

Parallel Programming Project

One of the group members should submit the presentation slides and a short summary document. You have only 5-7 minutes for the presentation, and 5-7 minutes for questions.

The short document (1-2 pages) should contain the following:

1. Very short description of the application/algorithm to be parallelized and why.
2. List of the latest articles working on it (min 2).
3. Indicate the levels of parallelism exploited in your work.
4. Indicate the parallel techniques used to create the parallel implementation.
5. Pseudo code for the MPI/OpenMP/Cuda C focusing on how parallelism is done.
6. Table that contains the results of each implementation (indicate in the table as a column the number of threads, processes, ...)
7. Brief conclusion
8. Link for your code
9. The work distribution between group members

Bring a printed copy of this document with you to be submitted before your presentation.

The project is graded based on the following:

- 20% for the parallel techniques.
- 20% for each of MPI/OpenMP/ Cuda C implementation based on the proper usage of the constructs.
- 20% on the results and discussion
- The questions grade are included in the above percentages. The questions will be like:
 - Why you didn't use this x parallel technique.
 - How do you ensure sync, balancing,
 - What do you think the reason for some limitation?
 - Did you tried to exploit different level of parallelism?
 - Why your implementation is or is not scaling
 - Run the code
 - What do you think might be the problem in your implementation or how you can improve your work
 - Did you tried to compare with previous works (not required but you should)
 - And many more.....

Good Luck