MSc in High Performance Computing
MSc in High Performance Computing with Data Science
Programming Skills Coursework 3 - Performance

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1 Introduction

In this coursework you will carry out performance experiments using the code you, and your team, developed as part of Coursework 2 - Development.

The coursework is an individual exercise. You will carry out these experiments yourself, and write up your experiments in a report.

Your mark is based upon your report.

1.1 Performance experiments

Conduct suitable experiments to assess the performance of the code you produced as part of Coursework 2 - Development. It is up to you what experiments you conduct, but some possibilities include:

- Investigate the effects of compiler optimisation flags.
- Identify and quantify the main sources of overhead.
- Investigate the effects of landscapes with different proportions of land and water.
- Investigate the performance for different sizes of landscape.

When investigating performance you should take care to justify your choice of metrics. You are not required to carry out all of the experiments above, nor to restrict yourself to this list. Credit will be given for intelligent and insightful analysis of your results, in preference to the quantity of data you present. Graphical presentation of performance data is strongly encouraged.

2 Individual report

Your report should be structured as follows:

Introduction Short introduction.

Performance tests and analysis Description on the performance experiments you did and an analysis of the results of these.

Conclusions Some brief conclusions.

Your report should be about 4-6 pages.

3 Submission and marking

You are required to submit a written report.

Submissions are done via the Turnitin submission tool from within LEARN, under Coursework Submission.

The filename of your submission must include your exam number (e.g `B123456`) which appears on your matriculation card. You should also include the course identifier, `PS` for Programming Skills, and the identifier `PF` for this coursework. For example `B123456-PS-PF.pdf`.

Your exam number should be used as the author of your report. Do not put your name on your report.

This naming scheme helps to ensure that, wherever possible, we can mark coursework anonymously but can also easily match the final marks to the correct students.

3.1 Deadline

The deadline for submission for your report is **14:00 Friday 27th November (week 10) 2015** for all students.

Submission are allowed up to 5 calendar days after the deadline, with a 5% deduction per day or part-day late.

If you submit any coursework by the deadline then it will be marked, and you cannot submit an amended version later on, to be marked.

If you do not wish the submitted version to be marked after the deadline, and intend submitting an amended version after the deadline, then it is your responsibility to let the course organiser know, in advance of the deadline, that the submitted version should not be marked.

3.2 Marking

Marks will be awarded as follows:

- Description performance anaylsis and results 15
- Presentation (quality of text and report) 5
- **Total 20**

4 Questions

Feel free to e-mail the course organiser if you have any questions. Questions of interest to the whole class will be anonymised and them, plus their answer, forwarded to the whole class.