Experiment NO 8

Write a program so it displays the temperature in Fahrenheit as well as the maximum and minimum temperatures it has seen.

CODE :-

```
const int tempPin = A0; // LM35 connected to analog pin A0

float temperatureC = 0;
float temperatureF = 0;

// Initialize max/min with extreme values
float maxTempF = -1000.0;
float minTempF = 1000.0;

void setup() {
  Serial.begin(9600); // Start serial communication
  Serial.println("Temperature Monitoring Started");
}

void loop() {
  int analogValue = analogRead(tempPin); // Read analog value
  float voltage = analogValue * (5.0 / 1023.0); // Convert to voltage
  temperatureC = voltage * 100.0; // LM35: 10mV per °C
  temperatureF = (temperatureC * 9.0 / 5.0) + 32.0; // Convert to Fahrenheit

  // Update max and min
  if (temperatureF > maxTempF) {
    maxTempF = temperatureF;
```

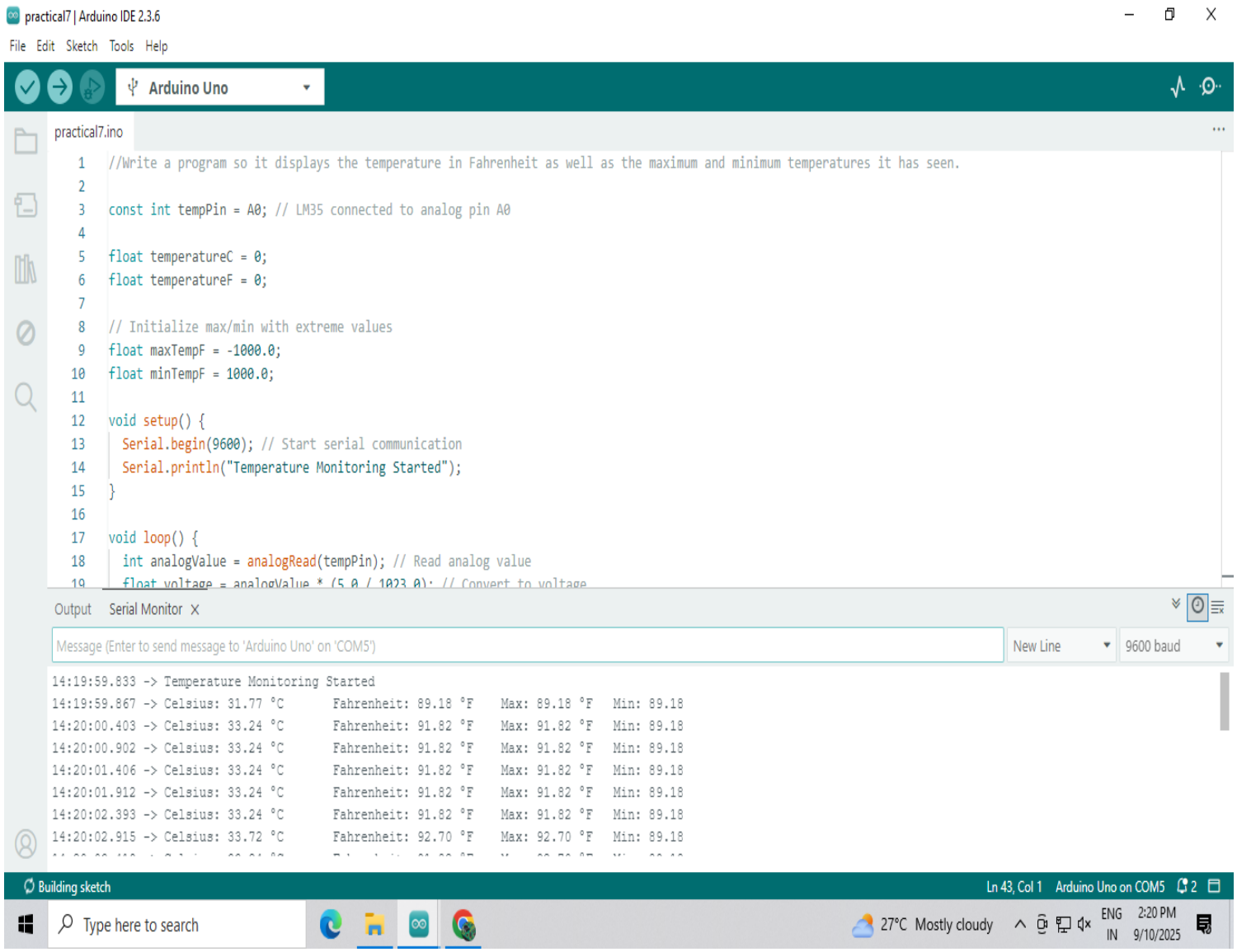
```
  }
  if (temperatureF < minTempF) {
    minTempF = temperatureF;
  }

  // Display readings
  Serial.print("Celsius: ");
  Serial.print(temperatureC);
  Serial.print(" °C\tFahrenheit: ");
  Serial.print(temperatureF);
  Serial.print(" °F\tMax: ");
  Serial.print(maxTempF);
  Serial.print(" °F\tMin: ");
  Serial.println(minTempF);

  delay(500); // Update every 0.5 seconds
}
```

Output:-


(ARDU-IOT-V1.2)
Power Section
9-12VDC
OLED DISPLAY
DHT11 Sensor
SERVO MOTOR
ESP8266
5V Relay Interface
Buzzer Interface
LM35 Analog Interface
UNO
Arduino UNO


practical7 | Arduino IDE 2.3.6
File Edit Sketch Tools Help
Arduino Uno
practical7.ino
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float temperatureC = 0;
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// Initialize max/min with extreme values
float maxTempF = -1000.0;
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void setup() {
Serial.begin(9600); // Start serial communication
Serial.println("Temperature Monitoring Started");
}
void loop() {
int analogValue = analogRead(tempPin); // Read analog value
Output Serial Monitor
Message (Enter to send message to 'Arduino Uno' on 'COM5')
New Line
9600 baud
14:19:59.833 -> Temperature Monitoring Started
14:19:59.867 -> Celsius: 31.77 °C Fahrenheit: 89.18 °F Max: 89.18 °F Min: 89.18
14:20:00.403 -> Celsius: 33.24 °C Fahrenheit: 91.82 °F Max: 91.82 °F Min: 89.18
14:20:00.902 -> Celsius: 33.24 °C Fahrenheit: 91.82 °F Max: 91.82 °F Min: 89.18
14:20:01.406 -> Celsius: 33.24 °C Fahrenheit: 91.82 °F Max: 91.82 °F Min: 89.18
14:20:01.912 -> Celsius: 33.24 °C Fahrenheit: 91.82 °F Max: 91.82 °F Min: 89.18
14:20:02.393 -> Celsius: 33.24 °C Fahrenheit: 91.82 °F Max: 91.82 °F Min: 89.18
14:20:02.915 -> Celsius: 33.72 °C Fahrenheit: 92.70 °F Max: 92.70 °F Min: 89.18
Building sketch
Ln 43, Col 1 Arduino Uno on COM5 2
Type here to search
27°C Mostly cloudy
ENG IN
2:20 PM 9/10/2025