**ECE 1111: Engineering Computation I**

**Homework No. 1: Cloud Computing**

**Goal:** Demonstrate that you can log into Amazon AWS, traverse the file system, execute simple Unix commands, and manipulate your environment. An important part of this assignment is to understand the difference between the Unix bashrc and bash\_profile files. Also, you will learn how to cut and paste text into a textbox, and use textboxes in MS Word.

**Description:** The tasks are:

1. Log into your Amazon account. List the files in your home directory using “ls -l” or the alias “d”. Capture the screen output into a Word document by cutting and pasting the text from your terminal window – not including a screenshot (there are reasons for this). Your Word document should not include screenshots as images, but instead include textboxes that contain the text.
2. Demonstrate the use of command completion for both Linux commands and for filenames that match what you have typed from the command line. For example, type “nedc\_” and hit tab. Explain the output that you see. Then change directories to your home directory using “cd $HOME”. Follow this by typing “ls -l .ssh/” and hit tab. Explain what you observe.

Again, submit a Word document where what you see is inserted as text in a textbox, not a screenshot.

1. Explain the function of your .bash\_profile and .bashrc. Use the more command to view these. Include a copy of these in your report. Show the significant pieces of these files in a textbox.
2. Using the text editor emacs, run using our local version, isip\_e, modify your *.bash\_profile* to set an environment variable named “ECE\_1111” to the current date and time:

ECE\_1111\_profile =`date`;

Explain what this command does and what is the function of the backquote characters (“`”).

In your .bashrc, place this command:

ECE\_1111\_bashrc=`date`;

From the command line, execute these commands:

printenv | grep ECE\_1111

sleep 5

bash

printenv | grep ECE\_1111

Cut and paste the output into a textbox. In your Word document, explain the output that you see and what the values of these environment variables differ.

Similarly, modify your .bashrc so that every time you create a new shell, the environment variable is updated to show the current date and time using this useful command:

1. Demonstrate the use of the "ls -l" command by changing your directory to your local ece\_1111 directory ($HOME/ece\_1111) and displaying the contents of your .ssh directory ($HOME/.ssh). Explain what information is shown in the output. Be sure to address the file permissions of each file.

Submit these five results in a single pdf document located here:

ece-000:/data/courses/ece\_1111/current/homework/hw\_01/<lastname\_firstname>/hw\_01.pdf

Use the MS Word template located here for this assignment:

https://www.isip.piconepress.com/courses/temple/ece\_1111/resources/templates/lastname\_firstname\_hwxx.docx

Substitute “hw01” for “hwxx” in the filename. **Make sure you compress your pdf files using Adobe Acrobat’s “reduce file size” feature.**

Follow these instructions carefully. An important part of this course is learning how to conform to requirements. Programming involves a process of setting requirements and then implementing code that meets those requirements. Requirements gathering is an important part of the programming, or software engineering, process.