

CSc 3320: Systems Programming

Spring 2021

Homework

3: Total points 100

Submission instructions:

1. Create a Google doc for each homework assignment submission.
2. Start your responses from page 2 of the document and copy these instructions on page 1.
3. Fill in your name, campus ID and panther # in the fields provided. If this information is missing in your document TWO POINTS WILL BE DEDUCTED per submission.
4. Keep this page 1 intact on all your submissions. If this *submissions instructions* page is missing in your submission TWO POINTS WILL BE DEDUCTED per submission.
5. Each homework will typically have 2-3 PARTS, where each PART focuses on specific topic(s).
6. Start your responses to each PART on a new page.
7. If you are being asked to write code copy the code into a separate txt file and submit that as well.
8. If you are being asked to test code or run specific commands or scripts, provide the evidence of your outputs through a screenshot and copy the same into the document.
9. Upon completion, download a .PDF version of the document and submit the same.

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Campus ID: vsrikakulapu1

Panther #: 002523638

10 pts for the neatness factor of your presentation.

PART 1: 30pts

For each command tryout at least one example provided in **Chapter 3** of the Unix textbook. Feel free to use your own example. Show the screenshot for each command's output. Present your output in a tabular form with column 1 as index (1,2,3..), second column as the command, third as the usage, fourth as the screenshot of the output. You can just show a small snapshot for the output -- we do not need the entire screen's image.

index	command	Usage and the associated Screenshot
1.	at	<div><div>\$ at Monday +20 minutes; \$ at -l</div><div><pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ at Monday +20 minutes; at> echo "Print Its Monday"; at> <EOT> job 66 at Mon Mar 8 23:44:00 2021 [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ at -l 66 Mon Mar 8 23:44:00 2021 a vsrikakulapu1@gsuad.gsu.edu</pre></div></div>
2.	awk	<div><div>\$ awk '{print \$1}' file1.txt</div><div><pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ cat file1.txt workshop tuition tv radio microphone camera lab class hw [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ awk '{print \$1}' file1.txt workshop tv microphone lab</pre></div></div>
3.	biff	<div><div>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ biff</div><div><pre>-bash: biff: command not found</pre></div></div>
4.	cmp	<div><div>\$ cmp uniqFile myName.c</div></div>

		<pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ cat uniqFile workshop tuition workshop tuition tv radio microphone camera lab class hw lab class hw [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ cat myName.c #include <stdio.h> int main(void) { printf("My name is Venkata Mani Mohana Rishitha Srikakulapu\n"); return 0; } [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ cmp uniqFile myName.c uniqFile myName.c differ: byte 1, line 1</pre>
5.	crypt	<pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ crypt someKey < file1.txt > file1.crypt -bash: crypt: command not found</pre>
6.	diff	<pre>\$ diff uniqFile file1.txt [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ cat uniqFile workshop tuition workshop tuition tv radio microphone camera lab class hw lab class hw [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ cat file1.txt workshop tuition tv radio microphone camera lab class hw [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ diff uniqFile file1.txt 2d1 < workshop tuition 5d3 < lab class hw</pre>
7.	dump	<pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ dump -bash: dump: command not found</pre>
8.	egrep	<pre>\$ egrep - --color o.? uniqFile [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ cat uniqFile workshop tuition workshop tuition tv radio microphone camera lab class hw lab class hw [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ egrep --color o.? uniqFile workshop tuition workshop tuition tv radio microphone camera</pre>

9.	gzip	<pre>\$ gzip -v myexamfile.txt</pre> <pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ ls -l myexamfile.txt -rw-rw-r--. 1 vsrikakulapu1@gsuad.gsu.edu vsrikakulapu1@gsuad.gsu.edu 54397 Feb 27 17:49 myexamfile.txt [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ gzip -v myexamfile.txt myexamfile.txt: 61.0% -- replaced with myexamfile.txt.gz [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ ls -l myexamfile.txt.gz -rw-rw-r--. 1 vsrikakulapu1@gsuad.gsu.edu vsrikakulapu1@gsuad.gsu.edu 21252 Feb 27 17:49 myexamfile.txt.gz</pre>
10.	ln	<pre>\$ ln dummy.txt linkDir/</pre> <pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ vi dummy.txt [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ mkdir linkDir [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ ln dummy.txt linkDir/ [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ cd linkDir/ [vsrikakulapu1@gsuad.gsu.edu@snowball linkDir]\$ ls dummy.txt</pre>
11.	mount	<pre>\$ mount head -3</pre> <pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ mount head -3 sysfs on /sys type sysfs (rw,nosuid,nodev,noexec,relatime,seclabel) proc on /proc type proc (rw,nosuid,nodev,noexec,relatime) devtmpfs on /dev type devtmpfs (rw,nosuid,seclabel,size=3992588k,nr_inodes=99814 7,mode=755)</pre>
12.	od	<pre>\$ od /bin/od head -5</pre> <pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ od /bin/od head -5 0000000 042577 043114 000402 000001 000000 000000 000000 000000 0000020 000002 000076 000001 000000 025017 000100 000000 000000 0000040 000100 000000 000000 000000 175700 000000 000000 000000 0000060 000000 000000 000100 000070 000011 000100 000036 000035 0000100 000006 000000 000005 000000 000100 000000 000000 000000</pre>
13.	tar	<pre>\$ tar -cvf Pdf.tar *.pdf</pre> <pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ tar -cvf Pdf.tar *.pdf ape.pdf rym.pdf script.pdf [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ ls -l Pdf.tar -rw-rw-r--. 1 vsrikakulapu1@gsuad.gsu.edu vsrikakulapu1@gsuad.gsu.edu 10240 Mar 4 19:08 Pdf.tar</pre>
14.	time	<pre>\$ time</pre>

		<pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ cat file2.txt workshop tuition tv radio [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ tr a-z A-Z < file2.txt WORKSHOP TUITION TV RADIO</pre>
15.	tr	<pre>\$ tr a-z A-Z < file2.txt [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ cat file2.txt workshop tuition tv radio [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ tr a-z A-Z < file2.txt WORKSHOP TUITION TV RADIO</pre>
16.	ul	<pre>\$ man who ul -tdumb head [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ man who ul -tdumb head WHO(1) User Commands WHO(1) NAME who - show who is logged on SYNOPSIS who [OPTION]... [FILE ARG1 ARG2]</pre>
17.	compress	<pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ compress -v myexamfile.txt -bash: compress: command not found</pre>
18.	cpio	<pre>\$ cpio -it < backFolder [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ ls *.pdf ape.pdf rym.pdf script.pdf [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ ls *.pdf cpio -ov > backupFolder ape.pdf rym.pdf script.pdf 1 block [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ ls -l backupFolder -rw-rw-r--. 1 vsrikakulapu1@gsuad.gsu.edu vsrikakulapu1@gsuad.gsu.edu 512 Mar 4 20:23 backupFolder [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ rm *.pdf [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ cpio -it < backupFolder ape.pdf rym.pdf script.pdf 1 block</pre>
19.	cron	<pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ cron -f -bash: cron: command not found</pre>

		<pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ ls -l myexamfile.txt.gz -rw-rw-r--. 1 vsrikakulapu1@gsuad.gsu.edu vsrikakulapu1@gsuad.gsu.edu 21252 Feb 27 17:49 myexamfile.txt.gz [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ gunzip -v myexamfile.txt.gz myexamfile.txt.gz: 61.0% -- replaced with myexamfile.txt [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ ls -l myexamfile.txt -rw-rw-r--. 1 vsrikakulapu1@gsuad.gsu.edu vsrikakulapu1@gsuad.gsu.edu 54397 Feb 27 17:49 myexamfile.txt</pre>
25.	perl	<pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ cat > hello.pl print "Hello World\n"; [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ perl hello.pl Hello World</pre>
26.	sed	<pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ cat file1.txt lab class hw workshop tuition tv radio microphone camera [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ sed '/o/d' file1.txt lab class hw</pre>
27.	sort	<pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ cat uniqFile workshop tuition workshop tuition tv radio microphone camera lab class hw lab class hw [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ sort +1 -2 uniqFile microphone camera lab class hw lab class hw tv radio workshop tuition workshop tuition</pre>
28.	su	<pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ whoami vsrikakulapu1@gsuad.gsu.edu [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ su root Password: su: Authentication failure</pre>
29.	umount	<pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ umount -bash: umount: command not found</pre>
30.	uncompress	<pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ uncompress uniqFile.Z -bash: uncompress: command not found</pre>

31.	uniq	<pre> [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ cat uniqFile workshop tuition workshop tuition tv radio microphone camera lab class hw lab class hw [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ uniq uniqFile workshop tuition tv radio microphone camera lab class hw </pre>
32.	whoami	<pre> [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ whoami vsrikakulapu1@gsuad.gsu.edu </pre>

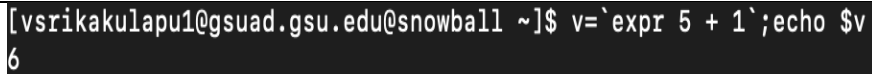
Part II : 30pts

For each command tryout at least one example provided in **Chapter 4** of the Unix textbook. Feel free to use your own example. Show the screenshot for each command's output. Present your output in a tabular form with column 1 as index (1,2,3..), second column as the command, third as the usage, fourth as the screenshot of the output. You can just show a small snapshot for the output -- we do not need the entire screen's image.

index	command	Usage and the associated Screenshot
1.	chsh	<pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ chsh -s /bin/sh Changing shell for vsrikakulapu1@gsuad.gsu.edu. Password: chsh: user "vsrikakulapu1@gsuad.gsu.edu" does not exist.</pre>
2.	kill	<pre>31434 ? 00:00:00 sshd 31448 ? 00:00:00 sshd 31449 pts/3 00:00:00 bash 32704 ? 00:00:00 sshd 32723 ? 00:00:00 sshd 32724 pts/7 00:00:00 bash [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ kill 314 -bash: kill: (31449) - Operation not permitted</pre>
3.	ps	<pre>\$ ps -f [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ ps -f UID PID PPID C STIME TTY TIME CMD vsrikak+ 30548 30547 0 21:21 pts/25 00:00:00 -bash vsrikak+ 30799 30548 0 21:22 pts/25 00:00:00 ps -f</pre>
4.	echo	<pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ echo This is an echo statement This is an echo statement</pre>
5.	nohup	<pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ nohup su & [2] 28155 [vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ nohup: ignoring input and appending output to 'nohup.out'</pre>
6.	sleep	<pre>[vsrikakulapu1@gsuad.gsu.edu@snowball ~]\$ (sleep 10; echo done)& [1] 31364</pre>

Part III : 30pts

For each command tryout at least one example provided in **Chapter 5** of the Unix textbook. Feel free to use your own example. Show the screenshot for each command's output. Present your output in a tabular form with column 1 as index (1,2,3..), second column as the command, third as the usage, fourth as the screenshot of the output. You can just show a small snapshot for the output -- we do not need the entire screen's image.

index	command	Usage and the associated Screenshot
1.	expr	
2.	test	