

# CS 133 Lab 2

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## Experimental result

block size:

16: 14.86Gflops

32: 14.11Gflops

64: 16.87Gflops

processors:

4: 9.78Gflops

8: 12.97Gflops

16: 16.46Gflops

32: 20.15Gflops

## Data partition

I separate matrix A by  $n/\text{number of processes}$  and use scatter to send A to each of the processes. Then I send whole matrix B to each processes with broadcast method. Therefore, each process will execute several row times a whole matrix.

## Difference between Blocked version and Non-blocked version

Because the version of compiler, there is no unblocked version for the scatter and broadcast.

## Scalability

np 4: 4.69

np 8: 8.72

np 16: 14.56

np 32: 20.32

I get linear speedup as the number of processors increases.

## Comparing to OpenMP

Although these two kinds of method are totally different, the performance between them are similar. I roughly get same improvement on these two methods. However, the method with MPI is a little bit difficult to implement.