1. Open terminal with ctrl-alt-t & show all contents with ls
2. Show all files in a “long” format with ls -l
3. The first ten characters refer to the permissions: drwxrwxrwx
   1. d denotes whether or not the file is a directory
   2. the first rwx is the read, write, execute permissions for the owner
   3. the second rwx is for group
   4. the last is for other
4. To assess the file system disk in “human readable format” use df
5. To open bin use cd /bin and to see function information use man
   1. bunzip2: compresses files
   2. echo: print text to command line
   3. date: prints date and time to command line
   4. cd: change directory
   5. who: prints user ID to command line
6. Open Documents with cd Documents and create a directory with mkdir ASEN4519
   1. Create a text file using nano asen4057test.txt
   2. Simply type necessary information into the text file
   3. Change permissions using chmod 700
   4. Use ls -la in ~Documents/ASEN4057 directory to show all files (including hidden files)
   5. To display text in asen4057test.txt use cat asen4057test.txt
   6. To move the file use mv asen4057test.txt /home
   7. To rename the file and see the output use mv -v asen4057text.txt asen4057.txt
7. Open MATLAB by simply typing matlab into terminal. This works because I created a symbolic link
   1. MATLAB is using about between 0.3% and 0.7% of CPU and 28.3% of MEM
   2. While running the given command MATLAB uses ~35% of CPU and ~75% of MEM
   3. The elapsed time is 16.33 seconds
   4. After processing MATLAB uses 0.3% of CPU and 72% of MEM
   5. To verify that MATLAB is running with a nice value of -15 top was used and NI was -15 and PR 5.
   6. Ps ax -o pid,ni,cmd will also show the nice values of running processes
   7. The elapsed time is 19.257 seconds
   8. With nice the elapsed time was longer, although it was not as long as I expected. As expected though it did take longer when prioritized lower. MATLAB was most likely allocated less memory to run the command.
8. The actual executable for matlab is located in /usr/local/MATLAB/2016b/bin, however MATLAB can be booted from the command line by simply typing matlab because of the symbolic link created during installation.
9. To search which paths the bash searches for executables use echo $PATH. This returns a list of bins within usr bins and local bins. To append the paths you can use export PATH = $PATH/newpath.
10. ls /bin > temp.txt && ls /usr/bin >> temp.txt && cat temp.txt | sort > Documents/usefulprograms.txt && rm temp.txt
    1. Note: This was a dirty way to get it to work but it did work! I tried to do it without the temp.txt file by writing over usefulprograms.txt but it would return a blank text file.
11. The default terminal is the gnome-terminal and it was found using ps -p%PPID. You can also use the environment echo $TERM to show that xterm-265color is the current terminal.
12. Using update-alternatives the editor is set to auto mode with the link best version being /bin/nano. The environmental variable echo $EDITOR can be used. To assign the default editor at login use export EDITOR=nano.