Individual Research - Measure execution time using System.nanoTime()

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Activity Kind

Individual Research

Purpose

The purpose of this activity is to learn how to measure the time it takes code to perform its work.

Pre-requisite

Students are expected to have participated in the

- Individual Research - Rate of convergence to a square root
- Small Group Exercise - Doing UNumber arithmetic with different sized operands

Tasking

Continue working with the UNumber library and the small program you used to compute square root using the UNumber library. As you do the following, take notes in your ENB about what you did and any surprising results.

Set the program to work with values of 10,000 significant digits and compute the square root of 2.

Using the console display results, produce and Excel worksheet with column A containing the iteration number and column B containing the length of time required to compute the iteration.

In Excel, compute the sum of the times required to compute iterations.

Divide the total time by the number of iterations to compute the average time required for each iteration.

Save a copy of the console output and the Excel spreadsheet to your ENB as evidence of the work you have done.

Deliverable

Each individual is expected to provide evidence of these experiments in their ENB. If we do not see notes that make it clear that you did the work, we can only assume that you just copied the results from someone else.

Submission

Students are expected to **complete** this part of their ENB prior to midnight.