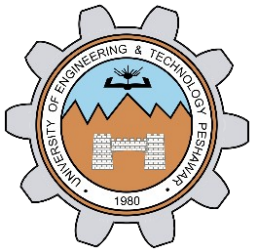
SHELL PROGRAMMING (PART 1 AND 2)

LAB # 4 & 5



Spring 2020

CSE204L Operating Systems Lab

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"On my honor, as student of University of Engineering and Technology, I have neither given nor received unauthorized assistance on this academic work."

Student Signature: _____

Submitted to:

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Saturday,13th June,2020

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Lab Objective(s):

- **Understanding what is a SHELL script**
- **Why and where it is used**
- **First simple SHELL script**
- **SHELL variables**
- **SHELL keywords**
- **Arithmetic in SHELL script**
- **Control Structures**
- **More UNIX commands**
- **Executing commands during login time**

LAB 4 :

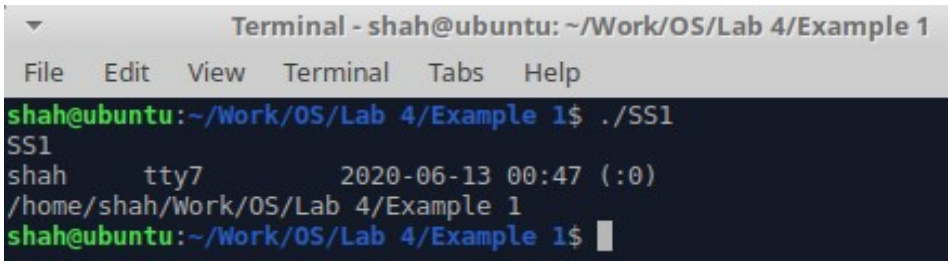
Practice different examples of Lab 4 and show them in lab report.

Example #1 :

Code:

```
#SS1
#Usage: SS1
ls
who
pwd
```

Output :



Example # 2 :

Code:

/home/shah/Work/OS/Lab 4/Example 2/SS2 - Mousepad

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```
# SS2
# Usage: SS2
# An interactive shell script
echo "What is your name?"
read name
echo "Hello $name. Assalam-o-Alaikum."
```

Output :

Terminal - shah@ubuntu: ~/Work/OS/Lab 4/Example 2

File Edit View Terminal Tabs Help

```
shah@ubuntu:~/Work/OS/Lab 4/Example 2$ ./SS2
What is your name?
Shah
Hello Shah. Assalam-o-Alaikum.
```

Example # 3 :

Code:

/home/shah/Work/OS/Lab 4/Example 3/SS3 - Mousepad

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```
# SS3
# Usage: SS3
echo "Please enter your surname"
echo "followed by your first name:"
read name1 name2
echo "Welcome to CSE Dept., UET, $name2 $name1"
```

Output :

Terminal - shah@ubuntu: ~/Work/OS/Lab 4/Example 3

File Edit View Terminal Tabs Help

```
shah@ubuntu:~/Work/OS/Lab 4/Example 3$ ./SS3
Please enter your surname
followed by your first name:
Raza Shah
Welcome to CSE Dept., UET, Shah Raza
```

Example # 4 :

Code:

/home/shah/Work/OS/Lab 4/Example 4/SS4 - Mousepad

File Edit Search View Document Help

```
# SS4
# This script takes two file names and copies the first file into the second one
echo “Please Enter source file name: ”
read source
echo “Enter the target file name : ”
read target
cp $source $target
echo "file $source  is copied into the $target"
```

Output :

Terminal - shah@ubuntu: ~/Work/OS/Lab 4/Example 4

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```
shah@ubuntu:~/Work/OS/Lab 4/Example 4$ ./SS4
“Please Enter source file name: ”
SS4
“Enter the target file name : ”
SS4c
file SS4  is copied into the SS4c
```

Example # 5 :

Code:

/home/shah/Work/OS/Lab 4/Example 5/SS5 - Mousepad

File Edit Search View Document Help

```
a=12
b=90
echo sum is $a + $b          # Will display sum is 12 + 90
echo sum is `expr $a + $b`   # Gives sum is 102
```

Output :

Terminal - shah@ubuntu: ~/Work/OS/Lab 4/Example 5

File Edit View Terminal Tabs Help

```
shah@ubuntu:~/Work/OS/Lab 4/Example 5$ ./SS5
sum is 12 + 90
sum is 102
shah@ubuntu:~/Work/OS/Lab 4/Example 5$
```

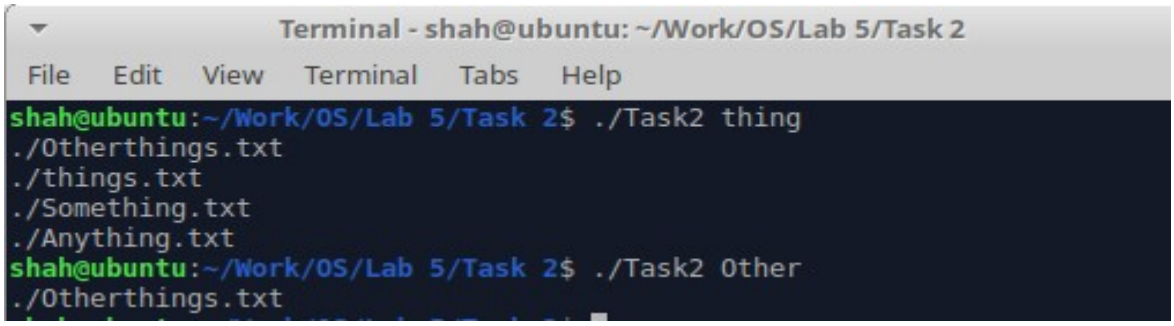
LAB 5 :

Task #1 : Run all the programs given in the Lab Notes, and observe the output for each program.

Task #2 : Write a shell script that takes a keyword as a command line argument and lists the filenames containing the keyword.

Code:

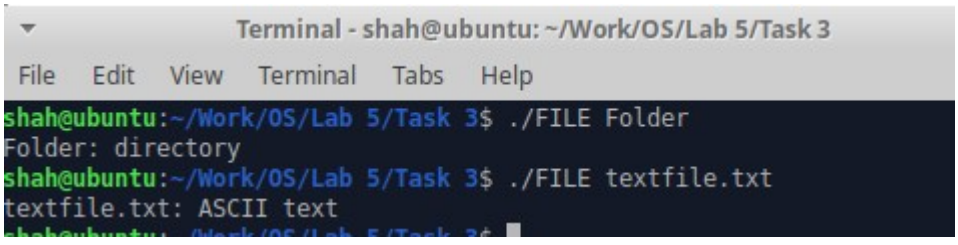
Output :



Task #3 : Write a shell script that takes a command line argument and reports whether it is a directory, or a file or a link.

Code:

Output :



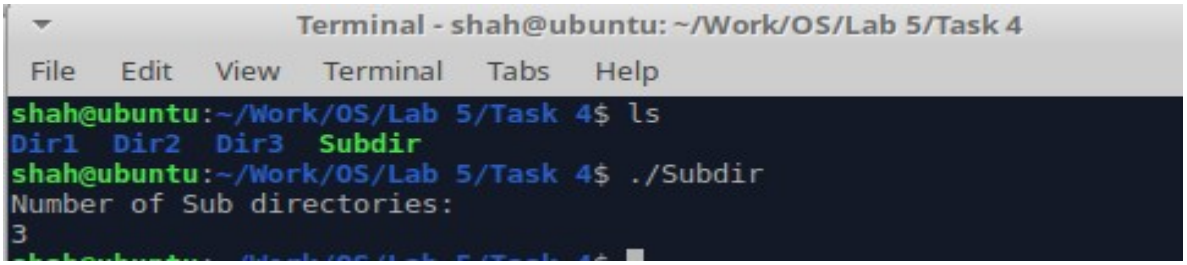
Task #4 : Write a script to find the number of sub directories in a given directory.

Code:

Open + Subdir ~/Work/OS/Lab 5/Task 4

```
#!/bin/bash
echo "Number of Sub directories: "
ls -l | grep ^d | wc -l
```

Output :



Task #5 : Write a menu driven program that has the following options.

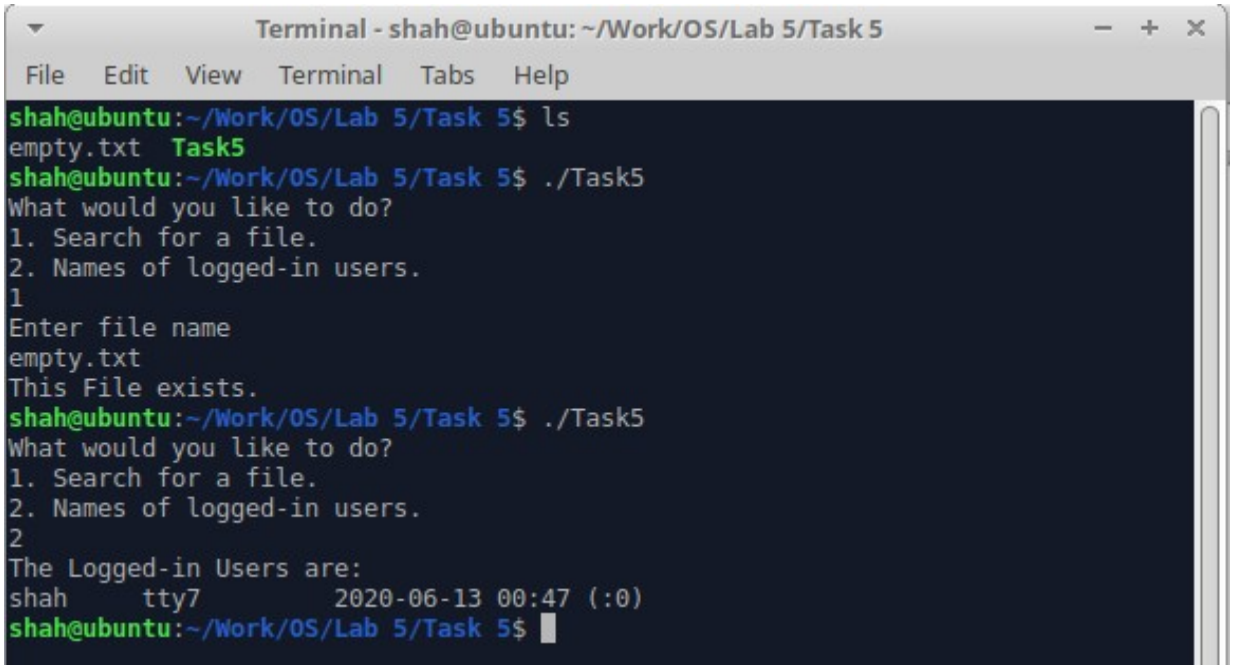
- Search a given file is in the directory or not.
- Display the names of the users logged in.

Code:

Open + Task5 ~/Work/OS/Lab 5/Task 5 Save

```
#!/bin/bash

echo "What would you like to do?"
echo "1. Search for a file."
echo "2. Names of logged-in users."

read Choice

case $Choice in
1) echo "Enter file name"
   read Filename
   test -f $Filename && echo "This File exists." || echo "This File does not exist."

;;
2)
        echo "The Logged-in Users are: "
        who ;;
*) echo "Invalid Entry." ;;
esac
```

Output :


Terminal - shah@ubuntu: ~/Work/OS/Lab 5/Task 5
File Edit View Terminal Tabs Help
shah@ubuntu:~/Work/OS/Lab 5/Task 5$ ls
empty.txt Task5
shah@ubuntu:~/Work/OS/Lab 5/Task 5$ ./Task5
What would you like to do?
1. Search for a file.
2. Names of logged-in users.
1
Enter file name
empty.txt
This File exists.
shah@ubuntu:~/Work/OS/Lab 5/Task 5$ ./Task5
What would you like to do?
1. Search for a file.
2. Names of logged-in users.
2
The Logged-in Users are:
shah tty7 2020-06-13 00:47 (:0)
shah@ubuntu:~/Work/OS/Lab 5/Task 5$