**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.

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Part 1:

1. Linus: It’s an operating system based on Unix.. Unlike Unix, it is accessible to the public and open source.

Unix: It is an operating system that is written in C and assembly language. Unlike Linux, it is not open to public use and not portable. Some examples of Unix are Mac OS X, FreeBSD, and Solaris.

1. Pipe mechanism is a command that allows for command outputs to be used as the input for the next command. The output of cd ~/Lab3 | would be the input for the next program.
2. /bin: executable files

/dev: devices that have access to the file

/boot: kernals and files that will load during booting

/usr: any files concerning the user stored here

/etc: files for configuration

/mnt: for extra drives like usb floppy

/sbin: administrative files

/var: variable files that can be adjusted/changed

1. Multitasking means it allows for multiple usage of programs at once, whereas, multiusers means multiple users can open programs on a single device.
2. -rwxr-xr-x can be broken down into three parts. rwx means the owner has full access to reading, writing and executing the files, r-x means users authorized by the owner can read and execute the files, and the last r-x means that others aside from those two groups can read and execute but both other user groups cannot read the files.
3. Read permission allows for users to be able to see the contents of the files, write permission allows for users to change and alter the contents of the files, and execute permission allows the users to access the directory of the files.

Part 2a:

1. aa, aaa; The matched string should begin and end with ‘a’ and in between there can be no other characters.
2. a, abc; The matched string should begin with ‘a’ and end with ‘bc’ none to one time after ‘a’.
3. td, ti,miidn; The matched string should begin with any character other than newline, which can contain any character from the bracket at least 0 times.
4. abc, af, akq; The matched string should start and end with any characters from the alphabet from a-z.
5. a+b, a+b+b; The matched string should start with any character from the alphabet, have ‘+’ occur at least once and end with and character from the alphabet.
6. abc, ahbc; The matched string should start with ‘a’ and any character that is not ‘a’ and any letter from the bracket.
7. af7, au0; The matched string should start with ‘a’ and end with a number from 0-9, and a should be followed by any character that has not yet occurred.
8. abc., atk?; The matched string should start with any letter and end with one of these symbols: ., ?, !.
9. a? D, abc. G; The matched string should start with a lowercase alphabet followed by any lowercase character and at least 0 spaces, and end with an uppercase alphabet character
10. verycool weather, veryverygood weather; The matched string should start with at least one very, zero or more cool, and then good or bad, and end with weather.
11. -5, -653; The matched string should start with none to more occurrences of – and multiple occurrences of any number from 0-9.
12. -7u9, -0t9; The matched string should start with no to one occurrence of – and then none to many occurrences of any number from 0-9 and end with none to many occurrence of a number from 0-9.

Part 2b:

1. /^(http):\/\/[\w\-\_]+(\.[\w\-\_]+)+([\w\-\.]\*+(.edu)?
2. (([1-9][0-9])\*|0)?
3. ([.\/]+[a-z]\*)\*
4. [\_a-Z]{10}
5. [0-9]{10}

[0-9]{3}-[0-9]{3}-[0-9]{4}

([0-9]{3})-[0-9]{2}-[0-9]{4}

Part 3:

mkdir homeworks

cd homeworks

vi homework\_instructions.txt

:grep POINTS homework\_instructions.txt

:wq

