

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 *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: Zoe Boyle

Campus ID: zboyle1

Panther #: 900-903-403

Part 1

1. Unix is a family of operating systems, and Linux is a family of open source Unix based operating systems
2. The pipe mechanism is '|'. It takes the output from the first command and uses it as input for the second command. Example: `grep "hello" print.txt | wc -l`
3. /bin – contains binary executeables, /dev – contains device files, /boot – contains required files for boot process, /usr – contains all user binaries and their libraries, /etc – contains all system files, /mnt – mount point for devices, /sbin – system binary executables, /var – contains variable data
4. Multitask- performs multiple tasks at once, Multi-user- able to be used by multiple users at once
5. '-' means it is a file, 'rwx' in the first group means the user can read write and execute, 'r-x' for the second and third group mean the users group and the public can read and execute and not write `chmod 755 file`
6. For directories, read means the user can view the contents of a directory, write means a user can create a file in the directory, and execute means the user can enter the directory

Part 2 a

7. Abaa, aaaa, aa : the matched string should begin and end with a with a or b occurring zero or more times between the a's
8. Abc, a : match a string starting with a and ending in bc zero or one times
9. dn, find : match a string beginning with any character and ending in i, n, or d zero or more times
10. hello, yes : match a string beginning with any character a-z one or more times and ending in any character a-z
11. a+b+c+d , a+z : match a string beginning with any character a-z followed by + and any character a-z one or more times
12. abcb, adc : match a string beginning with a followed by any character, then ending in b or c one or more times
13. ab9, ah3 : match a string starting with a followed by any character ending with any number 0-9
14. what?, hey! : match a string starting with any character a-z one or more times and ending in ., ?, or !
15. hey! A, c? F : match a string starting with any character a-z one or more times followed by ., ?, or ! followed by a whitespace character zero or more times ending in a character from A-Z
16. very bad weather, very very cool good weather : match a string starting with very one or more times followed by cool zero or one time followed by either good or bad ending in weather
17. -543, 9876 : match a string starting with – zero or no times then followed by any number 0-9 one or more times
18. -9.6, 787.7647 : match a string starting with – zero or no times then followed by any number 0-9 zero or more times followed by . zero or one time ending in any number 0-9

Part 2 b

19. `http:\V[a-z]*\.edu`

20. `\+?[0-9]*`

21. `(V[a-z]*)*([a-z]*)?`

22. `[_.]([d\D])*`

23. `\(?:[0-9]*\)?(-?[0-9]*){2}`

Part 3

24.

Step 1 – created homework_instructions.txt

```
[zboyle1@gsuad.gsu.edu@snowball ~]$ vi homework_instructions.txt
```

Step 2 – moved to homeworks directory

```
[zboyle1@gsuad.gsu.edu@snowball ~]$ mv homework_instructions.txt ~/homeworks/homework_instructions.txt
```

Step 3 –

```
[zboyle1@gsuad.gsu.edu@snowball homeworks]$ chmod 644 homework_instructions.txt
[zboyle1@gsuad.gsu.edu@snowball homeworks]$ ls -l homework_instructions.txt
-rw-r--r--. 1 zboyle1@gsuad.gsu.edu zboyle1@gsuad.gsu.edu 1106 Sep 24 18:05 homework_instructions.txt
```

Step 4 –

```
[zboyle1@gsuad.gsu.edu@snowball homeworks]$ sed -n '/POINTS/p' homework_instructions.txt
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