

CSc 3320: Systems Programming

Spring 2021

Homework

1: 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.

Full Name: Mohammed Habeeb

Campus ID: mhabeeb1

Panther #: 900939202

PART 1

- 1) Unlike Unix, Linux is an open source which is developed by Linux developers, while unix was developed by AT&T. The ones that belong to Unix are IBM(AIX), HewlettParckard(HP-UX), and Minix
- 2) In UNIX working frameworks, a pipe is a strategy for passing data starting with one program measure then onto the next. Dissimilar to different types of interprocess communication(IPC), a pipe single direction communication. An example would be :

```
$ cat sample2.txt | tail -7 | head -2
```

 sThis code selects the last 5 lines with (tail -5) and that will be a contribution to (head -2) order which will at last print first 2 lines from those 5 lines.

- 3) /bin = this directory contains the executable programs that are required for system to boot .

/dev = this directory contains the device file that deal with operating system and user interface; aka device special files

/boot = this directory contains files used in booting the operating system. This one is usually executed by normal users

/usr = this directories is where the home directory of the users is placed

/etc = contains the config files, which are usually edited by user in a places like the text editor.

/mnt = this directory is used for temporary mounting points which is usually for CDRoms , Floppy DIsk

/sbin = unlike the regular /bin this one contains the system boot files that are are not executed by normal users.

/var = is directory which holds variable data, which has the files to which the systems writes data to.

- 4) Multiuser OS are OSs that allow multiple users to use the computer without each one interfering with the other persons entities.

While multitask is an OS in which its cpu can switch from one task to the other with 0 to very little wait time.

- 5) This command means that one has access to access to read write and execute which the octal representation for this is 755
- 6) The read permission of a directory gives one the ability to list the contents in that directory

Write permissions on a directory allows one to rename(mv) remove and add directories

The execute on a directory means that you can cd into it(enter) and access the subdirectories present in it.

Part II-A

- 7) Abaaabaa
- 8) Abc
- 9) Innn -anything except newline at the beginning and i or n or d atleast 0 or more
- 10) Ekjwer -range of a through z atleast once and an optional one more range a through z
- 11) D+jh -a through z and a group of '+ range a-z'
- 12) abcaa - starting with a with no new line and one or more b or c
- 13) a6fgh
- 14) sef.hkj?sg!weg
- 15) am! L
- 16) todayisverygoodweather
- 17) -89 -optional dash with atleast 1 digit from 0-9
- 18) -.?

Part IIB

- 19) (http:\\\\/[A-Z]*[a-z]*[1-9]*(\\.edu)
- 20) \\[1-9]
- 21) ^//[A-Z]*[a-z]*[1-9]
- 22) ^([A-Z]|[a-z]|_)+
- 23) \\(?:[0-9]?-*)\\)?

Part III

Step 1: cd into the hw folder so that i can add this new text file from vi into there

Step 2: then do vim <textfile> // which is the name of the file

Step 3: Paste the contents into the files and save with :qw

Step 4: Then after the file is saved then use the chmod command to add the and remove specific permissions so now its rwx-r-r so only i can read write execute nad everyone else can read

Step 5: then use the Grep -n 'POINTS' file name to get those specific lines and tada

```
File Edit View Search Terminal Help
[mhabeeb1@localhost ~]$ vi

[1]+  Stopped                  vim
[mhabeeb1@localhost ~]$ vi

[2]+  Stopped                  vim
[mhabeeb1@localhost ~]$ cd home
bash: cd: home: No such file or directory
[mhabeeb1@localhost ~]$ cd Homework
[mhabeeb1@localhost Homework]$ vim homework_instructor.txt
[mhabeeb1@localhost Homework]$ chmod u+rwx homework_instructor.txt
[mhabeeb1@localhost Homework]$ chmod go+r homework_instructor.txt
[mhabeeb1@localhost Homework]$ ls
homework_instructor.txt
[mhabeeb1@localhost Homework]$ ls -l
total 4
-rwxrw-r--. 1 mhabeeb1 mhabeeb1 1187 Jan 28 17:11 homework_instructor.txt
[mhabeeb1@localhost Homework]$ chmod g-r homework_instructor.txt
[mhabeeb1@localhost Homework]$ chmod g+r homework_instructor.txt
[mhabeeb1@localhost Homework]$ chmod g-w homework_instructor.txt
[mhabeeb1@localhost Homework]$ ls-l
bash: ls-l: command not found...
[mhabeeb1@localhost Homework]$ ls -l
total 4
-rwxr--r--. 1 mhabeeb1 mhabeeb1 1187 Jan 28 17:11 homework_instructor.txt
[mhabeeb1@localhost Homework]$ grep -n 'POINTS' homework_instructor.txt
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16: 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.
[mhabeeb1@localhost Homework]$
```

