Birzeit University

Computer Science Department- Faculty of Engineering and Technology

Due to: Thursday 4/1/2024, before 23:59 PM

Submission on Moodle (ITC)

Projects 2. All answers must be from Labs (1-8) only.

Question 1:

On your system, write the commands to do each of the following and save the number of questions and the answer to a file called ***Question1_ answers.*** ***You MUST also take screen captures or images clearly showing the commands you executed on your system for each question below and the results displayed on the screen. The screen captures, or images should be included in sequence in a Word file called Question1_ images.***

Note: ***Every time, run the clear command before taking a screenshot of your machine terminal.*** ***YOUR TERMINAL PROMPT should be clearly shown.***

1. **Question#1:** Use the find command to compile a list of all directories in your system (under the root'/'directory). The command must redirect the output so that the list of directories ends up in a file called directories.txt and the list of error messages in a file called errors.txt.
2. **Question#2:** run vi forever in the terminal and write the following script:

```
while true
do echo hi Comp311 students> out
done: wq!
```

3. **Question#3:** Run the command *forever* in the background using &.
4. **Question#4:** Run the command *forever* in the foreground, suspend it with CTRL+z, and put it into the background using bg. Next, run the command jobs, then the command ps. Finally, bring the job back into the foreground with fg.
5. **Question#5:** Run the command *forever* four times in the background using &, then use the kill command to terminate the process by its job number. Repeat this task but kill the process by specifying its PID.

6. **Question#6:** Run the command *forever* in the background using &, then use the kill command to suspend (stop)the process. Finally, use the bg command to resume running the process.
7. **Question#7:** Suppose there are many *forever* processes in the background, for example, more than 50 processes in the jobs. We need to kill these processes at once. All processes must be killed unclearly, and the terminal mustn't be killed, terminated, or hanged. (Justify your command line)
8. **Question#8:** Create a variable called myprj2var in your current bash shell with value project, then make sure that the variable myprj2var is passed from bash to *ksh* when you run a *ksh* shell under your *bash* shell.
9. **Question#9:** Create a Prj2 directory under your home directory, add the directory to the end of your current **PATH** environment variable (temporarily) and display the value of the **PATH** variable on the screen.
10. **Question#10:** What is the difference between *nice* and *renice* commands? Give a usage example for each of them.

Question 2:

Using the given *prj2_ passwd* file, use your system to write a *single* command to do each of the following (Write the number of the question and the answer to a file called *Question2_ answers*). *You MUST also take screen captures or images clearly showing the commands you executed on your system for each question below and the results displayed on the screen. The screen captures, or images should be included in sequence in a Word file called Question2_ images.*

1. **Question#1:** Display the login names (e.g., u1180111) of all users whose last name is Mohammad (all cases) and whose default shell is *zsh*.

2. **Question#2:** Display the first names of all unique users (all cases) in uppercase with comp322 as part of their home directory, sorted by the numerical value of their user ID numbers in descending order.

3. **Question#3**: Select all *sh* shell usernames (full name, separated by a space in uppercase) and save them to a file called *sh_ shellusers*.

4. **Question#4:** Save users from user number 15th to user number 20th into a *user.txt* file. The name in this file should appear in uppercase and sorted in descending order (i.e., first name and last name separated by a space).

5. **Question#5:** Display the unique first names of all users (all cases) whose last names end with the letter between a-o, and save the result to the a_oSorted.txt file

6. **Question#6:** List the full names (*all in uppercase*) sorted in descending order of all users whose shell is NOT zsh shell.

7. **Question#7:** List the last names of all users (sorted based on ID number in ascending). The user that has a login name starts with u116.

8. **Question#8:** Display all files in the (*/etc.)* directory that do not contain word *passwd* in these files page by page on the screen

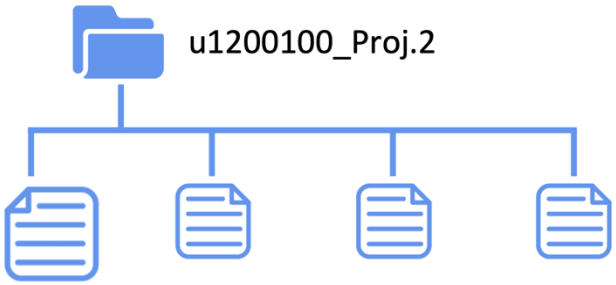
9. **Question#9:** Display the number of directors in the */etc.* The directory starts with any letters (a-k) for all cases.

10. **Question#10:** List the initials (i.e., the first letter of the first name followed by the first letter of the last name) of all users with *ksh* as their default shell.

Submission (on the ITC by the due date and time):

You must create youruserid _ prj. 2 under your home directory Submit inside this directory the following four documents:

Sample:



Question1_answers
Question1_images
Question2_answers
Question2_images

Submission Instructions:

- Go to the directory one level above `youruserid_prj2` (your home directory) and type the command.

  `tar -cvf youruserid_prj2.tar youruserid_prj2`

  This command will create an archive (tar file) of the entire directory structure of your userid_prj1.

- Please turn in the file youruserid`_prj2.tar` by putting it in ITC by the due date and time.
- ***It would be best if you did all the work above completely on your own***. Working with anybody else in class or others on any part of this project will result in a zero grade.

  It would be best if you did all the work above wholly on your own. Working with anybody else in the class or others on any part of this project will result in a zero grade. **No projects will be accepted after the due date *and TIME for any reason.***

Postponing the project is NOT permitted!

Goodluck