CSE5441 Lab3

Producer & Consumer result:

Input\ method & threads	serial 1	pthread 2	omp 2	omp 8	omp 16	omp 32
PC_data_t00100	real. 0m27.691s user. 0m27.566s sys. 0m0.119s	real. 0m13.224s user 0m25.615s sys 0m0.028s	real 0m11.924s user 0m23.806s sys 0m0.015s	real 0m3.804s user 0m28.786s sys 0m0.111s	real 0m2.217s user 0m29.371s sys 0m0.256s	real 0m1.356s user 0m30.025s sys 0m3.651s
PC_data_t01000	real. 4m11.393s user. 4m11.309s sys. 0m0.068s	real. 2m0.221s user. 3m58.298s sys. 0m0.331s	real 1m50.889s user 3m41.696s sys 0m0.038s	real 0m32.149s user 4m16.049s sys 0m0.191s	real 0m16.077s user 4m10.380s sys 0m0.381s	real 0m9.499s user 4m18.866s sys 0m4.373s
PC_data_t05000	real 18m15.259s user 18m15.084s sys 0m0.014s	real 10m50.902s user 21m39.250s sys 0m0.132s	real 9m32.089s user 19m3.984s sys 0m0.116s	real 2m46.181s user 22m8.601s sys 0m0.234s	real 1m20.961s user 21m10.639s sys 0m0.667s	real 0m46.794s user 21m40.188s sys 0m4.537s
PC_data_t10000	real 36m49.855s user 36m49.667s sys 0m0.028s	real 20m49.522s user 41m33.547s sys 0m0.136s	real 18m42.451s user 37m24.84s sys 0m0.177s	real 5m27.778s user 43m41.577s sys 0m0.234s	real 2m36.440s user 41m35.340s sys 0m0.691s	real 1m33.010s user 43m15.551s sys 0m4.507s

Analysis:

As the result shown above, serial version code uses longest real time to run and code using openMP with 32 threads uses shortest real time to run for all four input data. And the real time is related to the threads' number I used which is around:

Real_time = (User_time + sys_time) / threads_num

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