

COMP90025 Parallel and Multicore Computing

Project 2

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Summary and Tasks

- In this project you should work in a group of 2.
- You are required to pick a problem of your choice to parallelize.
- The problem should be one that requires some amount of message passing at each step, i.e. a loosely synchronous or synchronous problem. Some examples, such as N-body Problem, have been given in the lectures. You can choose one of the examples if you wish.
- You are required to write an MPI+OpenMP/GPU program that can run on multiple nodes of the cluster, using multiple cores per node, for your selected problem.
- Write up to 2000 words that outlines your problem and how you achieved parallelism/high performance. Include tables and/or charts of your own measurements that support your discussion.

Assessment

- Project 2 is worth **20%** of your total assessment. It is group work.
- Assessment of the report (8/20) is based on the level of details and presentation.
- Assessment of the program (12/20) is based on your parallel techniques employed/investigated.

Submission

- Submit a PDF of your report (use PDF only, no other format will be assessed) via LMS on or before **Saturday 26th October**. As well you will need to submit your program. Instructions for doing this will be given closer to the deadline.
- Use 10pt font, single line spacing, 1 inch margins all around and double column. Use appropriate headings and clearly label and refer to tables/figures. Clearly put your names and login names at the top of the report.