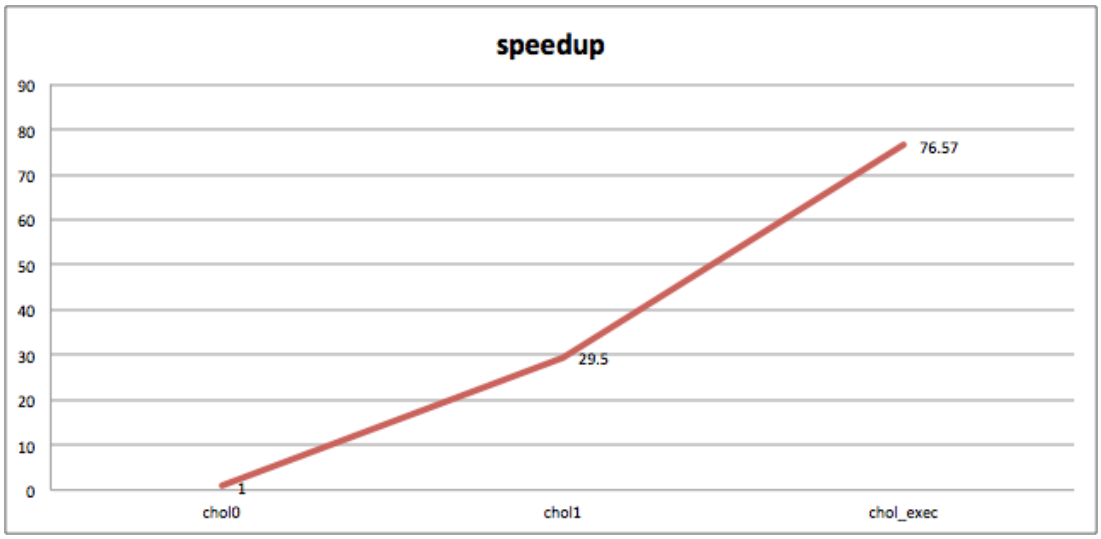
CS 594 HW 5 Yuping Lu

Test Machine: hydra12.eecs.utk.edu
The default block size is 50000 or smaller(the value in batch).
The default thread size is 1024.
I choose 32 for the size of the factorizations and 1000 for the size of the batch. It works for other values you choose.

The original output is:
ylu20:hydra12 ~/cuda> ./chol0 32 1000
ERROR: 0.000002
GLOPS: 0.006844

The first thing I do is to use blocks to parallel batch. So each block just computes exactly one matrix.
Here is the output:
ylu20:hydra12 ~/cuda> ./chol1 32 1000
ERROR: 0.000002
GLOPS: 0.201866

Then I use threads to parallel the computation in the each matrix.
ylu20:hydra12 ~/cuda> ./chol_exec 32 1000
ERROR: 0.000002
GLOPS: 0.524054



According to the chart above, speedup is 76.57 with multiple blocks and threads.