CSc 3320: Systems Programming

Fall 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 *submission's 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: Mahi Berhanu

Campus ID: Mberhanu2

Panther #: 002478520

Part 1

1. The main difference between linux and unix is that linux is a kernel to the linux operating system while unix is a complete package of operating system. Operating systems that belong to Unix but not Linux are Solaris, OS X, BSD and many more.
2. The pipe mechanism is a mechanism in which the output of one process can be used as an input for another process and this helps break down complex tasks. Example: ls -al | more. A | is used between two commands to create a pipe.
3. /bin contains user executable binary files. /dev contains device files. /boot contains boot loader related files. /usr contains documentation, source code, libraries, and binaries for 2nd level programs. /etc contains configuration files that are required by all programs. /mnt is a temporary mount directory where file systems can be mounted. /sbin contains binary executables but the commands are used by system admin for maintenance . /var consists of files that are expected to grow.
4. Multi-tasking means that more than one task can be run at the same time and Multi-user means that more than one user can work at any given time.
5. This means that the user has the permission to read, write and execute. The others that are in the same group as the user have the permission to read and execute. And the others that aren't in the same group as the user have the permission to read and execute as well. The octal representation for this is 755.
6. The read permission for a directory allows the user to be able to list the contents of the directory. The write permission for a directory allows the user to create, rename, or delete files within the directory they have permission in. The execute permission for a directory allows the user to gain access to the files and any subdirectories within the directory they have permission in.

Part 2a:

7. aaba
8. abc
9. find
10. abc
11. a+b
12. acc
13. ab2
14. ab!
15. cd? D
16. verycoolbad weather
17. -1
18. -0a1

Part 2b:

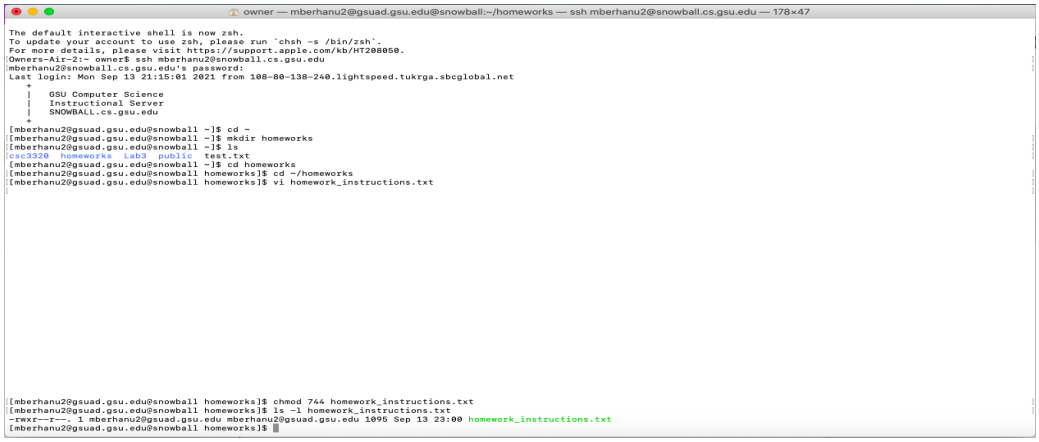
19. /^(http):\/\/[\w\-_]+(\.[\w\-_]+)+([\w\-\.]*+(.edu)?
20. (([1-9][0-9])* | 0)?
21. ([.\/]+[a-z]*)*
22. [_a-Z]{10}
23. [0-9]{10}

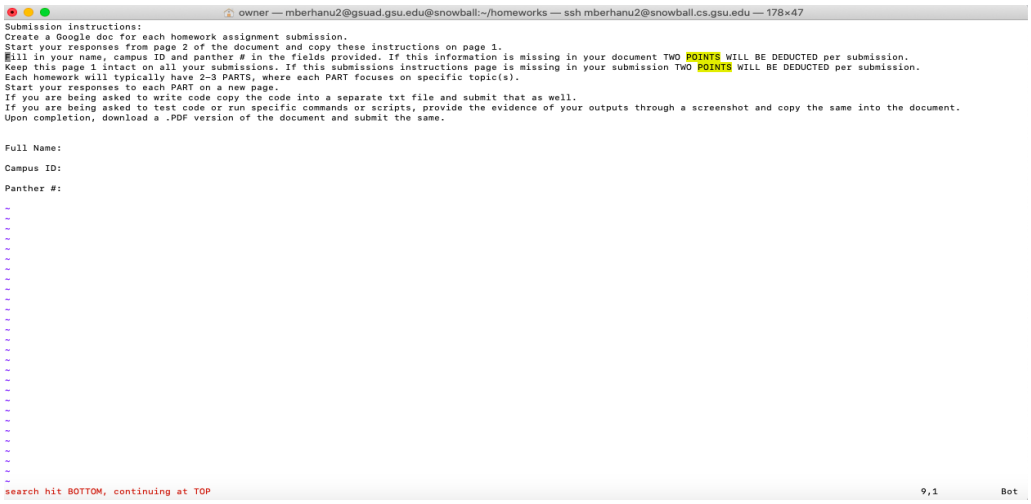
Part 3:

24.

a. Step 1: go to home directory using cd ~
b. Step 2: create directory name homeworks using mkdir homeworks
c. Step 3: go into homeworks using cd ~/homeworks
d. Step 4: create the file by typing vi homework_instructions.txt
e. Step 5: copy the first page of the homework doc into the file
f. Step 6: type in :/POINTS to have it highlight the “POINTS” in the doc
g. Step 7: save and exit file by typing :wq
h. Step 8: type in chmod 744 homework_instructions.txt to change the permission of the user to read, write and execute and the permission for group and others will only be read.

   Step 9: type in ls -l homework_instructions.txt to confirm the permissions.


owner — mberhanu2@gsuad.gsu.edu@snowball:~/homeworks — ssh mberhanu2@snowball.cs.gsu.edu — 178×47
The default interactive shell is now zsh.
To update your account to use zsh, please run `chsh -s /bin/zsh`.
For more details, please visit https://support.apple.com/kb/HT208050.
Owners-Air-2:~ owner$ ssh mberhanu2@snowball.cs.gsu.edu
mberhanu2@snowball.cs.gsu.edu's password:
Last login: Mon Sep 13 21:15:01 2021 from 108-80-138-240.lightspeed.tukrga.sbcglobal.net
GSU Computer Science
Instructional Server
SNOWBALL.cs.gsu.edu
[mberhanu2@gsuad.gsu.edu@snowball ~]$ cd ~
[mberhanu2@gsuad.gsu.edu@snowball ~]$ mkdir homeworks
[mberhanu2@gsuad.gsu.edu@snowball ~]$ ls
csc3320 homeworks Lab3 public test.txt
[mberhanu2@gsuad.gsu.edu@snowball ~]$ cd homeworks
[mberhanu2@gsuad.gsu.edu@snowball homeworks]$ cd ~/homeworks
[mberhanu2@gsuad.gsu.edu@snowball homeworks]$ vi homework_instructions.txt
[mberhanu2@gsuad.gsu.edu@snowball homeworks]$ chmod 744 homework_instructions.txt
[mberhanu2@gsuad.gsu.edu@snowball homeworks]$ ls -l homework_instructions.txt
-rwxr--r--. 1 mberhanu2@gsuad.gsu.edu mberhanu2@gsuad.gsu.edu 1095 Sep 13 23:00 homework_instructions.txt
[mberhanu2@gsuad.gsu.edu@snowball homeworks]$


owner — mberhanu2@gsuad.gsu.edu@snowball:~/homeworks — ssh mberhanu2@snowball.cs.gsu.edu — 178×47
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Full Name:
Campus ID:
Panther #:
search hit BOTTOM, continuing at TOP
9,1
Bot