Introduction to Java

CS9053

Thursday 6 PM – 8:30 PM

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July 31st, 2024

Due: August 15th, 2024 11:59 PM

**Threading Matrix Multiplication**

The class MatrixMultiply has three 2500x2500 matrices, matrix1, matrix2, and matrix2. We calculate the matrix multiplication matrix1 x matrix2 x matrix3 to compute finalResult.

On my aging 8 core Macbook i5, this takes about 45 seconds (22.5 seconds for each matrix multiplication).

I want you to parallelize the matrixMultiply method using multithreading.

Compare the value returned by Runtime.getRuntime().availableProcessors(), to the number of threads you can parallelize the computation with until you no longer see a performance gain

Using the most threads you can, pass those threads to a ThreadPool and see how large the threadpool and be until you no longer see a performance gain, and give that result.