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Block LU factorization

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1   Introduction

Hi and welcome to project

2   Problem description

The problem is to perform a fast and efficient LU factorization using blocking. Some sub problems that arise at face value is how to store the blocks of the matrix as well how to use parallelism in the most effective way - the latter which will not have a straightforward answer until the first is addressed.

3   Solution method

The solution takes of with how to perform the blocking of the matrix A. In standard linear algebra algorithms (BLAS for example) column major storage of matrices is assumed. This is usually fine, but since the problem is of block type this will lead to the blocks themselves not being sequentially stored in memory which might cause cache misses and false sharing when employing the block algorithm.

4   Experiments

This is some experiments

5   Conclusions

Conclusions were made

References