Small Group Exercise: Do Basic arithmetic with different sized operands

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Activity Kind

Small group exercise

Purpose

The purpose of this exercise is to explore the impact of the size of operands on the size of the result when doing calculations with the UNumber API.

Pre-requisite

Students are expected to have watched the video - Unlimited Precision arithmetic and participated with the Small Group Exercise: Do Basic arithmetic with UNumber.

Tasking

As a small group, build upon the first exercise to produce a new application with the following new requirements.

1. Place the bulk of the mainline into a loop that asks the user how many significant digits should be used to compute the square root of two. Read that value in, check it to make sure that it is greater than 10 and less than 10,000.
2. If the input is in the valid range, perform the square root of two algorithm after setting up the size of the variables to agree with the input value.
3. After the loop, read in as many digits from the “SquareRootOf2.txt” file from NASA, verify how many of the digits you have computed agrees with what NASA says are valid, and inform the user how many digits match the value you have computed on the console.
4. If the user enters an empty input line, the loop stops. If the input line is not empty, assume it is a new size variable and the loop continues.

Be sure that you capture in you ENB each step of this process, capturing evidence as you go. Do not just copy and paste the console output. You also need to explain what you are testing, why you are testing, why you entered what you did, and why the output that is displayed is correct.

Deliverable

Each student is responsible for producing notes, producing enhanced code, and post these results as evidence in their ENB.

Submission

Each student must produce and submit your ENB for the day.