

Assignment:2

Assignment date	28-09-2022
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Maximum mark	2 Mark

Question-1:

Build a python code, Assume u get temperature and humidity value(generated with random function into a variable) and write a condition to continuously detect alarm in case of high temperature

Solution :

```
#include "DHT.h"

#define DHTPIN 2

#define DHTTYPE DHT22  #include "DHT.h"

#define DHTPIN 2

#define DHTTYPE DHT22
```

```
DHT dht(DHTPIN, DHTTYPE);
```

```
void setup() {
```

```
    Serial.begin(9600);
```

```
    Serial.println("DHTxx test!");
```

```
    dht.begin();
```

```
}
```

```
void loop() {
```

```
    delay(2000);
```

```
    float h = dht.readHumidity();
```

```
    float t = dht.readTemperature();
```

```
    float f = dht.readTemperature(true);
```

```
if (isnan(h) || isnan(t) || isnan(f)) {  
    Serial.println("Failed to read from DHT sensor!");  
    return;  
}
```

```
float hif = dht.computeHeatIndex(f, h);  
float hic = dht.computeHeatIndex(t, h, false);
```

```
Serial.print("Humidity: ");  
Serial.print(h);  
Serial.print(" %\t");  
Serial.print("Temperature: ");  
Serial.print(t);  
Serial.print(" *C ");  
Serial.print(f);  
Serial.print(" *F\t");  
Serial.print("Heat index: ");
```

```
Serial.print(hic);  
Serial.print(" *C ");  
Serial.print(hif);  
Serial.println(" *F");  
}
```

```
DHT dht(DHTPIN, DHTTYPE);
```

```
void setup() {  
  Serial.begin(9600);  
  Serial.println("DHTxx test!");  
  
  dht.begin();  
}
```

```
void loop() {
```

```
delay(2000);

float h = dht.readHumidity();

float t = dht.readTemperature();

float f = dht.readTemperature(true);


if (isnan(h) || isnan(t) || isnan(f)) {

    Serial.println("Failed to read from DHT sensor!");

    return;

}


float hif = dht.computeHeatIndex(f, h);

float hic = dht.computeHeatIndex(t, h, false);


Serial.print("Humidity: ");

Serial.print(h);

Serial.print(" %\t");

Serial.print("Temperature: ");
```

```
Serial.print(t);  
Serial.print(" *C ");  
Serial.print(f);  
Serial.print(" *F\t");  
Serial.print("Heat index: ");  
Serial.print(hic);  
Serial.print(" *C ");  
Serial.print(hif);  
Serial.println(" *F");  
}
```

Output:

temp = 24.0 C	humidity = 69.0 %
temp = 24.0 C	humidity = 70.0 %
temp = 24.0 C	humidity = 70.0 %
temp = 24.0 C	humidity = 70.0 %
temp = 24.0 C	humidity = 71.0 %
temp = 24.0 C	humidity = 71.0 %
temp = 24.0 C	humidity = 71.0 %
temp = 24.0 C	humidity = 73.0 %
temp = 24.0 C	humidity = 73.0 %
temp = 24.0 C	humidity = 73.0 %
temp = 24.0 C	humidity = 75.0 %
temp = 24.0 C	humidity = 75.0 %
temp = 24.0 C	humidity = 75.0 %
temp = 25.0 C	humidity = 91.0 %
temp = 25.0 C	humidity = 91.0 %
temp = 25.0 C	humidity = 91.0 %
temp = 27.0 C	humidity = 92.0 %
Temperature is greater & =	
temp = 27.0 C	humidity = 92.0 %
Temperature is greater & =	
temp = 28.0 C	humidity = 92.0 %