

CEE 618 – Scientific Parallel Computing: Homework #8

Name: _____

Noon, Friday March 8, 2013

1. (100 pts) Final project proposal revision.
 - If your final topic is already decided:
 - (a) Describe detailed information about program characteristics, simulation size, parameters to be used, and other related information.
 - (b) Draw a flowchart¹ and/or generate a pseudocode²
 - If you are still searching for a topic:
 - (a) Visit OpenFOAM³ web site.
 - (b) Read three sample simulations of OpenFOAM: (1) Lid-driven cavity flow, (2) Stress analysis of a plate with a hole, and (3) Breaking of a dam.
 - (c) Briefly summarize one that is (most) closely related to your interest or research. (You can choose OpenFOAM simulation for your final project.) There are many example cases in addition to these three. Draw a flowchart and/or generate a pseudocode.
2. Software installation on your local computers (laptops and desktops) for later use.
 - (a) Install PuTTY⁴ package.
 - (b) Install Gmsh⁵ (a three-dimensional finite element mesh generator)
 - (c) Install Paraview⁶ (an open-source, multi-platform data analysis and visualization application).

¹<http://en.wikipedia.org/wiki/Flowchart>

²<http://en.wikipedia.org/wiki/Pseudocode>

³<http://www.openfoam.com/docs/user/tutorials.php>

⁴<http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>

⁵<http://geuz.org/gmsh/>

⁶<http://www.paraview.org/>