CSCM603127 System Programming

Worksheet 7 - Scripting (I) - 03112020

Student ID / Name / Class: _____ / _____/ (A/B/C/INT)

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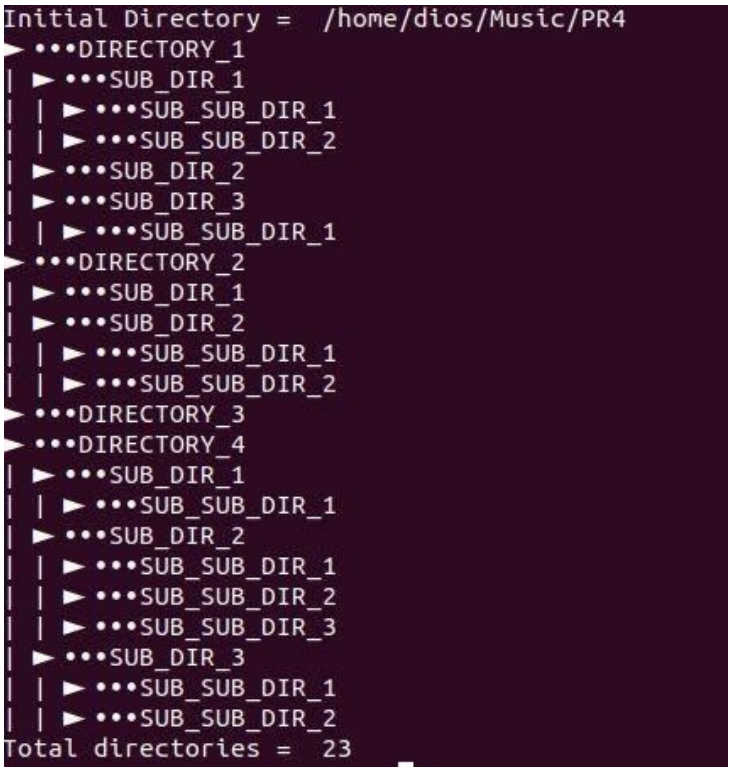
1. Write a bash script that **read a JSON file** and **beautify it into formatted JSON**. The new beautified JSON is stored as a new file. You also must provide an explanation of how your bash script works!

   Notes:
   - You can use this JSON file as an input example.
   - Use as many resources as you can get.
   - Don't hardcode the path of the unformatted JSON file! Use argument instead.

2. Structure of file system consists of directory and file. Make a bash script that represents your file system structure as a tree. Here is the example of the structure:



   You also must provide an explanation of how your bash script works!

3. Create a bash script that can change your terminal as displayed in the following picture:

Make sure that this script changes your terminal permanently (meaning that if the terminal is restarted, it would still look the same). You also must provide an explanation of how your bash script works!

4. Suppose that we have this bash script

```
while read LINE
do
  echo $LINE
done < `tail -f /var/log/messages`
```

Unfortunately, the above code block hangs and does nothing useful. Fix this so it does work. You also must provide an explanation of how your bash script works! (**Hint:** rather than redirecting the stdin of the loop, try a pipe.)

5. Create a bash script to create a .ssh folder for every user that has a HOME directory if it does not exist. Otherwise, print the full path of that user .ssh folder using format “{USER} .ssh folder in {PATH_TO_FOLDER}” where:

   - {USER}: Replace it with name of the user
   - {PATH_TO_FOLDER}: Replace it with the path to .ssh folder

   You also must provide an explanation of how your bash script works!

6. Create a bash script that receives a path to a certain folder as a parameter. Change the ownership of every file and folder inside that path to the user that executed this script. You also must provide an explanation of how your bash script works!

7. Create a bash script that can compress each user home folder into .tar.gz file. The result will be stored in `/var/backup` folder. You also must provide an explanation of how your bash script works!