Group Discussion - The shift from double to UNumber

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Activity Kind

Group Discussion

Purpose

The purpose of this activity is to begin the process of designing the third version of the calculator and setting up for the fourth version without destroying the good architecture and design work that produced what is currently there.

Pre-requisite

Students are expected to have completed

- Group Discussion - The flow from Class Diagram to Sequence Diagram to running code

Tasking

This mentor-driven discussion focuses on:

1. What changes need to be made and why?
2. How to implement those changes without damaging what is already working?
3. What risks do we need to address proactively?
4. Implement the design

The third release of the calculator adds Error Terms, while the fourth (final) release shifts the calculator to use the UNumber library for unlimited precision and adds Units. This final release is large, so we are doing some of the preparation for that during this third week.

The mentor will be asking a number of questions and as before, most of the answers will come from the students. When we add error terms to the calculator, which classes will be modified and why? When we shift to UNumbers, which classes will be modified by this change and why? Do you know how to code expressions using UNumber values? If so, how did you learn to do that? If not, what will you have to do to learn how they work? When you add units to the calculator, which classes will be modified and why? What have we done, if anything, that allows us to answer these questions, do you think that effort is worthwhile? if so, why? If not, why not?

You should answer these questions, to the best of your ability, and capture them in your ENB **before** the session, so you can leverage that thinking and be more proactive during the session. During the session, you should take more notes capture ideas from what others say so you can learn new ideas from them.

Deliverable

Each student is expected to provide evidence of their active participation by the things they write in their ENB prior to someone answering the question. Don't just write down what others say.

The students **must** also take notes during the activity and record any concerns, doubts, or new insights in their ENB. If there are no notes from this activity in an individual's engineering notebook, our only conclusion must be that you did not participate.

Submission

Students are expected to **complete** this part of their ENB prior to starting the next activity.