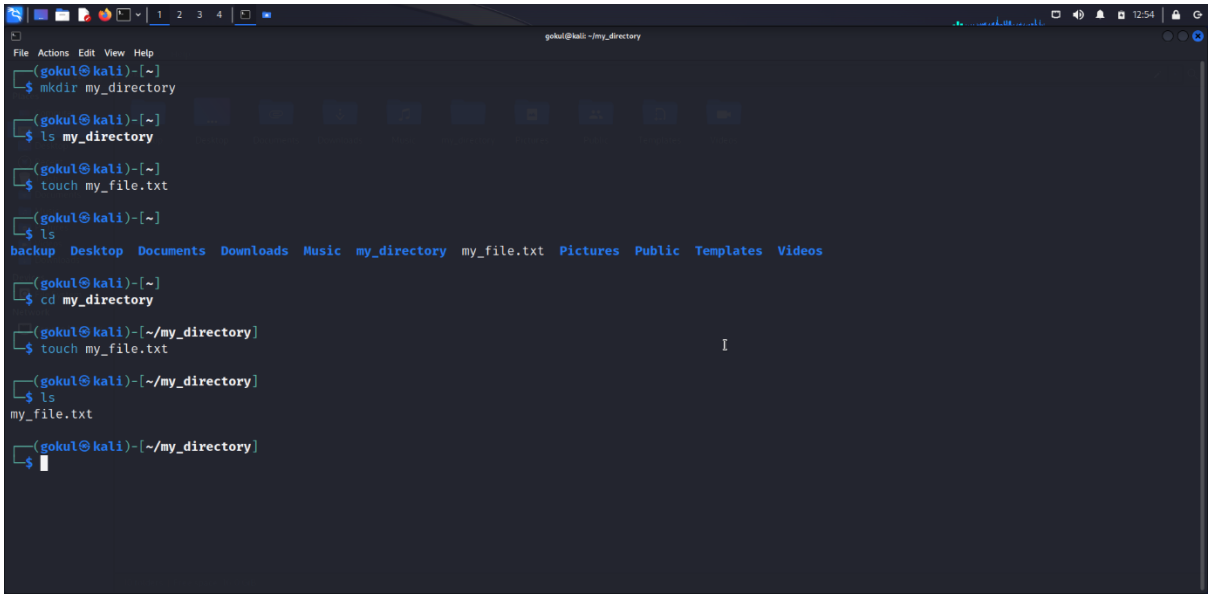
Assignment -2: Bash Shell Basics

Name: Gokul R
Reg. No.: 20MIS0332
Course: Cyber Security and Ethical Hacking
Campus: VIT Vellore

Task 1: File and Directory Manipulation

1. Create a directory called "my_directory".
   Mkdir my_directory

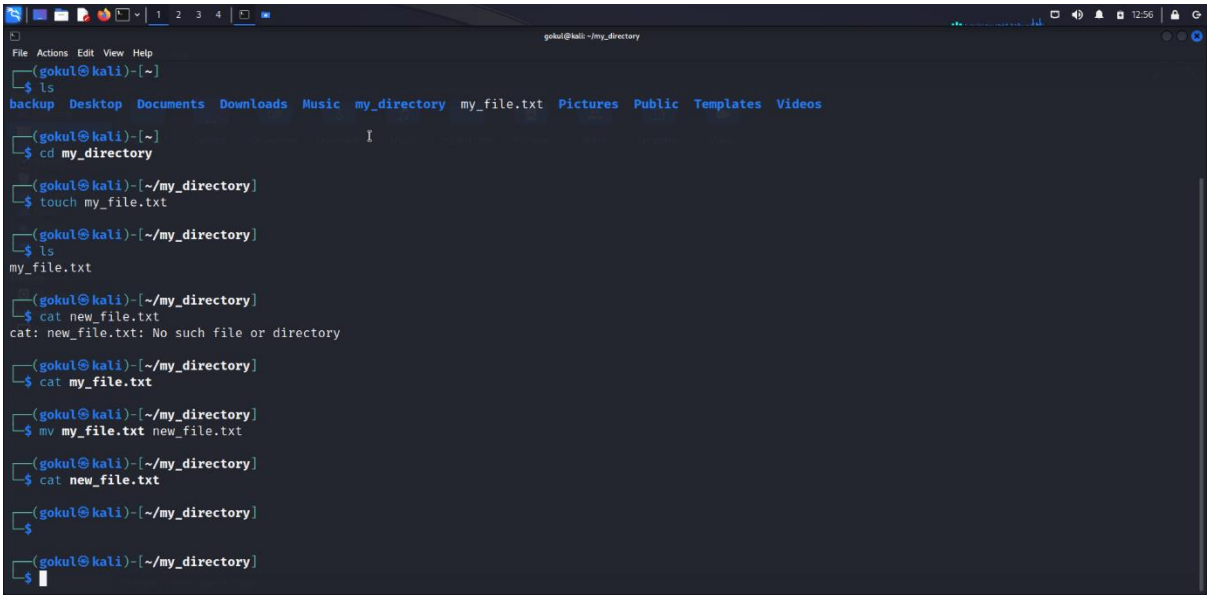
2. Navigate into the "my_directory".
   Cd mkdir



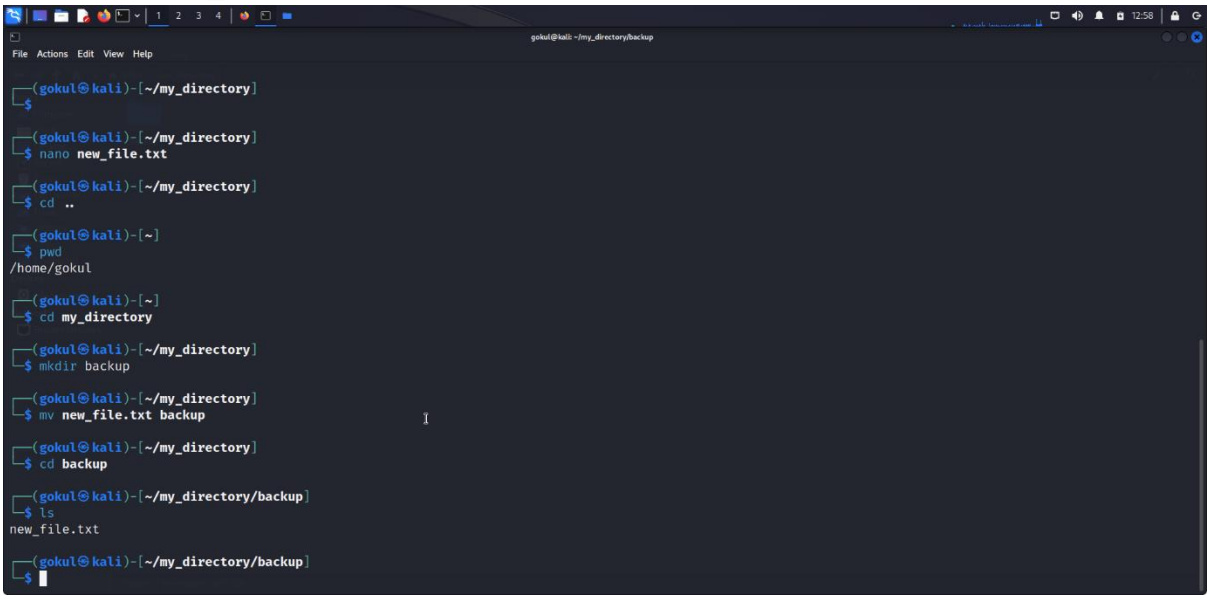
3. Create an empty file called "my_file.txt".
   Touch my_file.txt
4. List all the files and directories in the current directory.

ls

5. Rename "my_file.txt" to "new_file.txt".
   Mv my_file.txt new_file.txt
6. Display the content of "new_file.txt" using a pager tool of your choice.
   Cat new_file.txt

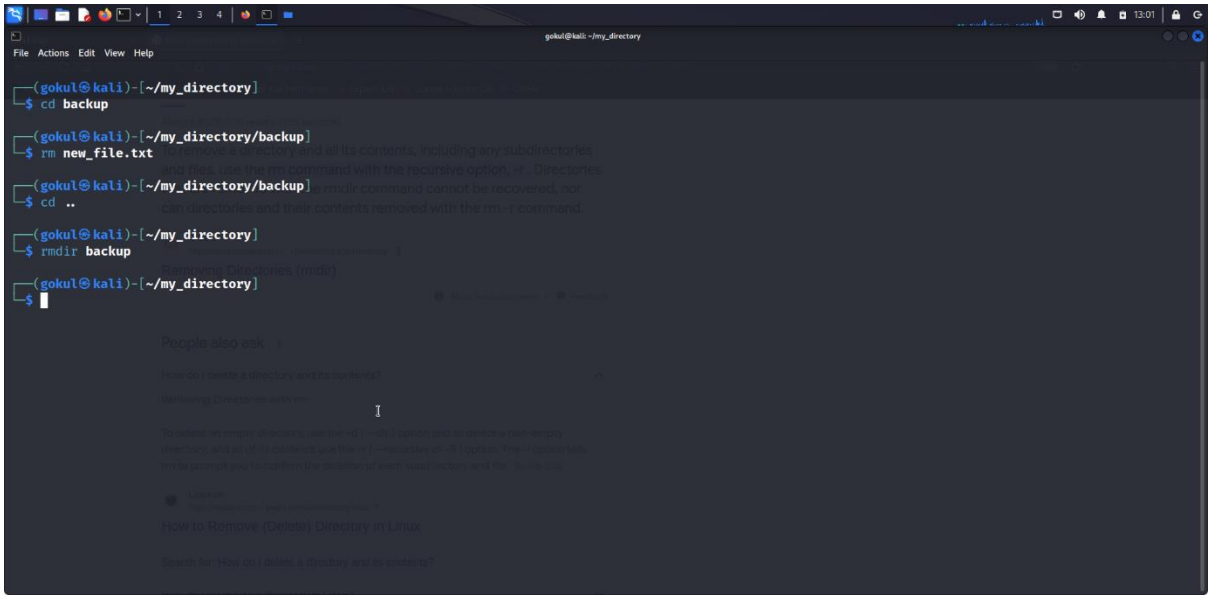


7. Append the text "Hello, World!" to "new_file.txt".
   Nano new_file.txt
8. Create a new directory called "backup" within "my_directory".
   Mkdir backup
9. Move "new_file.txt" to the "backup" directory.
   Mv new_file.txt backup
10. Verify that "new_file.txt" is now located in the "backup" directory.



11. Delete the "backup" directory and all its contents.
    Rm new_file.txt

Rmdir backup



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.

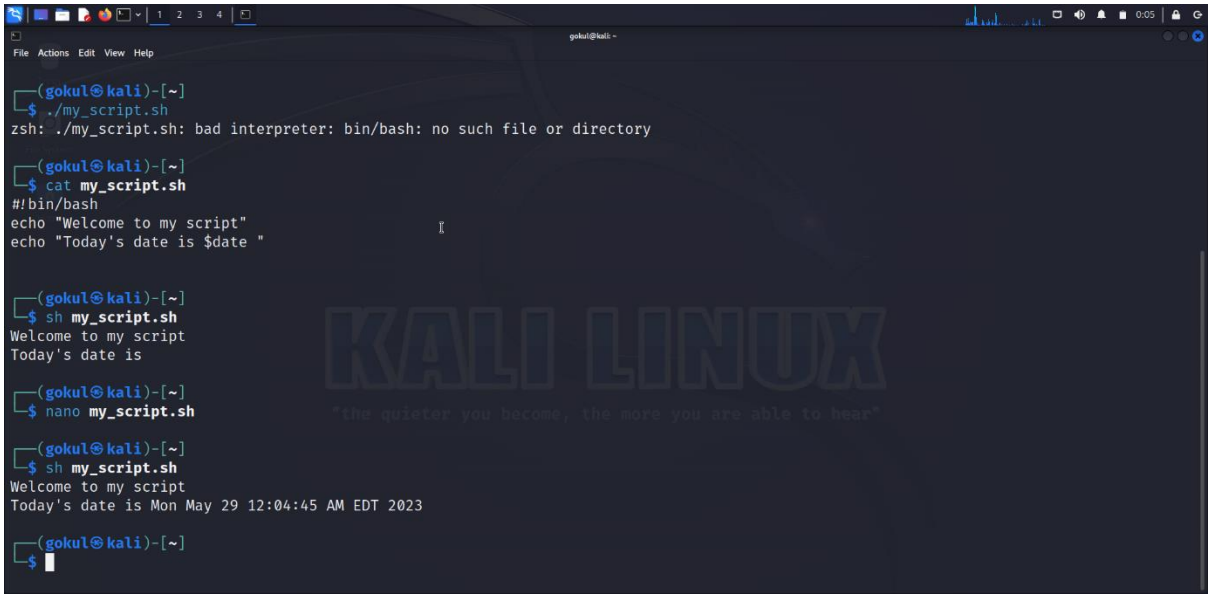
➔ **touch my_script.sh**
➔ **nano my_script.sh**

- Make "my_script.sh" executable.

➔ **Chmod u+x my_script.exe**

- Run "my_script.sh" and verify that the output matches the expected result.

➔ **Sh my_script.sh**



Task 3: Command Execution and Pipelines

- List all the processes running on your system using the "ps" command.
  Ps -ef

```
┌──(gokul㉿kali)-[~]
└─$ ps -ef
UID          PID    PPID  C STIME TTY          TIME CMD
root           1       0  0 May28 ?        00:00:01 /sbin/init splash
root           2       0  0 May28 ?        00:00:00 [kthreadd]
root           3       2  0 May28 ?        00:00:00 [rcu_gp]
root           4       2  0 May28 ?        00:00:00 [rcu_par_gp]
root           5       2  0 May28 ?        00:00:00 [slub_flushwq]
root           6       2  0 May28 ?        00:00:00 [netns]
root          10       2  0 May28 ?        00:00:00 [mm_percpu_wq]
root          11       2  0 May28 ?        00:00:00 [rcu_tasks_kthread]
root          12       2  0 May28 ?        00:00:00 [rcu_tasks_rude_kthread]
root          13       2  0 May28 ?        00:00:00 [rcu_tasks_trace_kthread]
root          14       2  0 May28 ?        00:00:00 [ksoftirqd/0]
root          15       2  0 May28 ?        00:00:00 [rcu_preempt]
root          16       2  0 May28 ?        00:00:00 [migration/0]
root          18       2  0 May28 ?        00:00:00 [cpuhp/0]
root          19       2  0 May28 ?        00:00:00 [cpuhp/1]
root          20       2  0 May28 ?        00:00:00 [migration/1]
root          21       2  0 May28 ?        00:00:00 [ksoftirqd/1]
root          23       2  0 May28 ?        00:00:00 [kworker/1:0H-events_highpri]
root          24       2  0 May28 ?        00:00:00 [cpuhp/2]
root          25       2  0 May28 ?        00:00:00 [migration/2]
root          26       2  0 May28 ?        00:00:00 [ksoftirqd/2]
root          28       2  0 May28 ?        00:00:00 [kworker/2:0H-events_highpri]
root          30       2  0 May28 ?        00:00:00 [kworker/u6:1-events_unbound]
```

- Use the "grep" command to filter the processes list and display only the processes with "bash" in their name.
  Ps -ef | grep bash
  Use the "wc" command to count the number of lines in the filtered output
  Ps -ef | grep bash | wc -l

```
gokul       2887     741  0 00:01 ?        00:00:00 /usr/libexec/xdg-desktop-portal-gtk
root        4649       2  0 00:03 ?        00:00:00 [kworker/2:0-ata_sff]
root        5389       2  0 00:04 ?        00:00:00 [kworker/1:0-cgwb_release]
root        5390       2  0 00:04 ?        00:00:00 [kworker/0:0-events]
gokul       5483     919  0 00:05 ?        00:00:00 /usr/libexec/gvfsd-network --spawner :1.15 /org/gtk/gvfs/exec_spaw/1
gokul       5512     919  0 00:05 ?        00:00:00 /usr/libexec/gvfsd-dnssd --spawner :1.15 /org/gtk/gvfs/exec_spaw/3
gokul       6436     952  2 00:06 ?        00:00:07 /usr/lib/firefox-esr/firefox-esr
gokul       6503    6436  0 00:06 ?        00:00:00 /usr/lib/firefox-esr/firefox-esr -contentproc -parentBuildID 20230214011352 -prefsL
gokul       6542    6436  0 00:06 ?        00:00:00 /usr/lib/firefox-esr/firefox-esr -contentproc -childID 1 -isForBrowser -prefsLen 30
gokul       6577    6436  0 00:06 ?        00:00:00 /usr/lib/firefox-esr/firefox-esr -contentproc -childID 2 -isForBrowser -prefsLen 34
gokul       6611    6436  0 00:06 ?        00:00:00 /usr/lib/firefox-esr/firefox-esr -contentproc -childID 3 -isForBrowser -prefsLen 34
gokul       6661    6436  0 00:06 ?        00:00:00 /usr/lib/firefox-esr/firefox-esr -contentproc -childID 4 -isForBrowser -prefsLen 35
gokul       6665    6436  0 00:06 ?        00:00:00 /usr/lib/firefox-esr/firefox-esr -contentproc -childID 5 -isForBrowser -prefsLen 35
gokul       6704    6436  0 00:06 ?        00:00:00 /usr/lib/firefox-esr/firefox-esr -contentproc -childID 6 -isForBrowser -prefsLen 35
root        7748       2  0 00:08 ?        00:00:00 [kworker/2:1-ata_sff]
gokul       9547    1386 99 00:12 pts/0    00:00:00 ps -ef

┌──(gokul㉿kali)-[~]
└─$ ps -ef | grep bash
gokul       9857    1386  0 00:13 pts/0    00:00:00 grep --color=auto bash

┌──(gokul㉿kali)-[~]
└─$ ps -ef | grep bash | wc -l
1

┌──(gokul㉿kali)-[~]
└─$
```