C/C++ Programming Homework #4

Talent Show Score Calculator

A talent show competition has five judges, each of whom awards a score between 0 and 5 to each performer (Fractional scores, such as 3.8, are allowed). A performer's final score is determined by dropping the highest and lowest score received, then averaging the three remaining scores. Write a program that uses this method to calculate a contestant's score. It should include the following functions:

- `void getContestantName(string &)` should ask the user for the contestant's name (please use pass-by-reference)
- `double getJudgeData(int)` should ask the user for a judge's score, store it in a reference parameter variable, and validate it. This function should be called by `main` once for each of the five judges.
  - The judge # is passed to present the proper prompt to the user.
  - Input Validation: Do not accept judge scores lower than 0 or higher than 5. If the input is invalid, ask the user to enter the score again.
- `double calcScore(double, double, double, double, double)` should calculate and return the average of the three scores that remain after dropping the highest and lowest scores the performer received. This function should be called just once by `main()` and should be passed the five scores. (You may change the function prototype)
- `void displayResult(string, double)` should display the contestant's name and the calculated final score.

The last two functions, described below, should be called by `calcScore`, which uses the returned information to determine which of the scores to drop.

- `double findLowest(double, double, double, double, double)` should find and return the lowest of the five scores passed to it. (You may change the function prototype)
- `double findHighest(double, double, double, double, double)` should find and return the highest of the five scores passed to it. (You may change the function prototype)

A program running example is shown below:

```
Enter the contestant's name: Alice Wonderland
Enter judge #1's score: 3
Enter judge #2's score: 4.3
Enter judge #3's score: 3.3
Enter judge #4's score: 5
Enter judge #5's score: 2.5

Contestant Name: Alice Wonderland
After dropping the lowest and highest scores, the average score was 3.5.
```

Note:
When you write your program, be sure you:
- use meaningful variable names with good style (i.e., useCamelCase)
- use comments (// single-line or /* Multi-line Comment */) at the start of the program, to label tricky blocks of code, and to explain the contents of variables
- use global constants where appropriate with good style ALL_CAPS_AND_UNDERSCORES (Put your global constants after your #include compiler-directives and before your main function definition so they can be found and changed easily in future versions of your program.)
- format the user interaction nicely. Provide clear instructions to the user.

Submission requirements:
Submit the following files in the e-Learning homework assignment link by the given deadline **(No late program submission will be accepted)**:
1. source file talentShowScore.cpp (your C++ source code)
2. A screenshot of your program running with the following inputs:
   Contestant name: Alice Wonderland
   judge score inputs: 3, 3.5, -2, 5, 3.8, 4. (yes, there is one invalid input)