The Irresistible Temperature Assignment

Objective: Hone your C++ and IoT skills

Overview: This is a 2-part assignment. Part I is a pure C++ program that will be completed on repl.it; part II is a Wiring program that you will complete in VSC.

Part I: Write a program that will prompt the user for 4 bands, and print out the resistance ±.

Sample output:

Band 1: **red**
Band 2: **green**
Band 3: **brown**
Band 4: **gold**

Resistance: 250.0 (237.5 - 262.5)

Requirements:
Two .cpp files — main.cpp and resistance.cpp — and one .h file — resistance.h
resistance.h should include these methods:
// returns 0, 1, 2, ... according to the color
int bandLookup(string color);

// prints out the resistance, including the range, as shown above
void resistance(string band1, string band2, string band3, string band4);

The code to prompt for the bands should take place in main().

Part II: Create a circuit that contains a TMP36, 3 LEDs - which we will dub "cold", "just right", and "hot", and 2 buttons, testLEDs() and capture()

When the firmware starts, measure the ambient temperature, and light up the just right LED. Should the temperature decrease from ambient by more than 2 degrees, light up the cold LED; should the temperature increase from ambient by more than 2 degrees, light up the hot LED.

When the testLEDs button is pressed, the 3 LEDs should display some unique and interesting pattern (providing evidence that all 3 LEDs are functioning properly).

When the capture button is pressed, the current temperature will be captured as ambient.

Deliverables:
Part I: Upload a link to your repl.

Part II: Upload your project and an image showing your circuit. Provide an in-office or in-help-session of your project, demonstrating all functionality.