

## **Assignment: Bash Shell Basics**

### **Task 1: File and Directory Manipulation**

1. Create a directory called "my\_directory".
2. Navigate into the "my\_directory".
3. Create an empty file called "my\_file.txt".
4. List all the files and directories in the current directory.
5. Rename "my\_file.txt" to "new\_file.txt".
6. Display the content of "new\_file.txt" using a pager tool of your choice.
7. Append the text "Hello, World!" to "new\_file.txt".
8. Create a new directory called "backup" within "my\_directory".
9. Move "new\_file.txt" to the "backup" directory.
10. Verify that "new\_file.txt" is now located in the "backup" directory.
11. Delete the "backup" directory and all its contents.

```

NetworkManager.service - Network Manager
(yashasvi@kali)-[~]ib/systemd/system/NetworkManager.service; enabled; preset: enabled)
$ mkdir my_directory (warning) since Tue 2023-05-30 15:52:50 IST; 5min ago
Docs: man:NetworkManager(8)
(yashasvi@kali)-[~]rkManager()
$ ls tasks: 4 (limit: 4042)
Desktop Documents Downloads file.tar Music my_directory Pictures Public Templates Videos
CPU: 803ms
(yashasvi@kali)-[~]ice/NetworkManager.service
$ cd my_directory /usr/share/NetworkManager/scripts/NetworkManager

(yashasvi@kali)-[~/my_directory] 648]: <info> [1685442172.6185] policy: set 'Wired connection 1' (eth8
$ touch myfile.txt NetworkManager[648]: <info> [1685442172.6674] device (eth0): state change: ip-config
May 30 15:52:53 kali NetworkManager[648]: <info> [1685442172.6827] device (eth0): state change: ip-check-
(yashasvi@kali)-[~/my_directory] 648]: <info> [1685442172.6830] device (eth0): state change: secondary
$ mv myfile.txt newfile.txt nager[648]: <info> [1685442172.6833] manager: NetworkManager state is now C
May 30 15:52:53 kali NetworkManager[648]: <info> [1685442172.6839] device (eth0): Activation: successful
(yashasvi@kali)-[~/my_directory] 648]: <info> [1685442172.6849] manager: NetworkManager state is now C
$ ls 15:52:53 kali NetworkManager[648]: <info> [1685442172.6893] manager: startup complete
newfile.txt :26 kali NetworkManager[648]: <info> [1685442206.6245] agent-manager: agent[7b223e11ba6784c3,
May 30 15:57:23 kali NetworkManager[648]: <info> [1685442445.4020] agent-manager: agent[f0efb4e9f6576d7c,
(yashasvi@kali)-[~/my_directory]
$ echo "Hi, I am Yashasvi!"> newfile.txt
dquote>
dquote>
dquote>

(yashasvi@kali)-[~/my_directory]
$ echo "Hi, I am Yashasvi" > newfile.txt

(yashasvi@kali)-[~/my_directory]
$ cat newfile.txt
Hi, I am Yashasvi

(yashasvi@kali)-[~/my_directory]
$ mkdir backup

(yashasvi@kali)-[~/my_directory]
$ ls
backup newfile.txt

(yashasvi@kali)-[~/my_directory]
$ mv new_file.txt backup
mv: cannot stat 'new_file.txt': No such file or directory

```

```

loaded: loaded (/lib/systemd/system/NetworkManager.service; enabled; preset: +
(yashasvi@kali)-[~/my_directory]
$ echo "Hi, I am Yashasvi" > newfile.txt
Main PID: 648 (NetworkManager)
Tasks: 4 (limit: 4442)
Memory: 20.0M
(yashasvi@kali)-[~/my_directory]
$ cat newfile.txt
Hi, I am Yashasvi
(yashasvi@kali)-[~/my_directory]
$ mkdir backup
(yashasvi@kali)-[~/my_directory]
$ ls
backup newfile.txt
(yashasvi@kali)-[~/my_directory]
$ mv new_file.txt backup
mv: cannot stat 'new_file.txt': No such file or directory
(yashasvi@kali)-[~/my_directory]
$ mv newfile.txt backup
(yashasvi@kali)-[~/my_directory]
$ cd backup
(yashasvi@kali)-[~/my_directory/backup]
$ newfile.txt
newfile.txt: command not found
(yashasvi@kali)-[~/my_directory/backup]
$ ls
newfile.txt
(yashasvi@kali)-[~/my_directory/backup]
$ cd -
~/my_directory
(yashasvi@kali)-[~/my_directory]
$ rm -r backup
(yashasvi@kali)-[~/my_directory]
$ ls
(yashasvi@kali)-[~/my_directory]
$

```

## Task 2: Permissions and Scripting

- Create a new file called "my\_script.sh".
- Edit "my\_script.sh" using a text editor of your choice and add the following lines:

**bash**

**#!/bin/bash**

**echo "Welcome to my script!"**

**echo "Today's date is \$(date)."**

**Save and exit the file.**

- Make "my\_script.sh" executable.
- Run "my\_script.sh" and verify that the output matches the expected result.

```
(yahasvi@kali)-[~/my_directory]
$ ls
myscript.sh
(yahasvi@kali)-[~/my_directory]
$ touch myscript.sh
(yahasvi@kali)-[~/my_directory]
$ vi myscript.sh
[1]+  Stopped                  vi myscript.sh
(yahasvi@kali)-[~/my_directory]
$ cat myscript.sh
(yahasvi@kali)-[~/my_directory]
$ vim my_script.sh
[2]+  Stopped                  vim my_script.sh
(yahasvi@kali)-[~/my_directory]
$ cat myscript.sh
(yahasvi@kali)-[~/my_directory]
$ vi myscript.sh
(yahasvi@kali)-[~/my_directory]
$ rm .myscript.sh.swp
(yahasvi@kali)-[~/my_directory]
$ vi myscript.sh
(yahasvi@kali)-[~/my_directory]
$ cat myscript.sh
bash
#!/bin/bash
echo "Welcome to my script!"
echo "Today's date is $(date)."
```

```
(yahasvi@kali)-[~/my_directory]
$ cat myscript.sh
(yahasvi@kali)-[~/my_directory]
$ vi myscript.sh
(yahasvi@kali)-[~/my_directory]
$ rm .myscript.sh.swp
(yahasvi@kali)-[~/my_directory]
$ vi myscript.sh
(yahasvi@kali)-[~/my_directory]
$ cat myscript.sh
bash
#!/bin/bash
echo "Welcome to my script!"
echo "Today's date is $(date)."
```

```
(yahasvi@kali)-[~/my_directory]
$ chmod u+rx myscript.sh
(yahasvi@kali)-[~/my_directory]
$ ls -l myscript.sh
-rwxr--r-- 1 yahasvi yahasvi 80 May 30 20:08 myscript.sh
(yahasvi@kali)-[~/my_directory]
$ ls -l
total 4
-rwxr--r-- 1 yahasvi yahasvi 80 May 30 20:08 myscript.sh
(yahasvi@kali)-[~/my_directory]
$ chmod +x myscript.sh
(yahasvi@kali)-[~/my_directory]
$ ls -l
total 4
-rwxr-xr-x 1 yahasvi yahasvi 80 May 30 20:08 myscript.sh
(yahasvi@kali)-[~/my_directory]
$ ./myscript.sh
(yahasvi@kali)-[~/my_directory]
$
```

### Task 3: Command Execution and Pipelines

- List all the processes running on your system using the "ps" command.
- Use the "grep" command to filter the processes list and display only the processes with "bash" in their name.
- Use the "wc" command to count the number of lines in the filtered output.

```
(yashasvi@kali)~  
$ ps  
  PID TTY          TIME CMD  
 2640 pts/2    00:00:14 zsh  
 5265 pts/2    00:00:00 vi  
 5311 pts/2    00:00:00 bash  
 5418 pts/2    00:00:00 vi  
 5423 pts/2    00:00:00 vim  
 5516 pts/2    00:00:00 bash  
 5517 pts/2    00:00:00 bash  
 5522 pts/2    00:00:00 ps  
  
(yashasvi@kali)~  
$ cd my_directory  
  
(yashasvi@kali)~/my_directory  
$ grep -c "bash" myscript.sh  
2  
  
(yashasvi@kali)~/my_directory  
$ wc -l myscript.sh  
6 myscript.sh  
  
(yashasvi@kali)~/my_directory  
$
```

### Submission:

Provide a document or text file containing the commands used to complete the tasks above, along with any relevant output or screenshots. Include your explanations or observations where necessary.