

This assignment assumes you have read Chapters 2, 3, 4 and 5 of Sobell. Some specific cross-references may also be given in the questions below.

Prepare your answers to the questions below in a single plain ASCII text file^[1]. If you work with a partner, make sure the submitted file contains a properly-completed copy of the partners form posted on the assignments page. Failure to do that will result in at least one of you not receiving credit for the assignment.

Submit your file to the Curator system, under the heading L02, by the posted deadline for this assignment. No late submissions will be accepted.

For questions 1-3, suppose that your userid is `cs2505` and that a listing (`ls -l`) of the contents of your current working directory provides the following information:

```
cs2505@beech submissions]$ ls -l
total 900
-rw-rw---- 1 cs2505 cs2505 16407 Mar 12  1924 aac7594.txt
-rw-rw---- 1 cs2505 cs2505  8988 Mar 12  1924 abhir.2.txt
-rw-rw---- 1 cs2505 cs2505  6239 Mar 12  1924 ajbarnes.txt
-rw-rw---- 1 cs2505 cs2505 10746 Mar 12  1924 alamon.txt
-rw-rw---- 1 cs2505 cs2505  4097 Mar 12  1924 alek6.txt
-rw-rw---- 1 cs2505 cs2505  6413 Mar 12  1924 amm28053.txt
-rw-rw---- 1 cs2505 cs2505  7744 Mar 12  1924 andysin.txt
-rw-rw---- 1 cs2505 cs2505  1630 Mar 12  1924 apeace.txt
-rw-rw---- 1 cs2505 cs2505 11402 Mar 12  1924 aravindk.txt
-rw-rw---- 1 cs2505 cs2505 10715 Mar 12  1924 arman1.txt
-rw-rw---- 1 cs2505 cs2505  2191 Mar 12  1924 austas18.txt
-rw-rw---- 1 cs2505 cs2505  7633 Mar 12  1924 benw94.txt
-rw-rw---- 1 cs2505 cs2505  5194 Mar 12  1924 blw31415.asci
-rw-rw---- 1 cs2505 cs2505  4287 Mar 12  1924 bousquet.txt
. . .
-rw-rw---- 1 cs2505 cs2505  6179 Mar 12  1924 willpr13.txt
-rw-rw---- 1 cs2505 cs2505  5110 Mar 12  1924 wjenny24.txt
-rw-rw---- 1 cs2505 cs2505  3089 Mar 12  1924 wryan8.txt
-rw-rw---- 1 cs2505 cs2505  6769 Mar 12  1924 zakkl13.txt
-rw-rw---- 1 cs2505 cs2505  7629 Mar 12  1924 zc219.txt
-rw-rw---- 1 cs2505 cs2505  4270 Mar 12  1924 zchryb.txt
```

The directory contains hundreds of files, and you do not know all the file names. You do know that most, but not all, of the file names end with the extension `.txt` (because some of the students who submitted them failed to understand the importance of using proper extensions). As you might guess, the first part of each file name is a PID.

You may benefit from consulting the man page for the `tar` command.

- [24 points]** Suppose your current working directory is the one shown above, and that you are the user `cs2505`. For each part, give a valid Linux tar command that will create the specified tar archive.
 - Bundle all the files in the current working directory that have the extension `.txt` into a flat archive named `allFiles.tar`, so that the archive is in the parent of the current working directory.
 - Bundle all the files in the current working directory that were submitted by students whose PID began with the letter `'c'` into a flat archive named `theCs.tar`, so that the archive is in your home directory.
 - Bundle all the files in the current working directory that were submitted by students whose PID ends with the letter `'d'` into a gzip'd archive named `theDs.tgz`, so that the archive is in your home directory.

2. [16 points] Under the same assumptions as in question 1, give a valid Linux command that will create the specified zip archive.
- Bundle all the files in the current working directory that have the extension ".txt" into a flat archive named `allFiles.zip`, so that the archive is in the parent of the current working directory.
 - Bundle the current working directory into an archive named `submissions.zip`, so that the archive is in the parent of the current working directory. (This archive will not be flat, and unpacking it would create a directory named `submissions`, which would contain (copies of) all the files in the current working directory.)

3. [10 points] Suppose you execute the following command in the working directory:

```
[johokie@beech ~]$ find . -type f ! -name "*.txt" > bad.txt
```

What is the overall purpose of running this command, or in other words, why would an instructor wish to run it? What is the output of this command to the terminal? What is the output of this command to `bad.txt`? You may wish to examine the `man` page for the `find` command, and you may also want to experiment with this command yourself.

4. [30 points] Provided below are three different instances of a user entering the `cp` and `mv` commands. Assume that the working directory is `~/cs2505/assignments/L02`. For each instance, provide (1) the directory where the output file is written and (2) whether or not the input file still exists in its original location with its original name.

- `cp myFile.txt ../../submit/L02/PID.txt`
- `mv myFile.txt ../PID.txt`
- `cp myFile.txt PID.txt`

5. [20 points] Assume that a file called `C02solution` has the following permissions:

```
rwxr-xr--
```

- Explain what the owner, group, and all other users can do to the file.
- Provide a valid instruction to remove the owner's read permission, add an execute permission to the group, and leave the permissions for all others unchanged.

[1] How can you tell if you've prepared a plain ASCII text file? The simplest way is to use a Linux text editor to create the file you are going to submit (e.g., `gedit`, `geany`, etc). Alternatively, use the `file` command in a Linux shell:

```
centOs > file Tolstoy.txt
Tolstoy.txt: ASCII text
```

It is possible you may get a different response; for example:

```
ASCII text, with very long lines
ASCII text, with CRLF line terminators
ASCII text, with very long lines, with CRLF line terminators
UTF-8 Unicode text
UTF-8 Unicode text, with very long lines
UTF-8 Unicode text, with CRLF line terminators
UTF-8 Unicode text, with very long lines, with CRLF line terminators
Non-ISO extended-ASCII text
Non-ISO extended-ASCII text, with very long lines, with CRLF line. . .
Pascal source, ASCII text
C source, ASCII text
```

Those are probably all acceptable. On the other hand, these would not be:

```
Microsoft Word 2007+  
PDF document, version 1.5  
POSIX tar archive  
gzip compressed data, from Unix. . .
```

If you aren't sure, ask a TA to look at your file.