CSP203: Software Tools & Technologies Lab

Lab-2: Practice Problems (Linux Commands)
Date: 13-August-2024

Instructions:

1. You must solve the below problems only on the Linux terminal to make yourself familiar with linux commands and start getting good practice.
2. Complete the lab hour and submit it through canvas.
3. Prepare all your solution files in a zip file and name it as <ROLLNO.zip> and submit on canvas.

Problems:

1. Linux has a **date** command to print the date in a default format. Find out a way to format the bash **date** command to give the output as given below:
   Tue Mar 5 09:58:21 PM IST 2019 [Hint: use man page]
2. Assume you have a text file with many lines containing user details. Each line has the following format.

   Name, Phone number, Email Address, Credit card number, Date of birth. The format of each field is listed below.

   Name: Contains First name followed by Last name (with space separated). First and Last names start with capital letters followed by any number of lower letter alphabets.

   Phone number: It has 10 digits, in the format as (123) 456–8911 i.e (3 digits)(space)(3 digits)(hyphen)(4 digits).

   Email Address: It has the format username@Domain.

   The username should start with an alphabet (lower/upper) followed by any number of alphabet or digits. Domain should use <string>.<string>.<string>, where strings contain only lower Alphabets.

   Credit Card Number: It has 16 digits in the below format <4 Digits><space><4 Digits><space><4 Digits><space><4 Digits>

   Date of the birth: Uses the format DD-MM-YYYY. Where DD should be in the range [1-31] and MM in the range [1-12] and YYYY in the range [0000-9999].

   Given the above information, write linux commands for the each following that
   (1) Lists of email address of all the users
   (2) Lists of all the user credit cards whose credit card begin with 1234 and ends with 1562
   (3) List all the user details who year of birth is 1982
   (4) List all the user details whose phone number contains the pattern (347)
3. Write a linux command to compute the disk usage of the current directory in Gigabytes/Megabytes/Kilobytes?
4. Write the command to find all the files which have been modified in the last week. What are the changes required to check for the files which are modified in the last 2 hours? [Hint: explore how to use **find** command]
5. Write a linux command to replace all the spaces with tab space in a file [Hint: Understand **sed** command]
6. List all the file sizes in MB, whose filename start with a ends with .txt
7. Use the interactive vim editor to learn about VIM features.
8. Write a c program to implement **head** command **only using VIM editor.**
9. Write a linux command to change the permissions of the above executable to 777

10. Implement the following linux commands using C language. You should create an executable as listed below.

Executable Name	**Linux Command Name**	**Semantics**
cat	cat <file>	Prints the contents of the file <file>
cp	cp <dst> <src>	Copies the contents of the file <src> to <dst> note that the order is different from that of traditional cp command
head	head <num> <file>	Lists the top <num> lines of the the file <file>
tail	tail <num> <file>	Lists the bottom <num> lines of the file <file>