

Comments of the organizers on the record
of problem C, contest of 2012, MPI+OpenMP

date: September 19, 2012

time: 194 msec, speed-up: 96.13

Only OpenMP is used, but a very high speed-up is achieved. The matrix multiplication is parallelized just by assigning the computation of a number of rows of the result matrix to eight threads. The original quicksort (the pivot was the first element in the vector) has been substituted for an optimized version where the pivot is the central element of the vector. When the data are sorted and the first element is taken as pivot, we are in the worst case for the quicksort, so the selection of the middle element as pivot can contribute to reduce the sorting time in successive iterations, when the elements are partially sorted. The quicksort is parallelised with the section constructor, so that the left and right parts are assigned to different threads.

It could be interesting to test MPI parallelism.