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Using Intel processor i56600k

C. Using arguments test1 20 25 4:
Total time (s) for j=1 is 0.859000 with 536870912 accesses
Total time (s) for j=2 is 0.859000 with 536870912 accesses
Total time (s) for j=4 is 0.875000 with 536870912 accesses
Total time (s) for j=8 is 0.860000 with 536870912 accesses
Total time (s) for j=16 is 0.875000 with 536870912 accesses
Total time (s) for j=32 is 0.859000 with 536870912 accesses
Total time (s) for j=64 is 0.860000 with 536870912 accesses
Total time (s) for j=128 is 0.892000 with 536870912 accesses
Total time (s) for j=256 is 0.891000 with 536870912 accesses
Total time (s) for j=512 is 0.890000 with 536870912 accesses
Total time (s) for j=1024 is 0.860000 with 536870912 accesses
Total time (s) for j=2048 is 0.906000 with 536870912 accesses
Total time (s) for j=4096 is 2.477000 with 536870912 accesses
Total time (s) for j=8192 is 2.469000 with 536870912 accesses
Total time (s) for j=16384 is 3.758000 with 536870912 accesses
Total time (s) for j=32768 is 3.953000 with 536870912 accesses

Yes, the processor has a cache. This shows as the cache begins missing at j=4096.

D. Using arguments test2 20 20 4:
Total time (s) for j=1 is 0.015000 with 1048576 accesses
Total time (s) for j=2 is 0.000000 with 1048576 accesses
Total time (s) for j=4 is 0.000000 with 1048576 accesses
Total time (s) for j=8 is 0.000000 with 1048576 accesses
Total time (s) for j=16 is 0.000000 with 1048576 accesses
Total time (s) for j=32 is 0.016000 with 1048576 accesses
Total time (s) for j=64 is 0.000000 with 1048576 accesses
Total time (s) for j=128 is 0.000000 with 1048576 accesses
Total time (s) for j=256 is 0.000000 with 1048576 accesses
Total time (s) for j=512 is 0.000000 with 1048576 accesses
Total time (s) for j=1024 is 0.015000 with 1048576 accesses
Total time (s) for j=2048 is 0.000000 with 1048576 accesses
Total time (s) for j=4096 is 0.000000 with 1048576 accesses
Total time (s) for j=8192 is 0.000000 with 1048576 accesses
Total time (s) for j=16384 is 0.000000 with 1048576 accesses
Total time (s) for j=32768 is 0.000000 with 1048576 accesses

Throughout various runs, each miss is spaced out by an average of 4 runs.

E. Using arguments test3 20 20 4 4
Test doesn’t run? Multiple configurations tried, moving on.

F. Cache has a data size of less than 4096 with block size of 4 and a set associativity of probably 8, but test3 never completed so we’ll never know.
Using Intel(R) Core(TM) i5-6600K CPU.
L1 size cache:
4 x 32 KB 8-way set associative instruction caches
4 x 32 KB 8-way set associative data caches
L2 size cache:
4 x 256 KB 4-way set associative caches
L3 size cache:
6 MB 12-way set associative shared cache