

Prelab assignment 7. Shell Script (Due date: 4:00pm May 4, 2023)

- The TLCL book is publicly available at: <http://sourceforge.net/projects/linuxcommand/>
- Prelab report should be your individual work (a prelab report is not a team assignment). It aims to promote every student to read the textbook as the course is moving forward.
- HGU CSEE Standard on assignments:
 - Submitting assignments or program codes written by others or acquired from the internet without explicit approval of the professor is regarded as cheating.
 - Showing or lending one's own homework to other student is also considered cheating that disturbs fair evaluation and hinders the academic achievement of the other student.
 - It is regarded as cheating if two or more students conduct their homework together and submit it individually when the homework is not a group assignment.
- Submit your complete prelab report in PDF.

1. Read Chapters 24-25 of TLCL (pages 364-382) carefully and exercise all commands in the textbook. Write an answer to each of the following questions.

- a) There are a few important keywords introduced in this chapter. Explain each of the followings in your own words.
- a. Shell script
: A shell script is a file containing a series of commands. The shell reads this file and carries out the commands as though they have been entered directly on the command line.
 - b. Shebang (`#!/bin/bash`)
: The shebang is used to tell the kernel the name of the interpreter that should be used to execute the script that follows.
 - c. The PATH variable
: List of directories is held withing an environment variable named PATH.
 - d. The dot (.) command
: The dot(.) command is a synonym for the source command, a shell builtin that reads a specified file of shell commands and treats it like input from the keyboard.
 - e. A here document (a.k.a. here-document, here-script, hereis, or heredoc)
: A here document is and additional form of I/O redirection in which we embed a body of text into our script and feed it into the standard input of a command.
- b) *Hongchan* wrote a script file named “welcome_to_pi.sh” and would like to make it executable. She would like to make it runnable only for herself and her group members. Write a command for her.

Answer

`chmod ug=rx welcome_to_pi.sh`

- c) *Seokjae* has written a Bash shell script as below. What would you expect to see when you run the script?

```
#!/bin/bash
fool=genius
echo "Can't believe you are such a $fool!"
```

Answer

It will print out "Can't believe you are such a genius!"

- d) What do the following vim configuration settings do?
- a. `:set syntax=sh`
 - With this setting, different elements of shell syntax will be displayed in different colors when viewing a script.
 - b. `:set tabstop=4`
 - The default is eight columns. Setting the value to 4 (which is a common practice) allows long lines to fit more easily on the screen.
 - c. `:set autoindent`
 - This causes vim to indent a new line the same amount as the line just typed. This speeds up typing on many kinds of programming constructs.