Eh, Ray?

Professor Caleb Fowler
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Problem.

Your friend Ray has asked you to help demonstrate the abilities of arrays. Your task is to write a program which shows off the capabilities of arrays. You will create 2 10 element arrays, one for integesr and one for floats. You will load each with values in whatever way you choose.

Requirements.

- Include a void ProgramGreeting() function. This will run automatically once when the program first starts. This function should display (on individual lines):

  – A welcome message.
  – Your name (as author).
  – System date. Format this as MonthName day, year. Example:
  June 30, 1988.

- Store the results of all computations.
- Include your specification comments above the main portion of your code where you implement the specification. No credit if this is missing!
- Use white-space and comments to make your code more readable.
- Put a Source File Header at the top of your source file.
- Include a ProgramGreeting() function.
- Use function prototypes for all functions. Functions go below main().
- Do not use c (.h) style libraries. Use C++ libraries instead.
- Your program must compile in C++ on Ubuntu.
- Your program must generate logically correct output.
- Program activities are split into logical 'chunks' or paragraphs. I'm expecting paragraphs for input, processing (if any), and output operations.
- If there is non integer output, force the computer to always display 3 places to the right of the decimal.

Specifications.

// Specification C1 – Display Array Function
Overload a function to display the elements of each array on the screen.

// Specification C2 – Sum
Total all the elements in each array and display the totals.

// Specification C3 – Min and Max
Automatically find the smallest and largest element in each array and display them.

// Specification B1 – Value Hunt
Prompt Ray to enter a value for each array and then go looking for it. Indicate if that value is or is not present in the array. Use 0.05 margin for the floating point numbers.

// Specification B2 – A Ray Reversal
Reverse the order of the elements in both arrays (so element #1 is now element #10, element #2 is now element #9, etc. etc.). Don't just display them reversed, actually reverse the values. Display the arrays with the reversed values.

// Specification B3 - Element Shift
Shift all elements in the integer array 1 spot to the right. Shift all elements of the float array 1 spot to the left. Actually shift the elements - don't just display them shifted. Display both shifted arrays.

// Specification A - Reflection
Using the following prompts, generate feedback on your assignment using ChatGPT. Often shift-return will generate a blank line without submitting the prompt.

Analyze this student's code in relationship to commonly accepted C++ programming practices and standards. This is an assignment from an Introductory C++ programming course. Indicate if this code is likely to compile or run correctly in addition to your other feedback.
<Copy and Paste your source code here>

Review and reflect on the feedback the system gives you. Write this up in 250 words or more. Include your write up as a block comment at the bottom of your assignment. **Also indicate the number of words in your write up, as well**. You may wish to:

Comment on the overall quality of the assessment. Was it accurate? Did it make sense? Did you find it useful? Does it align with what you coded? You may wish to discuss one or two main themes the AI identified in relationship to your coding.

Memorialize your reaction to the feedback. Do you find it easier to get feedback from a computer or a human? Was there any advice in particular which was helpful to you? Can you think of a better prompt to generate the information you need? You can also use this as coding notes to yourself to help you remember some of the hard won lessons from this project.

I am NOT interested in the feedback from the generative AI. Do NOT copy and paste that in your program. I am interested in your thoughts about it however. You are free to use multiple prompts as well. I do not use this tool to grade your assignments - it's not accurate enough for my purposes. I will not grade the quality of your content. I want this to be useful to you and not worry about saying something "grade worthy". I suggest this is the last step you perform before you turn in your assignment. You can do it earlier if you wish, but the feedback will not be as useful. You are free to revise your code in light of the feedback you get, but remember, the assignment is what I grade to, not ChatGPT. Make sure you confirm your code runs before you turn it in.