You are to implement parallel matrix multiplication (kji form) using OpenMP in the following ways:

- Work-sharing, outer-most loop
- Work-sharing, middle loop
- Work-sharing, innermost loop
- explicit "myid" based work distribution: block-1D row distribution (based on operations on result matrix)
- explicit "myid" based work distribution: block-1D column distribution (based on operations on result matrix)
- explicit "myid" based work distribution: block-2D row/column distribution (based on operations on result matrix)

Report performance results (as MFLOPS per processor) for N=64 and N=1024 on:

1. OSC Pentium cluster: each node is a dual processor SMP system; so the maximum number of processors is only 2 (not meaningful to do the 2D-block experiment for the Pentium).

2. OSC SGI Altix system: generate performance data for 1, 2, 4, 8, and 16 processors (2D-block case is not meaningful for the 2-processor case). Repeat each experiment at least three times and report min, max and average wallclock times. See http://www.osc.edu/hpc/computing/ipf/#comp for information about using the SGI Altix.

Use compiler optimization flag -O; do not use any explicit tiling or unrolling or loop permutation. Use omp_get_wtime() for timing. Comment on the observed trends.

Be sure to include code to verify your results, by storing the result from sequential execution, comparing with each of the parallel versions and reporting max and minimum differences (do not include verification code in your timing).