

CEE 618 – Scientific Parallel Computing: Homework #2

Name: _____

Due Thursday, 4:00 p.m., January 17, 2013 by Google Doc sharing

1. Software installation, Remote Login & Programming (To show your homework activities, include screen shots of your computer. ssh to fractal.eng.hawaii.edu, and after login go to a directory of your UH ID, and practice in the directory (using ID:Passwd=guest:guest). This “guest” account will be valid only for a week.)
 - (a) Download and install “SSH for windows” from UH site and/or Putty on your personal computer.
 - (b) Login fractal.eng.hawaii.edu with your ID and password in Linux or Cygwin: `ssh guest@fractal.eng.hawaii.edu` in Windows, use Putty or “SSH Client for Windows”
 - (c) Practice Unix commands, **vi** (and/or **nano**) editors. “vi” is the default editor for this course.
 - (d) Lab work (continued to your homework if not finished)
 - After login, go to “youruhid” directory: `$_cd_ youruhid ↵`
 - Make directory “cee618”: `$_mkdir_ cee618 ↵`
 - Go to “cee618”: `$_cd_ cee618 ↵`
 - Make directory class01: `$_mkdir_ class01 ↵`
 - Copy files (pi.f90 and Makefile) to class01 directory, and go to the directory.
 - Compile and run using “ifort” and Make utility.
2. Writing
 - Write a self-statement, entitled “*About me and my dream*” describing yourself, your lifetime goal, and what you expect to learn from this course.

- Include basic academic & personal information (that you can share with me) and one of your current **photo**.
 - Page limit: 2–3 pages
 - Format: double spaced, 10–12 font size, Times New Roman or Georgia
3. Visit <http://www.top500.org> and answer questions below.
 - (a) How many different countries are in the list of top 100 world fastest supercomputers?
 - (b) How many supercomputers does each county (in the top-100 list above) have?
 - (c) What else (any) interesting facts did you find?
 4. Write a short summary of Chapter 1. Introduction (page 1–6), “Understanding Molecular Simulation” by Daan Frenkel and Berend Smit, Academic Press, 2002.
 5. Summary
 - Watch video tutorials for vi editor (from devdaily.com) and UNIX/LINUX commands (<http://albertsk.org/tutorial-videos-2/programming/>) and write a summary note for each individual topic such as “ls”, “mkdir”, and so forth. (Format: same as that of Question 2.)

Note

- * ***Fully describe what you did for your homework with your own analyses and opinions.***
- * Additional reading assignment: Refer to the course web site.
- * A quiz test will be in the next class for ssh, Linux commands, vi editor, and FORTRAN basics as much as we learn in the first class.
- * Students should generate a gmail account (if you do not have one). Use Google Doc for your homework and share it with me (albertsk@gmail.com). Do not forget to give me “edit” permission. For certain types of homework problems, for which visual representation is efficient, take screen shots of your computer and include images in your homework. This course will be green and paperless as much as we can except in-class materials.
- * Your HW file name should be like “CEE618S13_HW01_Albert_Kim” in Google Doc, where the blue part is one that students need to change.