Experiment No. 8

```
#include <DHT.h>

// Define the DHT11 sensor type and pin
#define DHTPIN 2      // Pin where the DHT11 is connected
#define DHTTYPE DHT11 // DHT 11

// Initialize the DHT sensor
DHT dht(DHTPIN, DHTTYPE);

// Variables to store the current, maximum, and minimum
temperatures float currentTemperatureF = 0.0; float maxTemperatureF
= -1000.0; float minTemperatureF = 1000.0;

void setup() {
  // Start the serial communication
  Serial.begin(9600);

  // Initialize the DHT sensor
  dht.begin();
}

void loop() {
  // Read temperature as Celsius float
  temperatureC = dht.readTemperature();

  // Check if the reading is valid (non-NAN)
  if (isnan(temperatureC)) {
    Serial.println("Failed to read from DHT sensor!");
    return;
  }

  // Convert the temperature to Fahrenheit
  currentTemperatureF = (temperatureC * 9.0 / 5.0) + 32.0; //
```

```
  Update the maximum and minimum temperatures if
  (currentTemperatureF > maxTemperatureF) {
    maxTemperatureF = currentTemperatureF;
  }

  if (currentTemperatureF < minTemperatureF) {
    minTemperatureF = currentTemperatureF;
  }

  Serial.print("Current Temperature degree celsius : ");
  Serial.print(temperatureC);
  Serial.println(" °C");

  // Display the current, maximum, and minimum temperatures
  Serial.print("Current Temperature: ");
  Serial.print(currentTemperatureF);
  Serial.println(" °F");

  Serial.print("Max Temperature: ");
  Serial.print(maxTemperatureF);
  Serial.println(" °F");

  Serial.print("Min Temperature: ");
  Serial.print(minTemperatureF);
  Serial.println(" °F");

  // Wait for 4 seconds before taking another reading
  delay(4000);
}
```

```
Max Temperature: 84.20°F
Min Temperature: 84.20°F
Current Temperature degree celsius: 29.00°C
Current Temperature: 84.20°F
Max Temperature: 84.20°F
Min Temperature: 84.20°F
Current Temperature degree celsius: 29.00°C
Current Temperature: 84.20°F
Max Temperature: 84.20°F
Min Temperature: 84.20°F
Current Temperature degree celsius: 29.00°C
Current Temperature: 84.20°F
Max Temperature: 84.20°F
Min Temperature: 84.20°F
Current Temperature degree celsius: 29.10°C
Current Temperature: 84.38°F
Max Temperature: 84.38°F
Min Temperature: 84.20°F
Current Temperature degree celsius: 29.10°C
Current Temperature: 84.38°F
Max Temperature: 84.38°F
Min Temperature: 84.20°F
Current Temperature degree celsius: 29.20°C
Current Temperature: 84.56°F
Max Temperature: 84.56°F
Min Temperature: 84.20°F
Current Temperature degree celsi
```

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