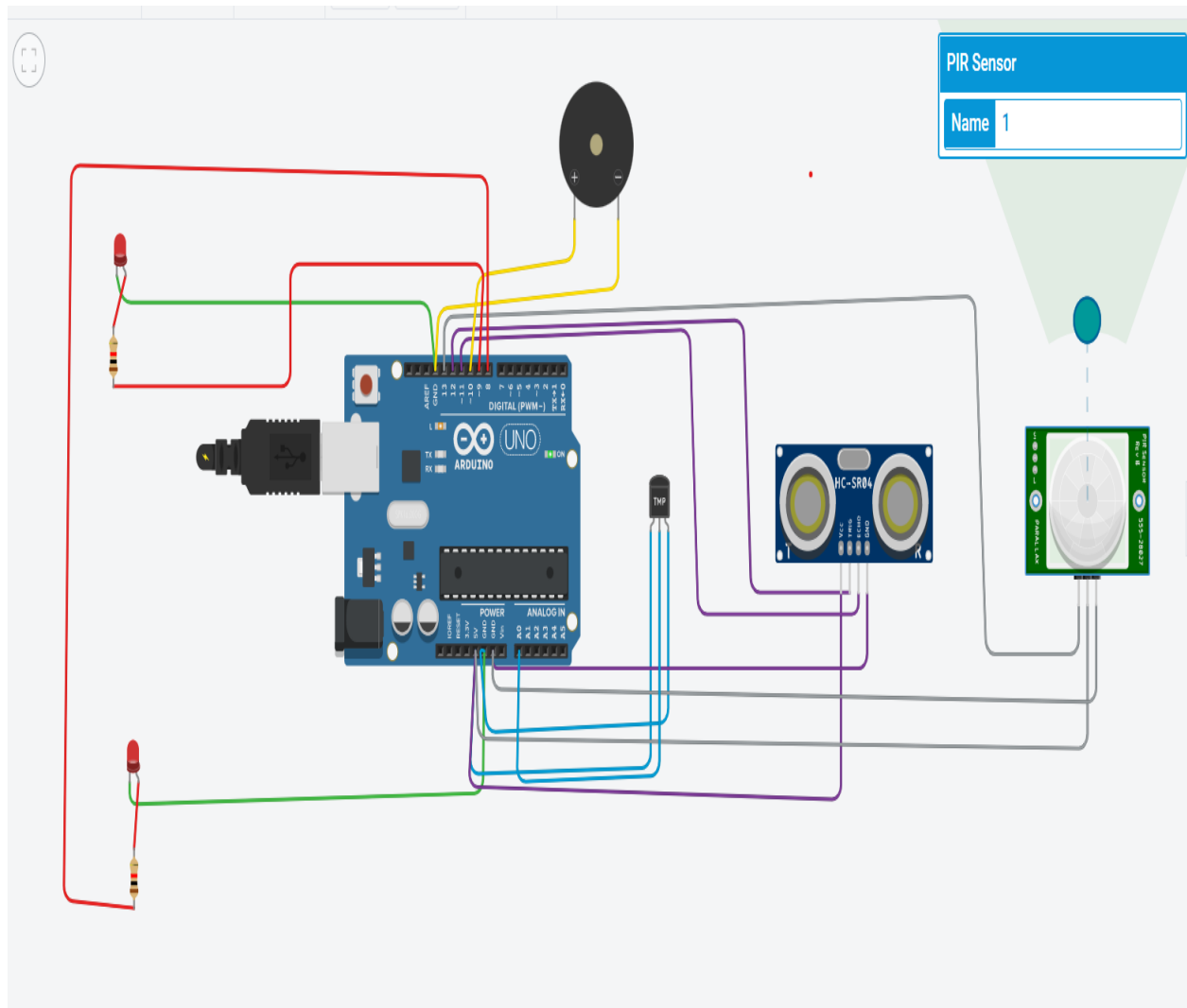
    digitalWrite(8,LOW);

}


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:



SIMULATION LINK:

<https://www.tinkercad.com/things/8Gr4fVIBejF-fabulous-gogo/editel?tenant=circuits>