**Quiz 7**

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All Shell scripts should display usage function, they should also validate input arguments to be correct, use fuctions and recursion as much as possible.

1. Write a shell script to find the number of lines in a list of files using sed.

You should write a for loop to go through all files in a directory and then count the number of lines in each file, display it as:

./script <Full path to directory>

File1 has 45 lines

File2 has 20 lines

2 Files in total, 65 lines in total

Ans: #!/bin/bash

# Counting the number of lines in a list of files

# for loop over arguments

if [ $# -lt 1 ]

then

echo "Usage: $0 file ..."

exit 1

fi

echo "$0 counts the lines of code"

l=0

n=0

s=0

for f in $\*

do

l=`wc -l $f | sed 's/^\([0-9]\*\).\*$/\1/'`

echo "$f: $l"

n=$[ $n + 1 ]

s=$[ $s + $l ]

done

echo "$n files in total, with $s lines in total"

2. Write a shell script to substitute one pattern for another in a text file.

./script.sh oldpatternnewpattern

#! /bin/bash

Ans:sed -I 's/old-word/new-word/g' \*.txt

3. Write a shell script to print complete pathname associated with pid. User has to pass the PID from command line.

./script.sh PID

4. Write a shell script to print all users on system using awk.

Hint: Learn what is /etc/passwd file in Linux

5. Write a shell script to list the frequency of words used in a file.

Hint: Sort and uniq commands will help

Ans: awk '{for(w=1;w<=NF;w++) print $w}' ~/textFile.txt | sort | uniq -c | sort -nr

6. Write a script to take backup of files changed in last 24 hours and archive them.

Hint: Read the Find command tutorial in Linux folder. We typically take backups of a folder by “tar”-ring the entire folders.

find /directory\_path -mtime -1 -ls

7. Write a shell script to determine if a particular service is active or not. For eg: if SSH service is active it should display yes and vice versa. Use netstat ,ps commands etc

Ans: #!/bin/bash

ps aux | grep -i abc

8. Write a shell script to remove spaces from filenames and replace it with underscore

Hint: you can use mv command to re-name files

find . -type f -name "\* \*.xml" -exec bash -c 'mv "$0" "${0// /\_}"' {} \;

9. Write a shell script which prints the df output in more formatted way as below

Filesystem Size Used Avail Capacity Mounted

/dev/sda1 446.71G 18.11G 405.88G 5% /

udev 10M 0 10M 0% /dev

tmpfs 1.14G 9.16M 1.13G 1% /run

10. Write a shell script to summarize available disk space and present in a logical and readable fashion

#!/bin/sh

# diskspace – Summarizes available disk space and presents it in a logical  
# and readable fashion.

tempfile=”/tmp/available.$$”  
trap “rm -f $tempfile” EXIT

cat << ‘EOF’ > $tempfile  
{ sum += $4 }  
END { mb = sum / 1024  
gb = mb / 1024  
printf “%.0f MB (%.2fGB) of available disk space\n”, mb, gb  
}  
EOF

df -k | awk -f $tempfile

exit 0

11. Write a shell function to rename .txt files to .text

files=`ls -1 \*.txt`

for x in $files

do

mv $x "`basename $files .txt`.text"

done