Lab Activity 1 - SHELL

Software System Development – Monsoon 2023

Due Date: 9 August 2023, 05:00 pm

Instructions:

- Deadline mentioned during the Lab is strictly immutable. No extensions will be given.
- Any naming convention mentioned in the lab activity must be followed strictly or marks may be deducted for the same.
- Any plagiarized content will fetch zero marks for the current lab and will be followed by strict action against the students involved. However, discussion of ideas is allowed.

Submission Criteria:

- Create a folder with your **roll number as its name** and containing the following files corresponding to the questions:
  - **<roll_number>_q1.sh**
  - **<roll_number>_q2.sh**
  - **<roll_number>_q3.sh**
  - **README.md**
- Compress the folder as a zip file **(name should be <roll_number>.zip)** and then upload it on the Moodle before deadline.
- **README.md** should contain steps for execution of your script and any extra information that you want the evaluator to know before running your script, such as dependencies on some external tools or libraries.
- For Example:

2022201079.zip

|____2022201079

|____2022201079_q1.sh

|____2022201079_q2.sh

|____2022201079_q3.sh

|____README.md

Question 1: (10 Marks)

Write a bash script that takes path of a text file as a command line argument and outputs the middle line of the text file after it is sorted.

• **Input Constraints** – The path will be a valid non empty file path.

• **Output Constraints** – outputs the middle line of the text file after it is in **sorted order.**

Example:

Input:

Jack and Gill went up the hill

to fetch a pail of water

Jack fell down and broke his crown

and Gill came tumbling after

insurance was claimed by both

Output:

Jack and Gill went up the hill

Question 2: (10 Marks)

Write a bash script that takes a directory path as input and prints a list of all files/directories that follow the following condition:

- ➢ File/Folder name should start with the letter F (case insensitive, i.e either 'f' or 'F')
- ➢ Should not be a cpp file (The file/folder should not have a .cpp extension)

• **Input Constraints** – The path will be a valid directory path (can be absolute or relative)

• **Output Constraints** - Print each word satisfying the criteria on a new line in the terminal

Question 3: (10 Marks)

There is a manual for every command that you type on the terminal. When you access this manual(using man command), it is of the following structure:

NAME

//text about the name

SYNOPSIS

//Syntax for the command

DESCRIPTION

//description about that command

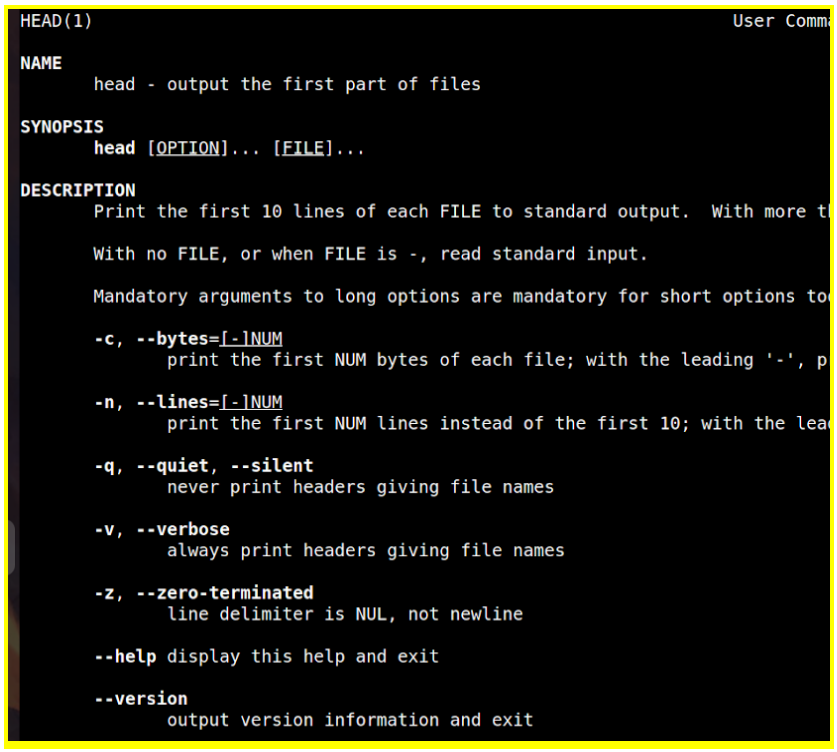
.

.

.

.

For example, this is a cropped screenshot of the manual for head command:



Your Task:

In the manual of **whereis** command, you want to find the phrase “search for binaries” but you are not sure whether it is uppercase or lowercase. Besides, you need to print one line before the match too. Your task is to write a bash script of sequence of commands or just a single command (yes it’s possible!) to print the 2 lines, one matching “search for binaries” and a line before that, on your terminal.