

II Spanish Parallel Programming Contest

MPI+OpenMP test: Problem A

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The sequential program computes n distances using a loop whose iterations don't depend on the others. If we use only OpenMP, we just use a `#pragma omp parallel` for directive to parallelize the loop.

Adding MPI is simple, we must distribute the n computations between the p processes statically, and parallelize the n/p computations in each process with OpenMP as before. Finally, we highlight the operations used for sending and receiving data messages: `MPI_Bcast()` and `MPI_Scatter()` to distribute the problem from process *root* to the rest; and `MPI_Gather()` to send the distances calculated in each process to the *root*.