Assignment No.01

Name: - Omprakash Khawshi

Batch: - 10 AM To 12 PM

****

Q1.Move files from one folder to the respective folders.

E.g., current folder have files abc.txt, def.txt, ghi.txt, jkl.txt

You have to move these files to the folder like abc.txt => abc/, def.txt => def/ ...

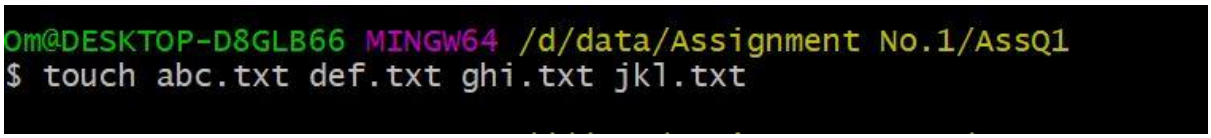
Expected outcome -

abc/abc.txt
def/def.txt
ghi/ghi.txt
jkl/jkl.txt

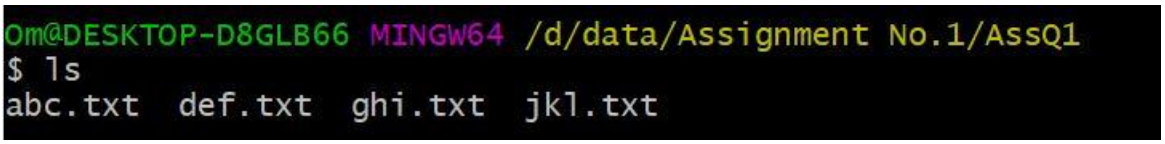
a) Create files in current directory or any temporary directory - abc.txt, def.txt, ghi.txt, jkl.txt
b) Print list of files to move.
c) Segregate basename and extension of a file.
d) Create folder using basename.
e) Move file to newly created folder.
f) Iterate above steps for all files.

Output: -

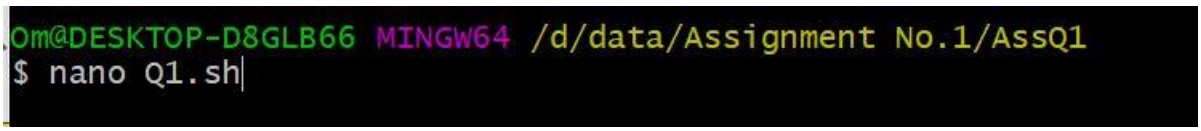
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1
$ touch abc.txt def.txt ghi.txt jkl.txt



Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1
$ ls
abc.txt def.txt ghi.txt jkl.txt



Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1
$ nano Q1.sh



```
for file in `ls *.txt`
 do
 FolderName=`echo $file | awk -F. '{print $1}'`
          echo $FolderName
 if [ -d $FolderName ]
 then
          rm -r $FolderName
 fi
           mkdir $FolderName
           mv $file $FolderName
 done
```

MINGW64:/d/data/Assignment No.1/AssQ1

```
  GNU nano 5.4                                          Q1.sh

for file in `ls *.txt`
 do
 FolderName=`echo $file | awk -F. '{print $1}'`
            echo $FolderName
  if [ -d $FolderName ]
  then
            rm -r $FolderName
 fi
             mkdir $FolderName
             mv $file $FolderName
 done
```

Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1

$ bash -x Q1.sh

```
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1
$ bash -x Q1.sh
```

Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1

$ bash -x Q1.sh

```
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1
$ bash -x Q1.sh
++ ls abc.txt def.txt ghi.txt jkl.txt
+ for file in `ls *.txt`
++ echo abc.txt
++ awk -F. '{print $1}'
+ FolderName=abc
+ echo abc
abc
+ '[' -d abc ']'
+ mkdir abc
+ mv abc.txt abc
+ for file in `ls *.txt`
++ echo def.txt
++ awk -F. '{print $1}'
+ FolderName=def
+ echo def
def
+ '[' -d def ']'
+ mkdir def
+ mv def.txt def
+ for file in `ls *.txt`
++ echo ghi.txt
++ awk -F. '{print $1}'
+ FolderName=ghi
+ echo ghi
ghi
+ '[' -d ghi ']'
+ mkdir ghi
+ mv ghi.txt ghi
+ for file in `ls *.txt`
++ echo jkl.txt
++ awk -F. '{print $1}'
+ FolderName=jkl
+ echo jkl
jkl
+ '[' -d jkl ']'
+ mkdir jkl
+ mv jkl.txt jkl

Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1
```

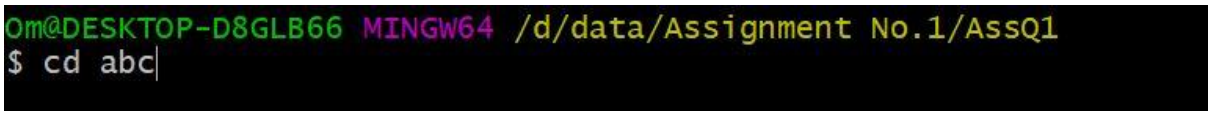
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1

$ ls

Q1.sh abc/ def/ ghi/ jkl/

```
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1
$ ls
Q1.sh  abc/  def/  ghi/  jkl/
```

```
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1
$ cd abc
```




```
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1
$ cd abc
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1/abc
$ ls
abc.txt
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1/abc
$ cd ..
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1
$ cd def
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1/def
$ ls
def.txt
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1/def
$ cd ..
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1
$ cd ghi
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1/ghi
$ ls
ghi.txt
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1/ghi
$ cd ..
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1
$ cd jkl
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1/jkl
$ ls
jkl.txt
```

```
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1
$ cd abc

Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1/abc
$ ls
abc.txt

Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1/abc
$ cd ..

Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1
$ cd def

Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1/def
$ ls
def.txt

Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1/def
$ cd ..

Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1
$ cd ghi

Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1/ghi
$ ls
ghi.txt

Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1/ghi
$ cd ..

Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1
$ cd jkl

Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ1/jkl
$ ls
jkl.txt
```

Q.2 Append current date to all log files name which has extension .log.1 from a folder

E.g original file. access.log. 1

New updated file name - access-20102019.log

a) Create files with name abc.log.1, def.log.1, ghi.log.1, jkl.log.1, mno.log.1 b) Print list of files to rename.

c) Segregate basename and extension of a file

d) Print Date Command to show in ddmmy

e) Append Date to the log file name

f) Iterate above steps for all files which has extension log.1

Output:-

Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ2
$ touch abc.log.1 def.log.1 ghi.log.1 jkl.log.1 mno.log.1

```
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ2
$ touch abc.log.1 def.log.1 ghi.log.1 jkl.log.1 mno.log.1
```

Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ2
$ ls
abc.log.1 def.log.1 ghi.log.1 jkl.log.1 mno.log.1

```
Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ2
$ ls
abc.log.1  def.log.1  ghi.log.1  jkl.log.1  mno.log.1
```

Om@DESKTOP-D8GLB66 MINGW64 /d/data/Assignment No.1/AssQ2
$ nano Q2.sh

```
#!/bin/bash -x
date=$(date +%d%m%y)
for file in `ls *.log.1`
do
name=`echo $file | awk -F . '{print $1}'`;
ext=`echo $file |awk -F . '{print $2}'`;
mv "$file" "$name""$date"."$ext";
done
```

```
#!/bin/bash -x
date=$(date +%d%m%y)
for file in `ls *.log.1`
do
name=`echo $file | awk -F . '{print $1}'`;
ext=`echo $file |awk -F . '{print $2}'`;
mv "$file" "$name""$date"."$ext";
done
```

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ2

$ ./Q2.sh

```
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ2
$ ./Q2.sh
++ date +%d%m%y
+ date=100321
++ ls abc.log.1 def.log.1 ghi.log.1 jkl.log.1 mno.log.1
+ for file in `ls *.log.1`
++ echo abc.log.1
++ awk -F . '{print $1}'
+ name=abc
++ echo abc.log.1
++ awk -F . '{print $2}'
+ ext=log
+ mv abc.log.1 abc100321.log
+ for file in `ls *.log.1`
++ echo def.log.1
++ awk -F . '{print $1}'
+ name=def
++ echo def.log.1
++ awk -F . '{print $2}'
+ ext=log
+ mv def.log.1 def100321.log
+ for file in `ls *.log.1`
++ echo ghi.log.1
++ awk -F . '{print $1}'
+ name=ghi
++ echo ghi.log.1
++ awk -F . '{print $2}'
+ ext=log
+ mv ghi.log.1 ghi100321.log
+ for file in `ls *.log.1`
++ echo jkl.log.1
++ awk -F . '{print $1}'
+ name=jkl
++ echo jkl.log.1
++ awk -F . '{print $2}'
+ ext=log
+ mv jkl.log.1 jkl100321.log
+ for file in `ls *.log.1`
++ echo mno.log.1
++ awk -F . '{print $1}'
+ name=mno
++ echo mno.log.1
++ awk -F . '{print $2}'
+ ext=log
+ mv mno.log.1 mno100321.log

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ2
$ ls
Q2.sh*  abc100321.log  def100321.log  ghi100321.log  jkl100321.log  mno100321.log
```

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ2

$ ls

Q2.sh* abc100321.log def100321.log ghi100321.log jkl100321.log mno100321.log

Q.3. Archive the files from /var/log folder which have modified 7 days ago and move it to your backup folder

a) Identify files which have modified time greater than 7 days

b) Move these files to the backup folder

Output:-

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ3

$ ls

DSC_0004.JPG Q3.sh*

```
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ3
$ ls
DSC_0004.JPG  Q3.sh*
```

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ3

$ mkdir Backup

```
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ3
$ mkdir Backup
```

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ3

$ nano Q3.sh

```
#!/bin/bash -x
for file in `find -mtime +7`
do
echo $file
mv $file backup/
done
```

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ3

$ ./Q3.sh

++ find -mtime +7

+ for file in `find -mtime +7`

+ echo ./DSC_0004.JPG

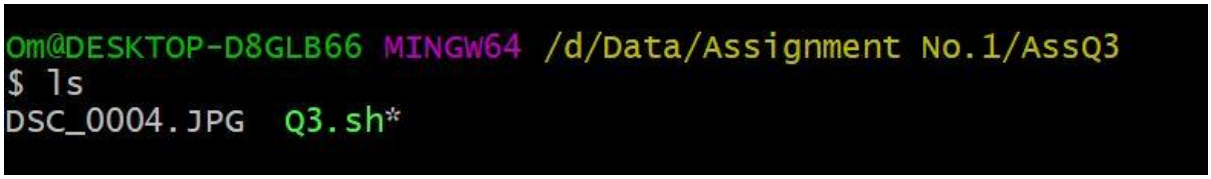
./DSC_0004.JPG

+ mv ./DSC_0004.JPG backup/

```
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ3
$ ./Q3.sh
++ find -mtime +7
+ for file in `find -mtime +7`
+ echo ./DSC_0004.JPG
./DSC_0004.JPG
+ mv ./DSC_0004.JPG backup/

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ3
$ ls
Backup/  Q3.sh*
```

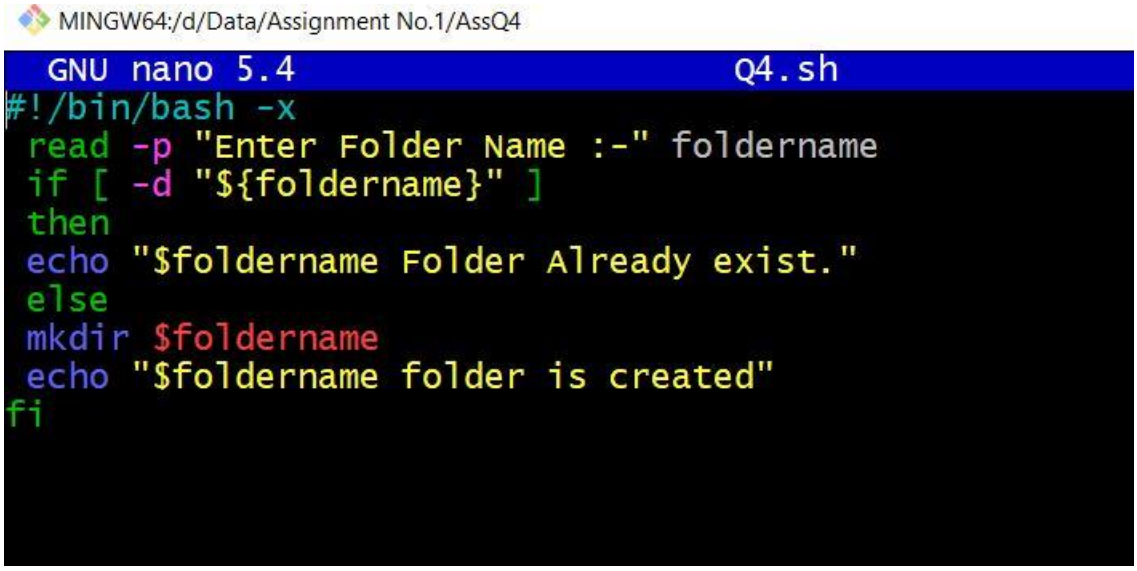
```
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ3
$ ls
Backup/  Q3.sh*
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ3
$ cd backup
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ3/backup
$ ls
DSC_0004.JPG
ls
```



Q.4 Check if a folder exists or not. If it's not present, create it
a) Test if particular folder exists in current directory or not
b) If its doesn't exists then create it else print "folder already exists..."

Output: -

```
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ4
$ ls
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ4
$ nano Q4.sh
#!/bin/bash -x
 read -p "Enter Folder Name :-" foldername
 if [ -d "${foldername}" ]
 then
 echo "$foldername Folder Already exist."
 else
 mkdir $foldername
 echo "$foldername folder is created"
fi
```




```
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ4
$ ./Q4.sh
Enter Folder Name :-Omprakash
Omprakash folder is created
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ4
$ ./Q4.sh
Enter Folder Name :-Omprakash
Omprakash Folder Already exist.
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ4
$ nano Q4.sh
```

```
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ4
$ ./Q4.sh
+ read -p 'Enter Folder Name :-' foldername
Enter Folder Name :-Om
+ '[' -d Om ']'
+ mkdir Om
+ echo 'Om folder is created'
Om folder is created
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ4
$ ./Q4.sh
+ read -p 'Enter Folder Name :-' foldername
Enter Folder Name :-Om
+ '[' -d Om ']'
+ echo 'Om Folder Already exist.'
Om Folder Already exist.
```

```
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ4
$ ./Q4.sh
Enter Folder Name :-Omprakash
Omprakash folder is created

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ4
$ ./Q4.sh
Enter Folder Name :-Omprakash
Omprakash Folder Already exist.

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ4
$ nano Q4.sh

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ4
$ ./Q4.sh
+ read -p 'Enter Folder Name :-' foldername
Enter Folder Name :-Om
+ '[' -d Om ']'
+ mkdir Om
+ echo 'Om folder is created'
Om folder is created

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ4
$ ./Q4.sh
+ read -p 'Enter Folder Name :-' foldername
Enter Folder Name :-Om
+ '[' -d Om ']'
+ echo 'Om Folder Already exist.'
Om Folder Already exist.
```

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ4
$ ls
Om/ Q4.sh*

Q.5 Execute command "hello" and "Is" and check its execution status and print whether command executed successful or not.

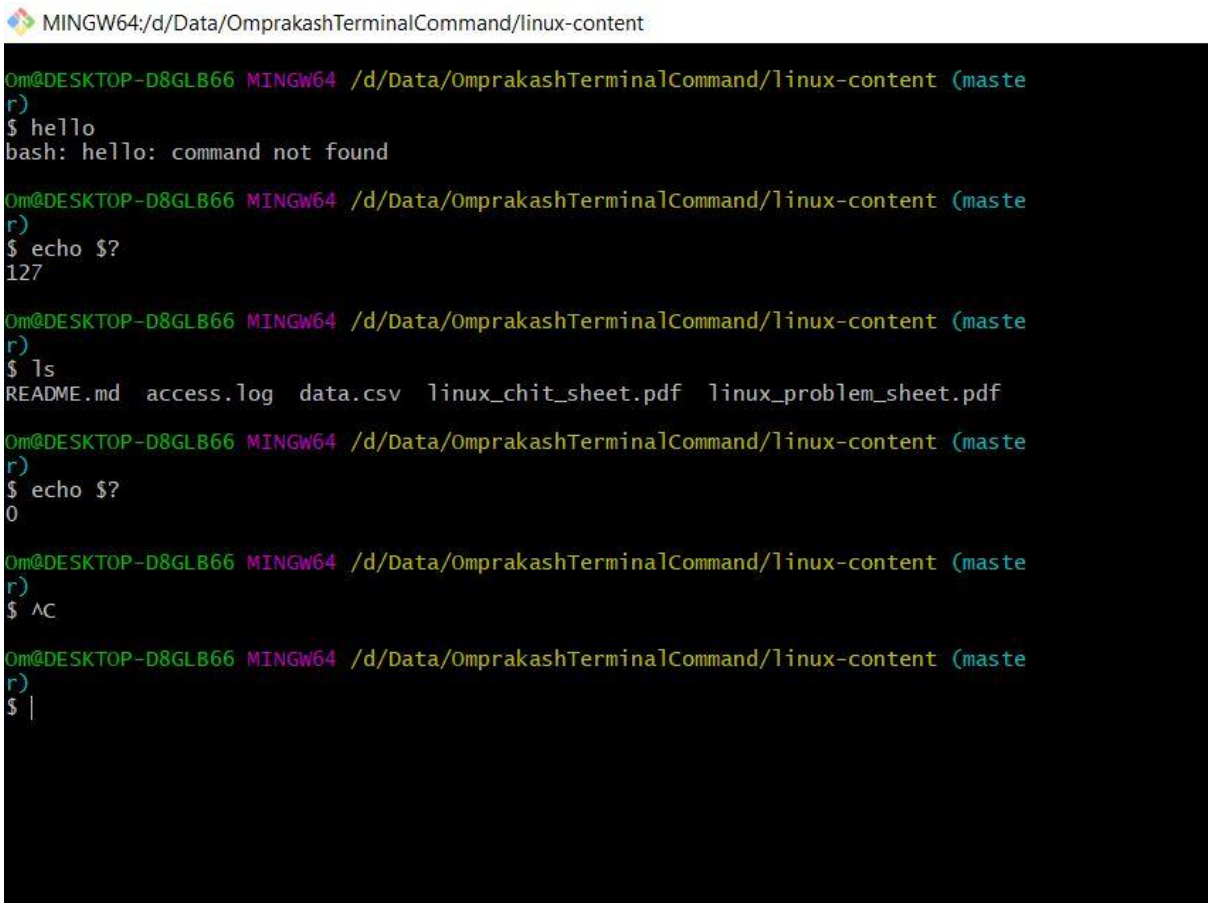
a) Execute "hello" command at command prompt
b) Check execution status of "hello" command
c) Execute "Is" command at command prompt
d) Check execution status of "Is" command

Command: -

echo $?:- Execute echo $? command to check the status of executed command as shown below. Here we get exit status as zero which means the “ls” command executed successfully.

Output: -

```
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)
$ hello
bash: hello: command not found
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)
$ echo $?
127
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)
$ ls
README.md  access.log  data.csv  linux_chit_sheet.pdf  linux_problem_sheet.pdf
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)
$ echo $?
0
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)
```



Or

```
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ5
$ nano Q5.sh
#! /bin/bash
abc=`hello`
if [ $? == 0 ]
then
        echo "Command executed successfull"
else
        echo -e "hello"
        echo "Command failed to execute"
fi
xyz=`ls`
if [ $? == 0 ]
then
        echo -e "ls"
        echo "Command executed successfull"
else
        echo "Command failed to execute"
fi
```

MINGW64:/d/Data/Assignment No.1/AssQ5

```
  GNU nano 5.4

#! /bin/bash
abc=`hello`
if [ $? == 0 ]
then
        echo "Command executed successfull"
else
        echo -e "hello"
        echo "Command failed to execute"
fi

xyz=`ls`
if [ $? == 0 ]
then
        echo -e "ls"
        echo "Command executed successfull"
else
        echo "Command failed to execute"
fi
```

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ5
$ ./Q5.sh
./Q5.sh: line 2: hello: command not found
hello
Command failed to execute
ls
Command executed successful

```
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ5
$ ./Q5.sh
./Q5.sh: line 3: hello: command not found
hello
Command failed to execute
ls
Command executed successfull
```

Q.6. Set environment usersecret="dH34xJaa23" if its already not set

a) Check whether environment variable usersecret assigned any value or not

b) Print error if usersecret already set

c) Set environment variable usersecret to given value.

Commands: -

printenv

The most used command to displays the environment variables is printenv. If the name of the variable is passed as an argument to the command, only the value of that variable is displayed. If no argument is specified, printenv prints a list of all environment variables, one variable per line.

export: -

The **export command** is a built-in utility of **Linux** Bash shell. It is used to ensure the environment variables and functions to be passed to child processes. It does not affect the existing environment variable. Environment variables are set when we open a new shell session.

Env:- The command allows you to run another program in a custom environment without modifying the current one. When used without an argument it will print a list of the current environment variables.

Output: -

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTermr)

$ printenv usersecret

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)

$ export usersecret

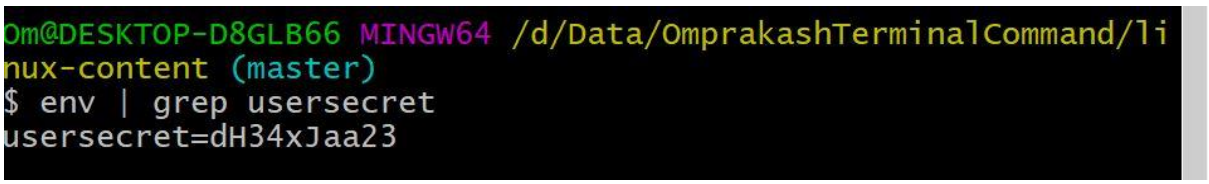
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)

$ export usersecret=$(echo "dH34xJaa23")

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)

$ env | grep usersecret + Enter button

usersecret=dH34xJaa23



Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)
$ env
AppData/Local/Microsoft/WindowsApps:/c/Users/Om/AppData/Local/Programs/Microsoft VS Code/bin:/c/Program Files/Java/jdk-15.0.2/bin:/c/MinGW/bin:/usr/bin/vendor_perl:/usr/bin/core_perl
PS1=\[\033]0;$TITLEPREFIX:$PWD\007\]\n\[\033[32m\]\u@\h \[\033[35m\]$MSYSTEM \[\033[33m\]\w\[\033[36m\]`__git_ps1`\[\033[0m\]\n$
HOMEDRIVE=C:
usersecret=dH34xJaa23
PKG_CONFIG_PATH=/mingw64/lib/pkgconfig:/mingw64/share/pkgconfig
INFOPATH=/usr/local/info:/usr/share/info:/usr/info:/share/info
HOMEPATH=\Users\Om

```
rams/Microsoft VS Code/bin:/c/Program Files/Java/jdk-15.0.2/bin:/c/MinGW/b
in:/usr/bin/vendor_perl:/usr/bin/core_perl
PS1=\[\033]0;$TITLEPREFIX:$PWD\007\]\n\[\033[32m\]\u@\h \[\033[35m\]$MSYST
EM \[\033[33m\]\w\[\033[36m\]`__git_ps1`\[\033[0m\]\n$
HOMEDRIVE=C:
usersecret=dH34xJaa23
PKG_CONFIG_PATH=/mingw64/lib/pkgconfig:/mingw64/share/pkgconfig
INFOPATH=/usr/local/info:/usr/share/info:/usr/info:/share/info
HOMEPATH=\Users\Om
ORIGINAL_PATH=/mingw64/bin:/usr/bin:/c/Users/Om/bin:/c/Program Files/Commo
n Files/Oracle/Java/javapath:/c/Python39/Scripts:/c/Python39:/c/Windows/sy
```

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)
$ export -n usersecret

Or

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ6
$ nano Q6.sh

```
#! /bin/bash
len=`echo $usersecret`
lenu=`echo ${#len}`
if [ ${#len}==0 ]
then
        value="dH34xJaa23"
        export usersecret=$value
        echo "env set"
else
        echo "error : env already set"
fi
```

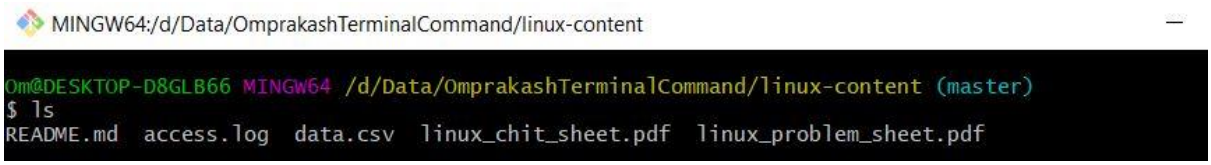
MINGW64:/d/Data/Assignment No.1/AssQ6

```
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ6
$ ./Q6.sh
env set
```

Q.7 Find a word "systemd" from all log files in the folder /var/log and print number of occurrence more than 0 against each file.
a) Use linux command to search word and print occurrence

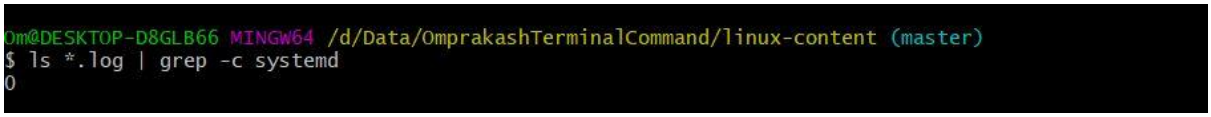
Output: -

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)
$ ls
README.md access.log data.csv linux_chit_sheet.pdf linux_problem_sheet.pdf



Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)
$ grep -c systemd access.log
0

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)
$ ls *.log | grep -c systemd
0

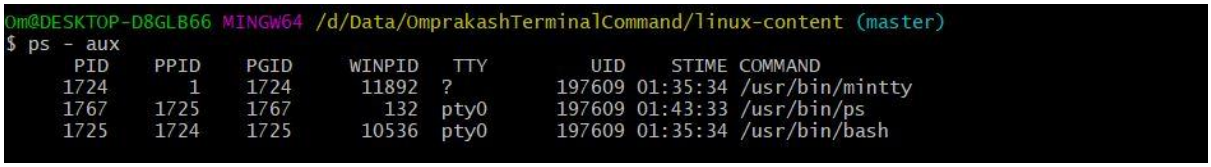


Q.8 Create process list table displays process id, parent process id, command name, % of memory consumption, % of cpu utilization.

Output: -

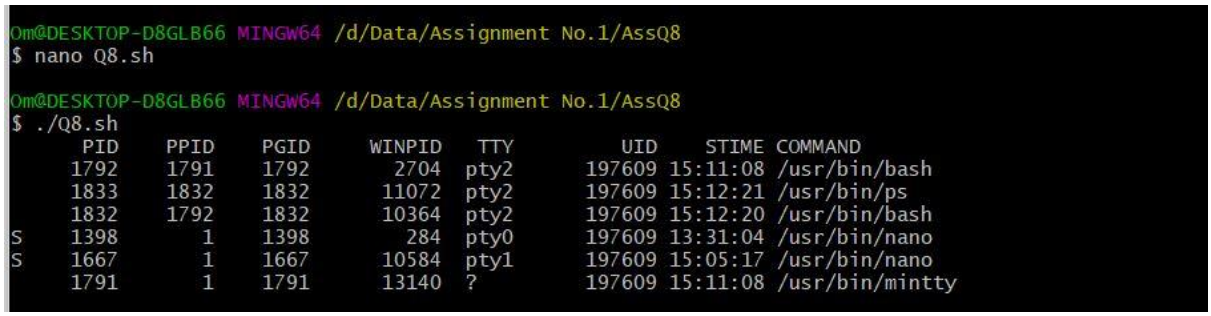
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)
$ ps - aux

PID	PPID	PGID	WINPID	TTY	UID	STIME	COMMAND
1724	1	1724	11892	?	197609	01:35:34	/usr/bin/mintty
1767	1725	1767	132	pty0	197609	01:43:33	/usr/bin/ps
1725	1724	1725	10536	pty0	197609	01:35:34	/usr/bin/bash



Or

#! /bin/bash
ps -a pid,ppid,cmd,%mem,pcpu



Q.9 Print last 4 frequently access urls count in sorted order from /var/log/httpd/access.log

a) View /var/log/httpd/access.log

b) Print field which has url data.

c) sort extracted urls and count it

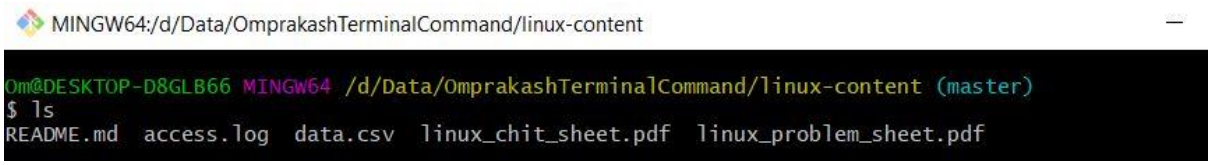
d) Print 4 unique urls

Output: -

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)

$ ls

README.md access.log data.csv linux_chit_sheet.pdf linux_problem_sheet.pdf



Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)

$ cat access.log |awk '{print$11}'|sort|uniq -c |tail -4|sort -n

```
      1 "https://fundoopush-dev.bridgelabz.com/dashboard/hashtags/animals"
      5 "https://fundoopush-dev.bridgelabz.com/dashboard/jobs"
   1141 "https://fundoopush-dev.bridgelabz.com/dashboard/article"
   1475 "https://fundoopush-dev.bridgelabz.com/login"
```

Or

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ9

nano Q9.sh

cat Q9.sh

```
# /bin/bash
cat access.log | awk '{print $11}' | grep -v '"-"' | sort | uniq -c | sort -nr | head -4
```

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ9

$ ls

Q9.sh access.log

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ9

$ ./Q9.sh

```
   1475 "https://fundoopush-dev.bridgelabz.com/login"
   1141 "https://fundoopush-dev.bridgelabz.com/dashboard/article"
    176 "https://fundoopush-dev.bridgelabz.com/add-post"
     28 "https://fundoopush-dev.bridgelabz.com/"
```

```
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ9
$ ls
Q9.sh  access.log

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ9
$ ./Q9.sh
   1475 "https://fundoopush-dev.bridgelabz.com/login"
   1141 "https://fundoopush-dev.bridgelabz.com/dashboard/article"
    176 "https://fundoopush-dev.bridgelabz.com/add-post"
     28 "https://fundoopush-dev.bridgelabz.com/"
```

Q.10 Print list of last 4 frequently access unique urls at particular hours from /var/log/httpd/access.log

a) View access.log without opening it using editor, b) Print urls which has given timestamp.

c) Sort extracted urls and count it

d) Print 4 unique urls

Expect sample output

3458 /index.html

300 /api/swagger-ui.html

100 /favi.ico

20 /robots.txt

Output: -

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ10

$ nano Q10.sh

#! /bin/bash

echo -e |cat access.log | awk '{print $4"["$11}' | sort | uniq -c | sort -r |head -4 | awk -F['{print $1 $2"--"$3}'

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ10

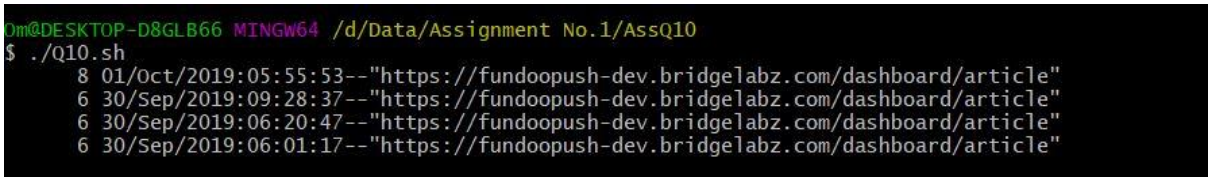
$ ./Q10.sh

8 01/Oct/2019:05:55:53--"https://fundoopush-dev.bridgelabz.com/dashboard/article"

6 30/Sep/2019:09:28:37--"https://fundoopush-dev.bridgelabz.com/dashboard/article"

6 30/Sep/2019:06:20:47--"https://fundoopush-dev.bridgelabz.com/dashboard/article"

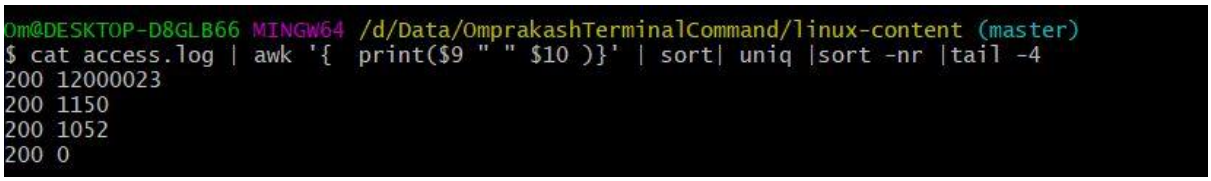
6 30/Sep/2019:06:01:17--"https://fundoopushev.bridgelabz.com/dashboard/article"



Q.11 Print list of web response code count in the unique sorted order at specific hours
a) View access.log without opening it using editor.
b) Print web response code field which has given timestamp
c) Sort extracted response code and count it
d) Print 4 unique response code count

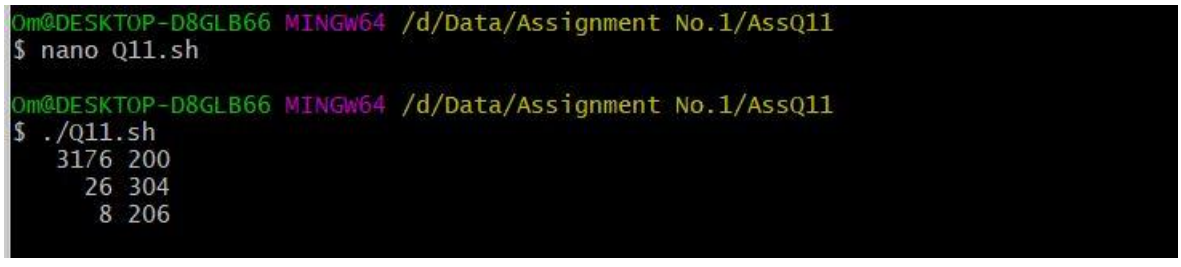
Output: -

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)
$ cat access.log
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)
$ cat access.log | awk '{ print($9 " " $10)}' | sort| uniq |sort -nr |tail -4
200 12000023
200 1150
200 1052
200 0



Or

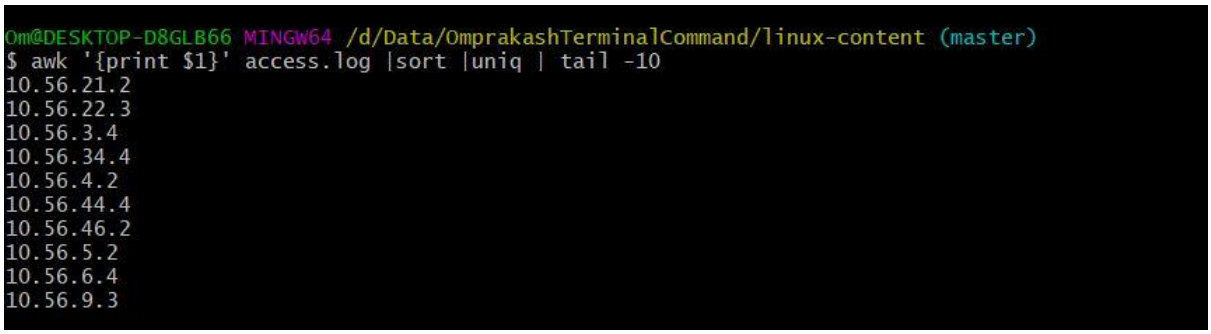
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ11
$ nano Q11.sh
# /bin/bash
echo -e |cat access.log | awk '{print $9}' | sort | uniq -c | sort -nr |head -4
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ11
$ ./Q11.sh
  3176 200
    26 304
     8 206



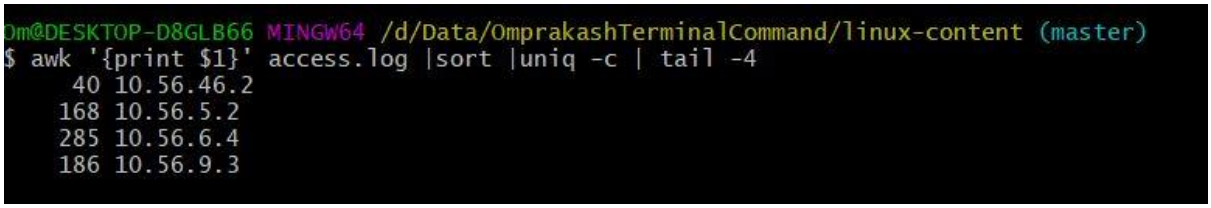
Q.12 Print list of last 10 unique sorted client IP from /var/log/httpd/access.log
a) View access.log without opening it using editor.
b) Print client ip field from access log
c) Sort extracted client IP and count it
d) Print 4 unique client Ips

Output: -

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)
$ awk '{print $1}' access.log |sort |uniq | tail -10
10.56.21.2
10.56.22.3
10.56.3.4
10.56.34.4
10.56.4.2
10.56.44.4
10.56.46.2
10.56.5.2
10.56.6.4
10.56.9.3

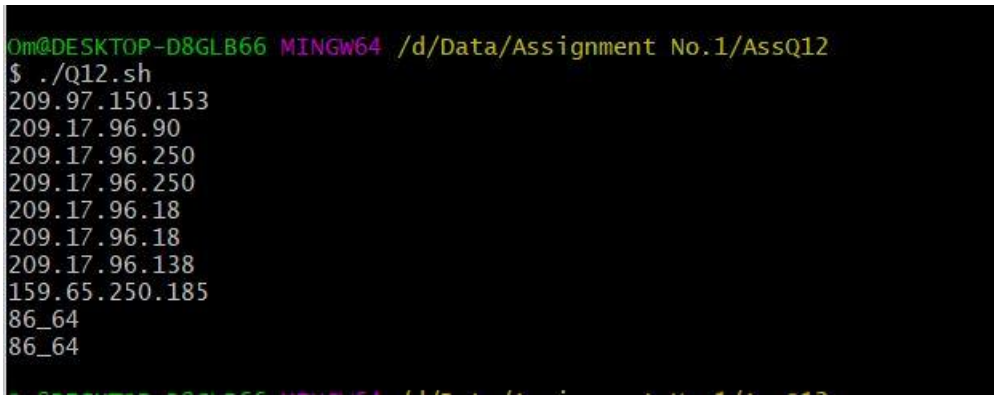


Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)
$ awk '{print $1}' access.log |sort |uniq -c | tail -4
40 10.56.46.2
168 10.56.5.2
285 10.56.6.4
186 10.56.9.3



Or

```
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ12
$ nano Q12.sh
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ12
$ ./Q12.sh
209.97.150.153
209.17.96.90
209.17.96.250
209.17.96.250
209.17.96.18
209.17.96.18
209.17.96.138
159.65.250.185
86_64
86_64
```



Q.13 Data analysis / manipulation (Awk)

i) Print Employee Name and TotalPay who has BasePay greater than 10000

a) Read data file data.csv' from command line and extract rows which have BasePay >10000

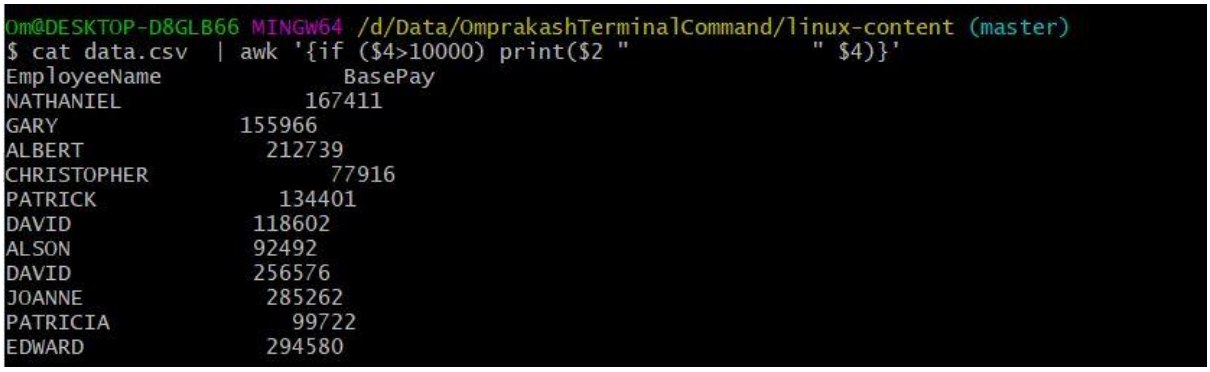
b) Print only Employee Name and TotalPay

Output: -

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)

$ cat data.csv | awk '{if ($4>10000) print($2 " " $4)}'

EmployeeName BasePay
NATHANIEL 167411
GARY 155966
ALBERT 212739
CHRISTOPHER 77916
PATRICK 134401
DAVID 118602
ALSON 92492
DAVID 256576
JOANNE 285262
PATRICIA 99722
EDWARD 294580



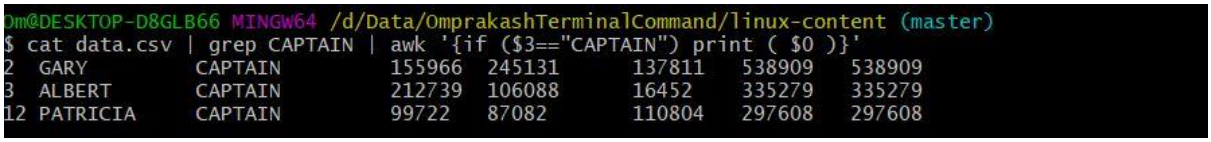
ii) What is the aggregate Total Pay of employees whose jobtitle is 'CAPTAIN

a) Read data file 'data.csv' from command line and extract rows which have CAPTAIN' in the column jobtitle

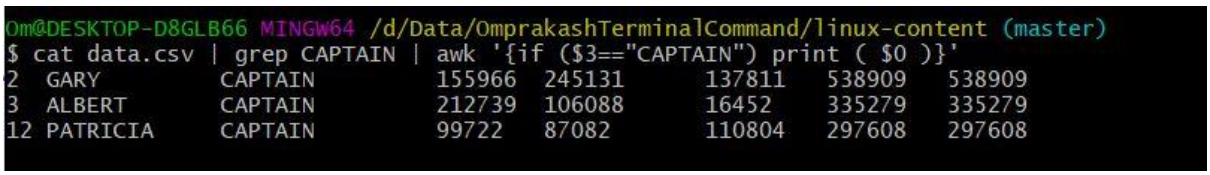
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)

$ cat data.csv | grep CAPTAIN | awk '{if ($3=="CAPTAIN") print ($0)}'

2 GARY CAPTAIN 155966 245131 137811 538909 538909
3 ALBERT CAPTAIN 212739 106088 16452 335279 335279
12 PATRICIA CAPTAIN 99722 87082 110804 297608 297608



Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)
$ cat data.csv | grep CAPTAIN | awk '{if ($3=="CAPTAIN") print ($0)}'
2 GARY CAPTAIN 155966 245131 137811 538909 538909
3 ALBERT CAPTAIN 212739 106088 16452 335279 335279
12 PATRICIA CAPTAIN 99722 87082 110804 297608 297608



b) Extract TotalPay and calculate sum. Print the result on terminal

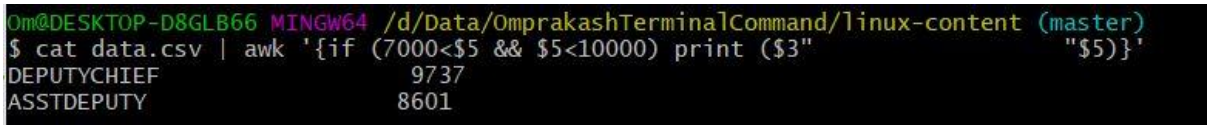
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)
$ cat data.csv | grep CAPTAIN | awk '{if ($3=="CAPTAIN") (sum+=$7)} END {print sum}'
1171796

3) Print JobTitle and Overtimepay who has Overtimepay is between 7000 and 10000

a) Read data file data.csv from command line and extract jobtitle and overtime pay for column value range between 700010000

b) Print the result on terminal.

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)
$ cat data.csv | awk '{if (7000<$5 && $5<10000) print ($3" "$5)}'
DEPUTYCHIEF 9737
ASSTDEPUTY 8601

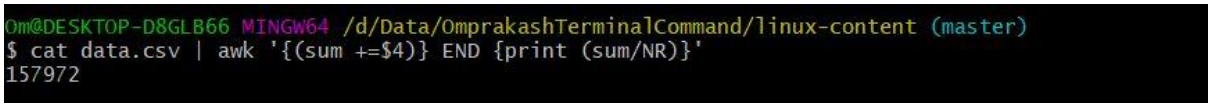


4) Print average Base Pay

a) Read data file 'data.csv' from command line and extract BasePay values and calculate its average

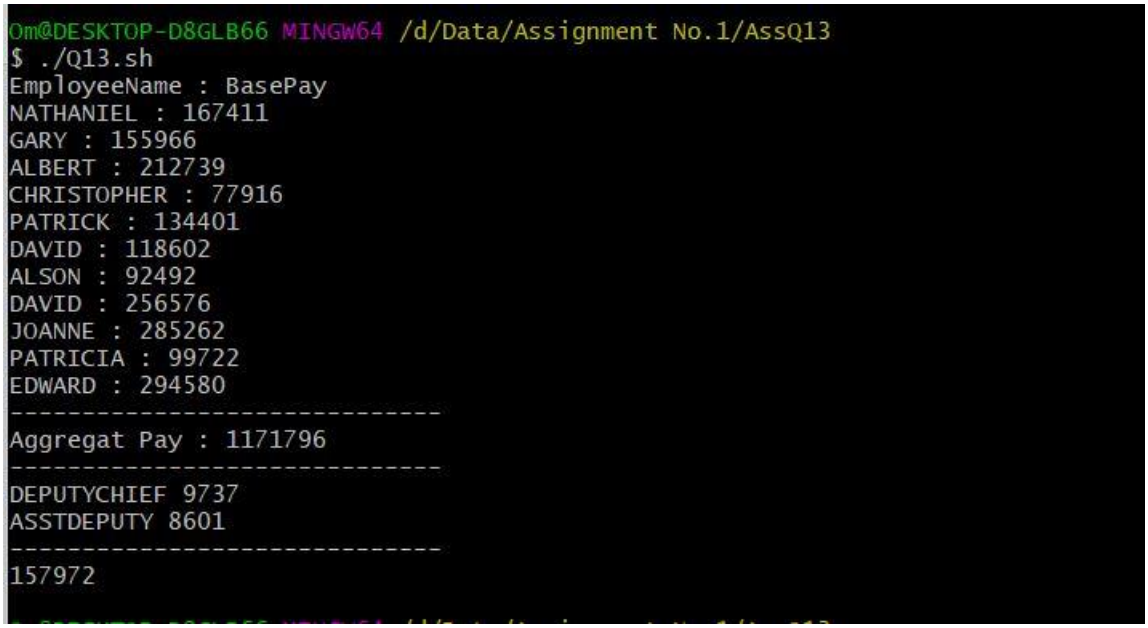
b) Print the result on terminal.

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/OmprakashTerminalCommand/linux-content (master)
$ cat data.csv | awk '{(sum +=$4)} END {print (sum/NR)}'
157972



Or

```
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ13
$ nano Q13.sh
#! /bin/bash
# i) print EmployeeName and TotalPay who has BasePAy grater than 10000
cat data.csv | awk '{if($4>10000) print $2" : "$4}'
echo "------------------------------"
# ii) What is the aggregate otalPay of employees whoose jobtitle is CAPTAIN
cat data.csv | awk '{if($3=="CAPTAIN")sum += $7}END{print "Aggregat Pay : "sum}'
echo "------------------------------"
# iii) Print JobTitle and OverTimepay who has Ovevrtime is between 7000 and 10000
cat data.csv | awk '{if($5>7000 && $5<10000) print $3" "$5}'
echo "------------------------------"
# iv) Print average BasePay
cat data.csv | awk '{sum += $4; cnt +=1}END {print sum/cnt}'
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ13
$ ./Q13.sh
EmployeeName : BasePay
NATHANIEL : 167411
GARY : 155966
ALBERT : 212739
CHRISTOPHER : 77916
PATRICK : 134401
DAVID : 118602
ALSON : 92492
DAVID : 256576
JOANNE : 285262
PATRICIA : 99722
EDWARD : 294580
------------------------------
Aggregat Pay : 1171796
------------------------------
DEPUTYCHIEF 9737
ASSTDEPUTY 8601
------------------------------
157972
```


Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ13
$ ./Q13.sh
EmployeeName : BasePay
NATHANIEL : 167411
GARY : 155966
ALBERT : 212739
CHRISTOPHER : 77916
PATRICK : 134401
DAVID : 118602
ALSON : 92492
DAVID : 256576
JOANNE : 285262
PATRICIA : 99722
EDWARD : 294580
Aggregat Pay : 1171796
DEPUTYCHIEF 9737
ASSTDEPUTY 8601
157972

Q.14 Find the difference between original file and the updated file. Apply changes to the original file.

a) Create two directories as "original' and "updated"

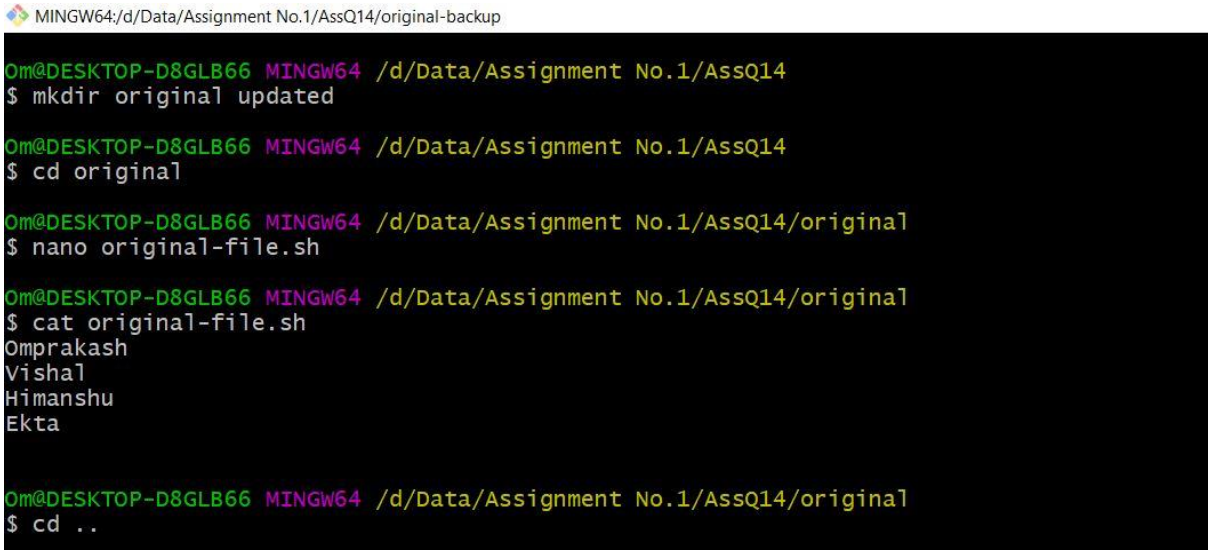
b) Copy given file 'original file.sh' to the folder "original" and "updated-file.sh" to the folder "updated"

c) Find the difference between these directories using Linux command d) Make copy of folder "original" to some other directory as "original-backup" and apply changes to original file.sh' file

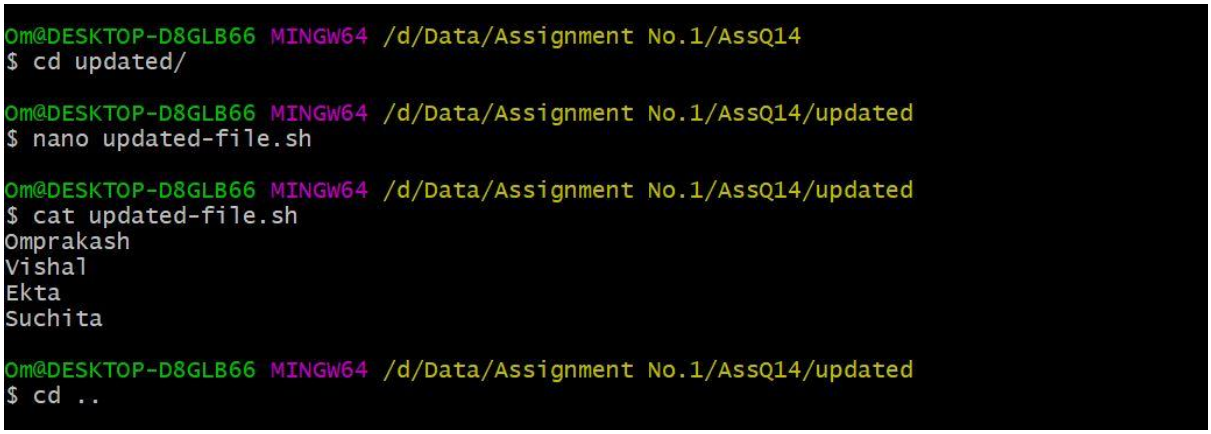
e) Verify that both folders "updated" and "original-backup" have no difference.

Output: -

```
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ14
$ mkdir original updated
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ14
$ cd original
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ14/original
$ nano original-file.sh
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ14/original
$ cat original-file.sh
Omprakash
Vishal
Himanshu
Ekta
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ14/original
$ cd ..
```



```
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ14
$ cd updated/
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ14/updated
$ nano updated-file.sh
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ14/updated
$ cat updated-file.sh
Omprakash
Vishal
Ekta
Suchita
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ14/updated
$ cd ..
```



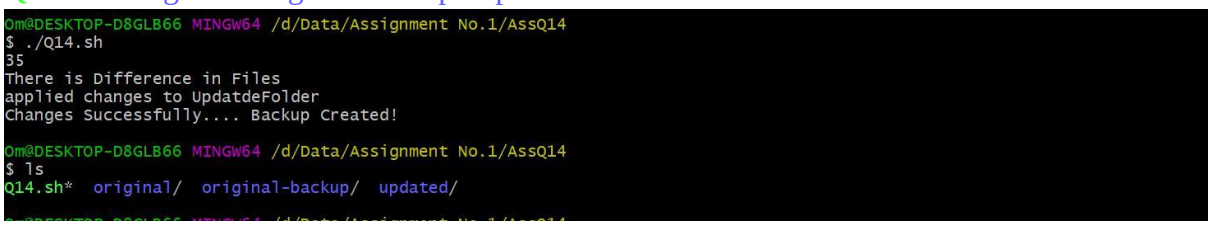

```
#! /bin/bash
diff=`diff original/original-file.sh updated/updated-file.sh`
echo ${#diff}
if [ ${#diff} -gt 0 ]
then
        echo "There is Difference in Files"
        cp original/original-file.sh updated/updated-file.sh
        echo "applied changes to UpdatdeFolder"
else
        echo "No difference found !! "
fi
if [ -d 'original-backup' ]
then
        cp original/original-file.sh original-backup
else
        mkdir original-backup
        cp original/original-file.sh original-backup
fi
diff2=`diff original-backup/original-file.sh updated/updated-file.sh`
if [ ${#diff2} == 0 ]
then
```

```
        echo "Changes Successfully.... Backup Created!"
else
        echo "Difference in updated - backup directory"
fi
```

MINGW64:/d/Data/Assignment No.1/AssQ14

```
  GNU nano 5.4                                                    Q14
#! /bin/bash
diff=`diff original/original-file.sh updated/updated-file.sh`
echo ${#diff}
if [ ${#diff} -gt 0 ]
then
        echo "There is Difference in Files"
        cp original/original-file.sh updated/updated-file.sh
        echo "applied changes to UpdatdeFolder"
else
        echo "No difference found !! "
fi
if [ -d 'original-backup' ]
then
        cp original/original-file.sh original-backup
else
        mkdir original-backup
        cp original/original-file.sh original-backup
fi
diff2=`diff original-backup/original-file.sh updated/updated-file.sh`
if [ ${#diff2} == 0 ]
then
        echo "Changes Successfully.... Backup Created!"
else
        echo "Difference in updated - backup directory"
fi
```

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ14
$ ./Q14.sh
35
There is Difference in Files
applied changes to UpdatdeFolder
Changes Successfully.... Backup Created!
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ14
$ ls
Q14.sh* original/ original-backup/ updated/



Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ14
$ cd original-backup

Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ14/original-backup
$ ls
original-file.sh
Om@DESKTOP-D8GLB66 MINGW64 /d/Data/Assignment No.1/AssQ14/original-backup
$ cat original-file.sh
Omprakash
Vishal
Himanshu
Ekta