

ASSIGNMENT – I

DOMAIN: IOT

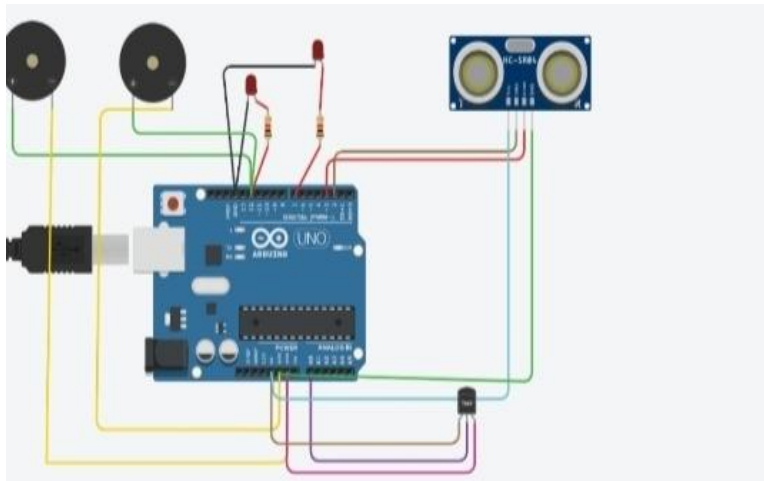
TITLE: SMART HOME

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Schematic (Circuit Diagram)

SMART Home Circuit Connection:



Components Used:

- i) 2 Piezo Buzzer
- ii) Temperature Sensor
- iii) Ultrasonic Sensor
- iv) LED -2
- v) Resistor-2

Code:

```
int t=2;
int e=3;
void setup()
{
  Serial.begin(9600);
  pinMode(t,OUTPUT);
  pinMode(e,INPUT);
  pinMode(12,OUTPUT);
}
void loop()
{
  //ultrasonic sensor
  digitalWrite(t,LOW);
  digitalWrite(t,HIGH);
  delayMicroseconds(10);
  digitalWrite(t,LOW);
  float dur=pulseIn(e,HIGH);
  float dis=(dur*0.0343)/2;
  Serial.print("Distance is: ");
  Serial.println(dis);

  //LED ON
```

```
if(dis>=100)//(in terms of centimeter)
```

```
{
```

```
digitalWrite(8,HIGH);
```

```
digitalWrite(7,HIGH);
```

```
}
```

```
//Buzzer For ultrasonic Sensor
```

```
if(dis>=100)
```

```
{
```

```
for(int i=0; i<=30000; i=i+10)
```

```
{
```

```
tone(12,i);
```

```
delay(1000);
```

```
noTone(12);
```

```
delay(1000);
```

```
}
```

```
}
```

```
//Temperate Sensor
```

```
double a= analogRead(A0);
```

```
double t=((a/1024)*5)-0.5)*100;
```

```
Serial.print("Temp Value: ");
```

```
Serial.println(t);
```

```
delay(1000);
```

```
//LED ON
```

```
if(t>=100)//(in terms of celsius)
```

```
{
```

```
digitalWrite(8,HIGH);
```

```
digitalWrite(7,HIGH);
}
//Buzzer for Temperature Sensor
if(t>=100)
{
for(int i=0; i<=30000; i=i+10)
{
tone(12,i);
delay(1000);
noTone(12);
delay(1000);
}
}
//LED OFF
if(t<100)
{
digitalWrite(8,LOW);
digitalWrite(7,LOW);
}
}
```

TINKERCAD

<https://www.tinkercad.com/things/aPiilrg4gsS-cool-habbi/editel?sharecode=BmchgPL6lpPvJxnWdhu-LzwkdLiXND5fgibNZcKwN7g>