**Study Assignment 3-2 Shell Scripts – Linux+ and LPIC-1**

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1. What is a shell script?
   A shell script is a series of commands written in a scripting language.

2. What is the output of the following shell script?
   #!/bin/bash
   # This is the first example script
   date
   w
   ls –F
   The output would display the current date and time, information about the currently logged in users, and a list of files in the home directory with special characters.

3. What is the purpose of the first line in the above script: "#!/bin/bash" ?
   The purpose of the first line is to specify shell that the script should be executed using the Bash shell.

4. What is the second line of the shell script in question 2 which begins with the #?
   Line 2 is a comment in the script.

5. How do you execute (run) a shell script?
   To execute a shell script you need execute permission and command the following: script.sh or ./script.sh

   The following script is used in questions 6 and 7.
   ***rbass@Titan:~$ ./MyScript***
   ***Sat Sep 21 13:52:32 DST 2019***
   ***13:52:32 up 10:10, 0 users, load average: 0.52, 0.58, 0.59***
   ***USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT***
   ***Back-ups/ MyScript* callmenu.py echoout hosts listout2 myhosts newdirectory/ prologue world.py***
   ***Lab-Files/ badoutput dir1/ file1* listout morenames names passwd@ sortednames***
   ***rbass@Titan:~$***

6. What causes the following error message? How do you remove the cause of the error.

   rbass@Titan:~$ MyScript
   MyScript: command not found

rbass@Titan:~$
The error message: command not found occurs when the shell cannot find an executable named MyScript in the PATH.

7. How can you make the output of MyScript more readable.
   To make it more readable you can add formatting like \t and \n for a tab and a newline.

8. What is the "source" command? The dot command?
   The source command and the dot command are used to execute the commands in a script file in shell.

9. What is an escape sequence?
   An escape sequence is a combination of characters that begins with a backslash. For example, \t or \n.

10. Assuming that the user input (standard input) to the following script is (your name), what is the output?

```
#!/bin/bash
# New Script for Name input
echo –e "What is your name? →\c "
read User
echo "Welcome to Linux OS I -- $User"
```

    It prompts the user with the question "What is your name" then displays the message "Welcome to Linux OS I – "User" with replacing "user" with the input entered.

11. If the script in question 10 is saved as newscript, how do you make it executable by all users?
    By using the command chmod +x newscript.

12. What is a decision construct?
    A decision construct is a control structure that allows the script to make decisions or choices based on certain conditions.

13. What is the most common type of decision construct?
    The most common type of decision construct is an if statement.

14. Assuming the mkdir command is successful in the following if construct, what is the output?

```
If mkdir /etc/sample
then
  cp /etc/hosts /etc/sample
  echo "The hosts file was copied to /etc/sample"
else
```

echo “The /etc/sample directory could not be created”
fi

If the command is successful the output would be “The host file was copied to /etc/sample.

15. What statement will read the user response to the following question into variable Answer?

    echo –e “Would you like to see the contents of /? (y/n) →”

    The statement read Answer.

16. What is the value of $1 In the following call to the sample shell script?
    sample /var /etc /bin

    The value of $1 is /var. Since /var is the first argument is it considered $1.

17. What could be the effect of using the alias command to make an alias for the “date” command named “cat”?

    The effect would be anytime you type the word cat it will now execute the date command instead of the usual cat command.

    The following script is used in the next 3 questions.

```
#!/bin/bash
# This script is names addtxt.  It processes a list of file names entered as command line
 # arguments, adding the extension  .txt to each
if [ $# -eq 0 ]
then
  echo "You must enter at least one filename to rename with a .txt extension"
  exit
fi
for name in $@
do
  mv $name $name.txt
  echo "$name was successfully rename $name.txt"
done
echo "End of addtxt script"
```

18. In theabove addtxt script, what is the output to the screen if the following call to the addtxt script is executed: ./addtxt fileA fileB fileC fileD

    fileA was successfully renamed fileA.txt

    fileB was successfully renamed fileB.txt

    fileC was successfully renamed fileC.txt

fileD was successfully renamed fileD.txt

End of addtxt script

19. What is the output of the addtxt script with this call to the script:
    ./addtxt

    You must enter at least one filename to rename with a .txt extension

20. What is the value of $# if the following call is made to the script:
    ./addtxt  names  points  pins
    The value of $# is 3.