CSC3320 System Level Programming

Lab Assignment 6 - Part 1 - In-Lab

Purpose: Learn how to correct a shell script and write more complicated shell scripts.

Part 1:

In order to finish the tasks in this lab, you must connect to snowball server to copy my checkError.sh

`$cp /home/yye10/public/checkError.sh checkError.sh` In Lab 5, you may have tried the shell script **checkError.sh** in part 3. However, there are **four** errors on **four** different lines in that shell script. Please correct all the four errors by writing down the line number, the error and the correction as below:

Line #: 1, 3, 10, 21
Error: $#/bin/bash, /* Check Error Script */, grep '^[^a]*ce$' << END >> Result lance, ls mail $1@student.gsu.edu < Result
Correction: #!/bin/bash, # Check Error Script, grep '^[^a]*ce$' << -ENDHERE >> Result (the word "lance" goes into line 11), mail $1student.gsu.edu < Result

Note: please use cat -n to check the line numbers.

```
$#/bin/bash

/* Check Error Script */

echo "Try to find out some errors!!!"

# Search for the words which can be matched by regex
[^a]*ce # And save the output to file "Result"
echo "The regex [^a]*ce can match the string(s):" > Result
grep '^[^a]*ce$' << END >> Result lance

ace
brace
decide
piece
-ENDHERE

# Check the existence of file "Result"
# Send the content in "Result" to your emailbox
# $1 is replaced by your campusID
```

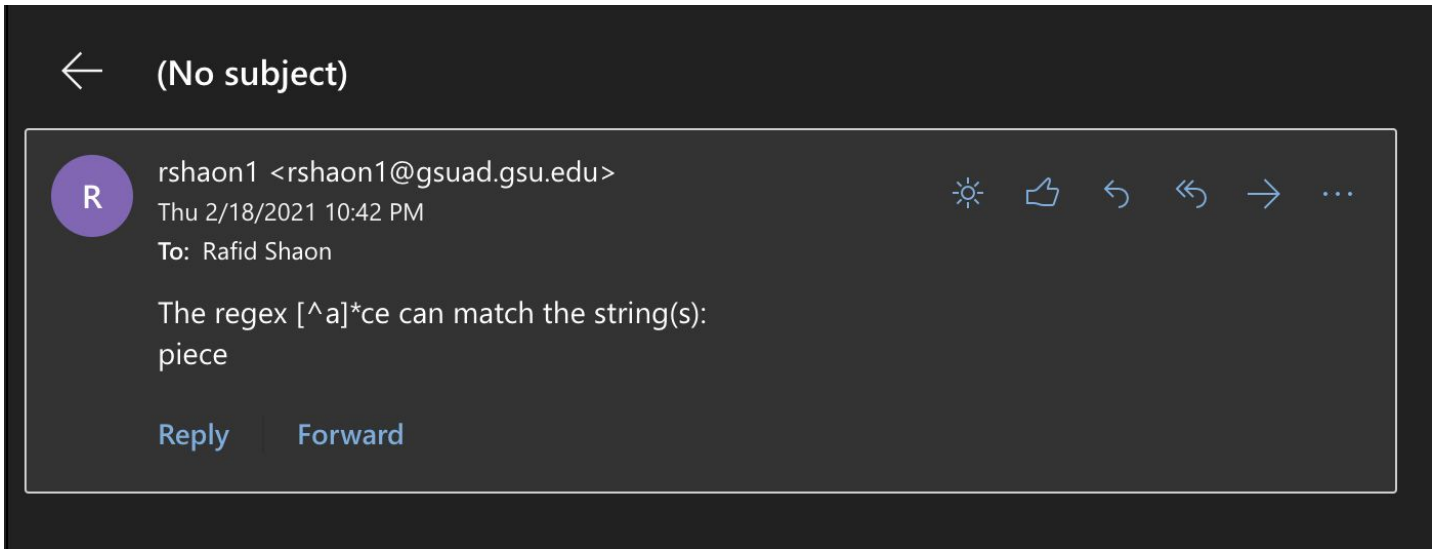
```
ls mail $1@student.gsu.edu < Result

# $1 is replaced by your campusID
echo "The result has been sent to ${1}@student.gsu.edu" echo
"Congratulations! You have corrected all the errors!"
```

My corrected script:

```
[rshaon1@gsuad.gsu.edu@snowball ~]$ cat -n checkError.sh
     1  #!/bin/bash
     2
     3  # Check Error Script
     4
     5  echo "Try to find out some errors!!!"
     6
     7  # Search for the words which can be matched by regex [^a]*ce
     8  # And save the output to file "Result"
     9  echo "The regex [^a]*ce can match the string(s):" > Result
    10  grep '^[^a]*ce$' << -ENDHERE >> Result
    11  lance
    12  ace
    13  brace
    14  decide
    15  piece
    16  -ENDHERE
    17
    18  # Check the existence of file "Result"
    19  # Send the content in "Result" to your emailbox
    20  # $1 is replaced by your campusID
    21  mail $1@student.gsu.edu < Result
    22
    23  # $1 is replaced by your campusID
    24  echo "The result has been sent to ${1}@student.gsu.edu"
    25  echo "Congratulations! You have corrected all the errors!"
[rshaon1@gsuad.gsu.edu@snowball ~]$
```

```
[rshaon1@gsuad.gsu.edu@snowball ~]$ ./checkError.sh rshaon1
Try to find out some errors!!!
The result has been sent to rshaon1@student.gsu.edu
Congratulations! You have corrected all the errors!
[rshaon1@gsuad.gsu.edu@snowball ~]$
```

```
[rshaon1@gsuad.gsu.edu@snowball ~]$ cat Result
The regex [^a]*ce can match the string(s):
piece
[rshaon1@gsuad.gsu.edu@snowball ~]$
```



Hints:

- *Following is a sample of the output once all the errors are corrected* `$ ./checkError.sh ylong4`

```
Try to find out some errors!!!
checkError.sh Result
The result has been sent to ylong4@student.gsu.edu

Congratulations! You have corrected all the errors!
```

- *You would also receive an email sent from your snowball account once all the errors are corrected.*
- *You may need to use **CTRL-C t**o terminate the execution of the command, especially for the script file with errors.*

Part 2:

Write a single shell script **hello.sh** which can finish the list of tasks as below:

1. Greet user. E.g. **Welcome to computer science society.**
2. Contain a comment section with your name, and email address.
3. Print the date.
4. Print the number of directories in **/home .**
5. Print the value of variables PATH, USER and SHELL.
6. Print your disk usage (**df**).
7. Print **Please, could you loan me $25.00?**
8. Print **if x = 2, x * x = 4 , x / 2 = 1**
9. List all the **.sh** files with **c** at the beginning of the file name in the current working directory.
10. Tell the user **Good Bye** and the current hour (see manual page of **date** command refer to the webpage at http://www.thegeekstuff.com/2013/05/date-command examples)

Include the content of **hello.sh** in your answer sheet. Besides, please also upload **hello.sh** as a separated file.

Upload your answer sheet to the folder named "Lab 6_P1" of the dropbox in the iCollege system. Name your file in the format of Lab6_P1_FirstnameLastname.pdf/doc

Hints:

- *When printing out strings using **echo**, to escape the special meaning of the meta character, please use backslash \ before the meta-character.*
- *To share files between remote server and the host machine, we can use **FileZilla - A FREE FTP**. The link to download this application is https://filezilla project.org/download.php*

```
[rshaon1@gsuad.gsu.edu@snowball ~]$ cat hello.sh
#!/bin/bash

# Step 1

echo "Welcome to computer science society."

# Step 2

# Name: Rafid Shaon - Email: rshaon1@student.gsu.edu

# Step 3

echo "Date is = `date`"

# Step 4

echo */ | wc

# Step 5

echo $PATH

echo $USER

echo $SHELL

# Step 6

echo "Printing disk usage"

echo "`df`"

# Step 7

echo "Please, could you loan me "$"25.00?"

# Step 8

echo "if x = 2, x*x = 4, x/2 = 1"

# Step 9

echo "`ls *.sh | grep c`"

# Step 10

echo "Good Bye"

echo "Current Hour = `date +"%H"`"

# End of the script
[rshaon1@gsuad.gsu.edu@snowball ~]$
```

```
[rshaon1@gsuad.gsu.edu@snowball ~]$ sh hello.sh
Welcome to computer science society.
Date is = Thu Feb 18 23:17:09 EST 2021
      1       5      40
/usr/local/bin:/usr/bin:/usr/local/sbin:/usr/sbin:/home/rshaon1/.local/bin:/home/rshaon1/bin
rshaon1@gsuad.gsu.edu
/bin/bash
Printing disk usage
Filesystem          1K-blocks     Used Available Use% Mounted on
devtmpfs              3992588        0   3992588   0% /dev
tmpfs                 4004484        4   4004480   1% /dev/shm
tmpfs                 4004484   404524   3599960  11% /run
tmpfs                 4004484        0   4004484   0% /sys/fs/cgroup
/dev/mapper/cl-root  36678148  8042532  28635616  22% /
/dev/sdb1           131979268 52818212  72433840  43% /home
/dev/sda1             1038336   320300    718036  31% /boot
tmpfs                  800900        0    800900   0% /run/user/332769344
tmpfs                  800900        0    800900   0% /run/user/332626600
tmpfs                  800900        0    800900   0% /run/user/1580505448
tmpfs                  800900        0    800900   0% /run/user/332745050
tmpfs                  800900        0    800900   0% /run/user/332700596
tmpfs                  800900        0    800900   0% /run/user/332663777
tmpfs                  800900        0    800900   0% /run/user/332757060
tmpfs                  800900        0    800900   0% /run/user/332692443
tmpfs                  800900        0    800900   0% /run/user/332746504
tmpfs                  800900        0    800900   0% /run/user/332694339
tmpfs                  800900        0    800900   0% /run/user/332704676
tmpfs                  800900        0    800900   0% /run/user/332679231
tmpfs                  800900        0    800900   0% /run/user/332690800
tmpfs                  800900        0    800900   0% /run/user/332639612
tmpfs                  800900        0    800900   0% /run/user/332705807
tmpfs                  800900        0    800900   0% /run/user/332749662
tmpfs                  800900        0    800900   0% /run/user/332625013
tmpfs                  800900        0    800900   0% /run/user/332704405
tmpfs                  800900        0    800900   0% /run/user/1580598371
tmpfs                  800900        0    800900   0% /run/user/332731852
tmpfs                  800900        0    800900   0% /run/user/332634521
tmpfs                  800900        0    800900   0% /run/user/332707293
tmpfs                  800900        0    800900   0% /run/user/332634662
tmpfs                  800900        0    800900   0% /run/user/1580525468
tmpfs                  800900        0    800900   0% /run/user/1580510342
tmpfs                  800900        0    800900   0% /run/user/1580579129
tmpfs                  800900        0    800900   0% /run/user/1580505980
tmpfs                  800900        0    800900   0% /run/user/332728085
tmpfs                  800900        0    800900   0% /run/user/332673086
tmpfs                  800900        0    800900   0% /run/user/332723182
tmpfs                  800900        0    800900   0% /run/user/332734690
Please, could you loan me 25.00?
if x = 2, x*x = 4, x/2 = 1
checkError.sh
Good Bye
Current Hour = 23
[rshaon1@gsuad.gsu.edu@snowball ~]$
```