Assignment 1

CAAM 519 Fall 2021

Due Monday September 20, 10:59 am

Part 1.

1. Directly download (via `wget`) hw1_materials.tar.gz from the course website and un-arvhive it (via `tar`) in a directory named `hw_part1`. (2 pts.)

2. Redirect standard output from a "sort" command to a file named "phone_list", using the file named "numbers" as input (2 pts.)

3. Translate all occurrences of the characters [and { to the character (, and all occurrences of the characters] and } to the character), in the file `add.c`. (2 pts.)

4. Create a file named book.txt that contains the contents of two other files: part1.txt and part2.txt and then sort book.txt based on its second column and direct stdout to `book_sorted.txt` (4 pts.)

5. Write a script to create 50 files that ranges from: input1.old - input50.old (2 pts.)

6. Rename input1.old - input50.old to this new pattern INPUT1.new - INPUT50.new (4 pts.)

7. In file `us-states.csv`, first show the first and last two rows. How many lines it contains? Show all lines that contains "Texas". (4 pts.)

8. In file `us-staes.csv`, change the order second and third columns and direct the output to us-states-new.csv (2 pts.)

Part 2.

1. Explain these commands in your own words (7 pts.)

    i. `cat <file> | less`

    ii. `cat <file> 2>&1| less`

    iii. `cat <file> > /dev/null`

    iv. `cat <file> 1> out 2>err`

    v. `cat <file> &> out`

    vi. `cat <file> > /dev/null &`

    vii. `cat <file> > /dev/null && echo "cleaning done!"`

2. With examples explain the difference between hard and symbolic links (3 pts.)

3. What is the difference between `a=5` and `export a=5` ? (3 pts.)

part 3.

1. Write commands to find smallest and biggest files in your home directory (2 pts.)

2. Find the `ip` address (only digits) of your machine using `ifconfig`. (3 pts.)

3. List the names of all users in your machine in a single column (use `cut` with -f and -t flags for proper filtering) (3 pts.)

4. File permissions: (8 pts.)

     i. List all files in your home directory with their permission attributes.
    ii. What does the second column in the file attributes shows?
   iii. Use `cat > poetry.txt` to create a file that contains two lines from (your favorite) poem then make sure to give read/write permission to all users using `chmod` command.
    iv. Can you achieve the same with octal numbers?

Part 4.

1. Use `awk` command to achieve the following tasks for the file **grades.txt** (9 pts.)

     i. Printing 3rd and 4th Columns
    ii. print only those lines that contain more than 15 characters.
   iii. Print those lines where second column is "John"

Your scripts and commands should be heavily commented, explaining each part of it. If it is not commented, you will receive no credit. Please upload your script to Canvas when you are finished!