Professional Readiness for Innovation, Employability and Entrepreneurs

SMART HOME

Submitted By,

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B12-6A2E

Temperature Monitoring System Using Temperature sensor

Code:

```
int baselineTemp = 0;
int celsius = 0;
int fahrenheit = 0;

void setup()
{
  pinMode(A0, INPUT);
  Serial.begin(9600);

  pinMode(2, OUTPUT);
  pinMode(3, OUTPUT);
  pinMode(4, OUTPUT);
  pinMode(7, OUTPUT);
}

void loop()
{
  baselineTemp = 40;

  celsius = map(((analogRead(A0) - 20) * 3.04), 0, 1023, -40, 125);

   fahrenheit = ((celsius * 9) / 5 + 32);
```

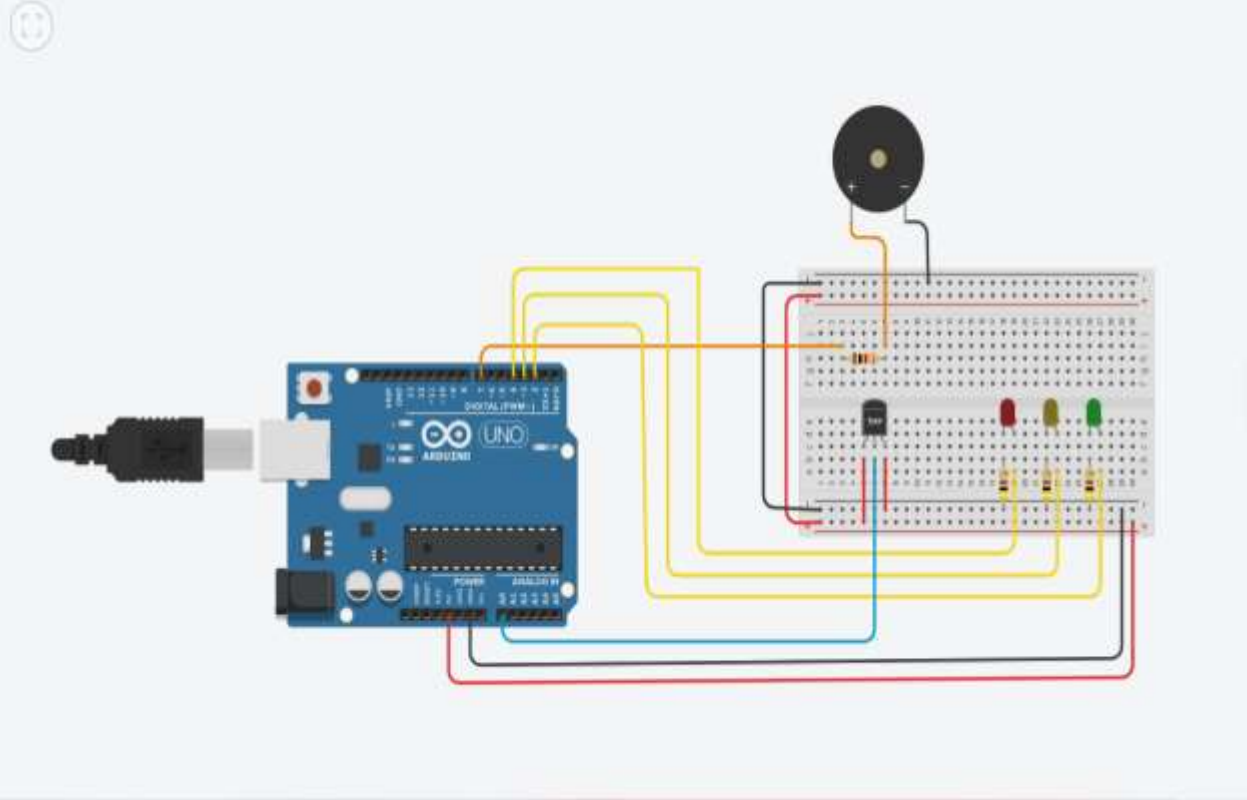
```
Serial.print(celsius);
Serial.print(" C, ");
Serial.print(fahrenheit);
Serial.println(" F");


 if (celsius < baselineTemp) {
  digitalWrite(2, LOW);
  digitalWrite(3, LOW);
  digitalWrite(4, LOW);
}
if (celsius >= baselineTemp && celsius < baselineTemp + 10) {
  digitalWrite(2, HIGH);
  digitalWrite(3, LOW);
  digitalWrite(4, LOW);
}
if (celsius >= baselineTemp + 10 && celsius < baselineTemp + 20) {
  digitalWrite(2, HIGH);
  digitalWrite(3, HIGH);
  digitalWrite(4, LOW);
}
if (celsius >= baselineTemp + 20 && celsius < baselineTemp + 30) {
  digitalWrite(2, HIGH);
  digitalWrite(3, HIGH);
  digitalWrite(4, HIGH);
  tone(7, 220, 100);
  delay(100);
```

```
  }
  if (celsius >= baselineTemp + 30) {
    digitalWrite(2, HIGH);
    digitalWrite(3, HIGH);
    digitalWrite(4, HIGH);
     tone(7, 220, 100);
     delay(100);
  }
  delay(1000);
}
```

Tinkercad link:

https://www.tinkercad.com/things/4Q3Vi5uMgop?sharecode=p5MzP1H16EqDjBkJ7ajbkiRT9vwGxat-PPrKXpX0c1M

Figure:



In this circuit, a temperature sensor is used(TMP36). **when the Temperature goes above 60 degree celcius the buzzer is turned on and the led light blinks**. when the temperature goes below 60, buzzer and lights are turned off.