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Description: Reflection on assignment 3a – creating a project plan.

Doing the project planning for this assignment was fun, and a great way for me to plan out how I would complete it satisfactorily. One thing I realized as I was beginning to design my program was that I couldn't initialize all the variables I planned to use in the traditional way. My first inclination was to initialize min and max to 0, but then I realized that this could potentially give back incorrect min/max values. For example: if the user were to enter only negative, or only positive, numbers the program would consider the max (or min in the case of only positive numbers) as 0. I had to take that into consideration and set the min max values based off the first number entered (if index, or the count of integers entered, was 0 I would set the min max values to that input value) and then evaluate further inputs based off that.

The four test cases I created all passed after writing the code and running through each test case. But I realize now, after reviewing my project plan, I probably should have tested more cases. One case I should have tested would have been if the user entered only negative numbers. Another case I should have tested would be if a user entered non-integer numbers. When I saw in the project description that we were to assume that the user enters only integers >= 1, my mind assumed that I didn't need to test that. Since my variable was declared cast as an int, I assume that it would have handled that case, but it would have been interesting to test.

Since I have previous programming experience, and I've spent a great deal of time working through planning a project before beginning to code, I was able to create a design that was thorough and accurate. I didn't have to make any adjustments from my initial design in this case. There was one adjustment I could have made. When evaluating input to see if I needed to set a new min or max, I checked for if current input <= min and if current input >= max and assigned the new min/max based on if those evaluated to true. I could have just checked if input < min and if input > max and been safe.

One part of my code I did a little google research on was the behavior of incrementing a counter. I couldn't decide if I wanted to increment the index for the while loop I used in my code by writing index++, ++index, or index += 1 (I wasn't sure how each would behave in C++). I ended up going safe and using index += 1 to ensure that it incremented appropriately.

Since this project had relatively simple requirements, I was able to develop a design plan that effectively mirrored the code I implemented. It would probably be good for me to review my plan, and test cases, a little slower for future projects. Making sure that I've created test cases to cover as many scenarios as possible would be good, and something I should have reviewed after I created my design plan. This was something I did not do but jumped directly from the design plan to implementing code.