CS 140 HW #4

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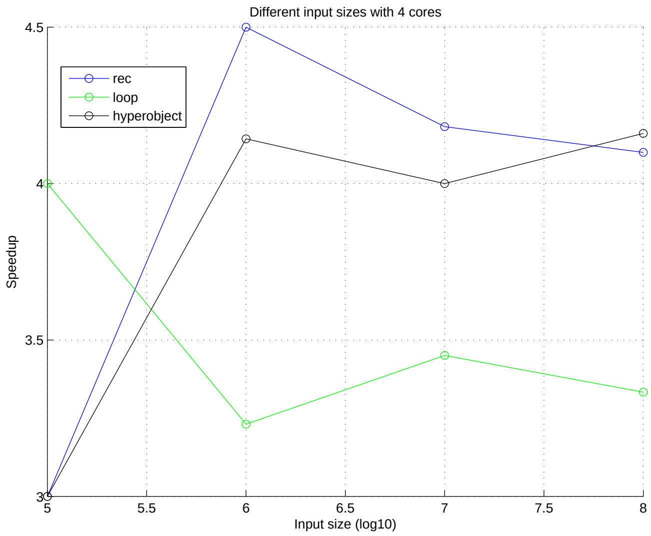
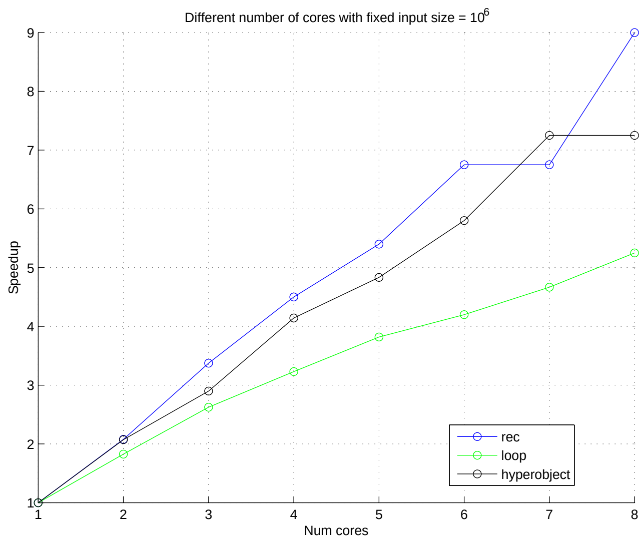
Task 1 and 2

In task 1 the number of processors where fixed to 4, and different sizes of n where tested. In Fig. 1a the speedup where measured against the size of n in a log scale. For task 2 the speedup where measured against different number of processors and with the problem size fixed to $n = 10^6$



(a)



(b)

Figure 1: Showing a) Speedup for different sizes of n. b) Speedup for different number of processors

Task 3

The innerproduct program was tested for $20, 40, 60, 80, 100, 120, 140$. The test was run with $n = 10^7$ and with $CILK\_NPROCS = 8$. From Fig. 2 one can see that for the most part the running time decreases for increasing coarseness. This can be due to the fact that increasing the coarseness leads to a smaller number of spawns, resulting in less overhead.

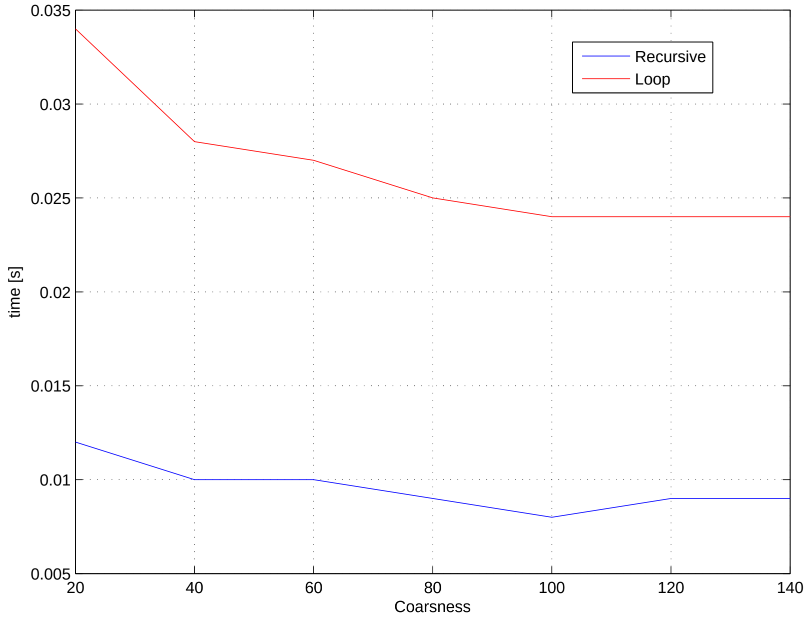


Figure 2: Plot of running time vs coarsness