Firmware Assignment- NAMITHA C S

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const int lm35Pin = A0;  // LM35 temperature sensor connected to A0
const int ledPin = 13;   // Onboard LED connected to pin 13

int temperature;         // Variable to store temperature reading

void setup() {
  pinMode(ledPin, OUTPUT);
  Serial.begin(9600);
}

void loop() {
  temperature = readTemperature();  // Read temperature from LM35 sensor

  if (temperature < 30) {
    blinkLED(250);  // Blink LED every 250 milliseconds
  } else {
    blinkLED(500);  // Blink LED every 500 milliseconds
  }

}

int readTemperature() {
  int rawValue = analogRead(lm35Pin);  // Read raw analog value from LM35
  float voltage = (rawValue / 1023.0) * 5.0;  // Convert raw value to voltage
  int temperatureC = (voltage - 0.5) * 100.0;  // Convert voltage to temperature
in Celsius

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

  return temperatureC;
}

void blinkLED(int interval) {
  static unsigned long previousMillis = 0;
  unsigned long currentMillis = millis();

  if (currentMillis - previousMillis >= interval) {
    digitalWrite(ledPin, !digitalRead(ledPin));  // Toggle LED state
    previousMillis = currentMillis;
  }
```

```
}
```