

HW # 3: Note: download internet (pdf) version of the course text book (if you haven't already):  
<http://linuxcommand.org/tlcl.php>

1. Open a terminal and navigate to your home directory (**cd ~**)
  - a. From your home directory, create a subdirectory named *hw3*
  - b. Navigate to the *hw3* folder and print the working directory (**pwd**)
  - c. Type: **echo "This is text file 1" > file1.txt**
  - d. Type: **echo "This is text file 2" > file2.txt**
  - e. Type: **ln -s file1.txt current.txt**
  - f. Type: **cat current.txt**
  - g. Type: **ls -l current.txt**
  - h. Type: **rm current.txt**
  - i. Type: **ln -s file2.txt current.txt**
  - j. Type: **cat current.txt**
  - k. Type: **ls -l current.txt**
2. Describe (in a sentence or two) how the text files: *file1.txt* and *file2.txt* were created in steps c. and d. (above). Specifically, what does operator (>) do?
3. What is *current.txt*? (HINT: type: **file current.txt**). Give one reason why *current.txt* might be useful?
4. Suppose I want detailed information about a given executable command: its options and arguments etc. (e.g. *ls*). How might I use the shell to retrieve that information about executable commands in terms of usage: options, arguments? What about commands that are built into the shell? (see pages 44-45 in the text).
5. Type: **ls /usr/bin | tee ls.txt | grep ^zip** and observe the output (see page 65-66 in the text)
  - a. Describe what this command does in terms of the flow of data (stdin, stdout) between the individual commands in the pipeline.
  - b. Describe (in two or three sentences) the basic difference between the redirection operator (>) and the pipeline (|) operator.
6. Type: **ls -l /bin/usr > error\_output.txt** (The directory "/bin/usr" doesn't exist in the system so an error message is produced, which is intended to be redirect to *error\_output.txt*)
  - a. Did this command do what you expected? If not, how would you fix the command to redirect the error message?
7. Run the following commands:
  - a. **echo "CSE 384" > data1.txt**
  - b. **echo "is a fun" > data2.txt**
  - c. **echo "class" > data3.txt**
  - d. Write a command using the *cat* program to concatenate these three files, redirecting the result output to a file called: *combined.txt* Note: use *man cat* to view the manual page for the *cat* program
  - e. Use the *chmod* command to make *data1.txt* readable, and writable only to the file owner. The group and the world should have no permissions set. Verify the output by typing **ls -l data1.txt**
    - i. The correct permissions should resemble: **-rw- --- ---**
  - f. Likewise, use *chmod* to make *data2.txt* readable, writeable, and executable to the owner, the group, and the world:

- i. The correct permissions should resemble: `-rwx rwx rwx`
- 8. Type: ***cat*** [with no filename and press *enter*]. Enter some text and press *ctrl-d* when finished
  - a. Describe how the cat program received its input?
- 9. Type the following commands:
  - a. **`cat data1.txt`**
  - b. **`cat < data1.txt`**
  - c. Describe (in one or two sentences) the difference between 9.a and 9.b? Exactly what is happening in 9.b?
- 10. Please upload your answers to Blackboard for HW3: due Weds: 2/5