

Name: Kartik Sharma

Reg no: 20BCY10044

Email: kartik.sharma@vitbhopal.ac.com

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.

Solution:

1. Create a directory called "my_directory":

Command: mkdir my_directory

2. Navigate into the "my_directory":

Command: cd my_directory

3. Create an empty file called "my_file.txt":

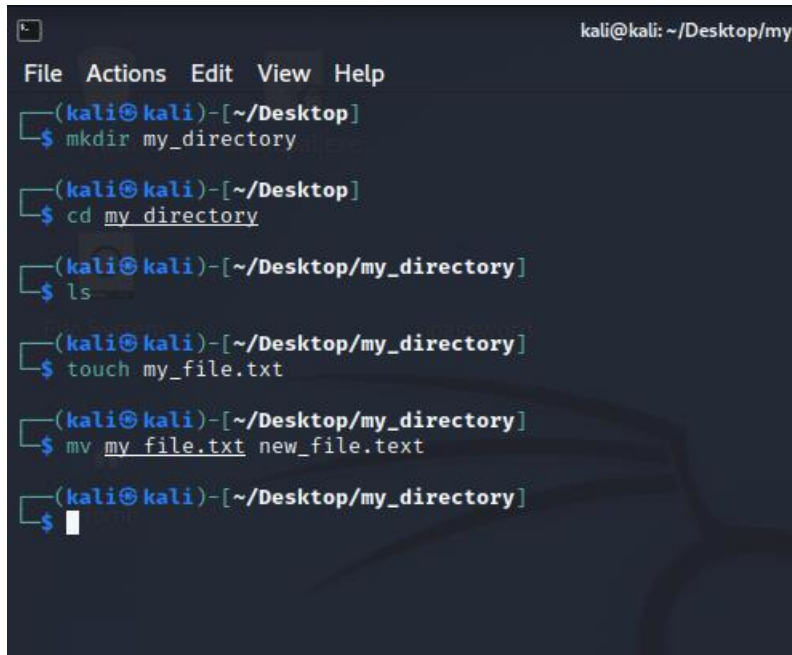
Command: touch my_file.txt

4. List all the files and directories in the current directory:

Command: ls

5. Rename "my_file.txt" to "new_file.txt":

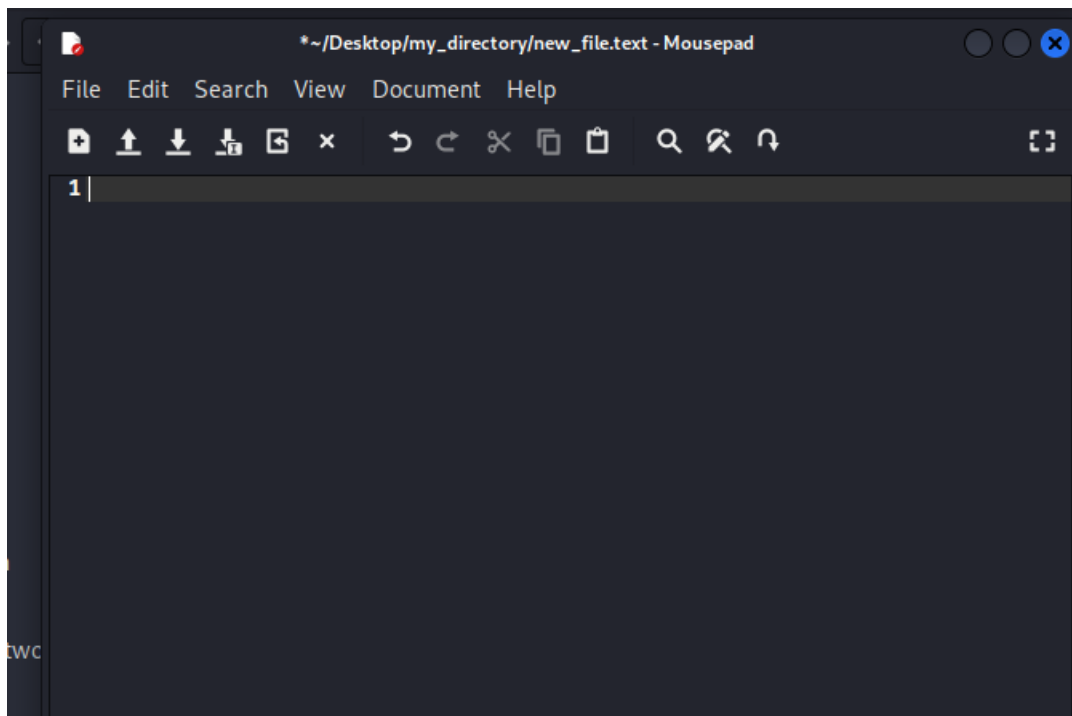
Command: mv my_file.txt new_file.txt



```
kali@kali: ~/Desktop/my_
File Actions Edit View Help
(kali@kali)-[~/Desktop]
$ mkdir my_directory
(kali@kali)-[~/Desktop]
$ cd my_directory
(kali@kali)-[~/Desktop/my_directory]
$ ls
(kali@kali)-[~/Desktop/my_directory]
$ touch my_file.txt
(kali@kali)-[~/Desktop/my_directory]
$ mv my_file.txt new_file.txt
(kali@kali)-[~/Desktop/my_directory]
$
```

6. Display the content of "new_file.txt" using a pager tool of your choice:

Command: less new_file.txt



7. Append the text "Hello, World!" to "new_file.txt":

Command: echo "Hello, World!" >> new_file.txt

8. Create a new directory called "backup" within "my_directory":

Command: mkdir backup

9. Move "new_file.txt" to the "backup" directory:

Command: `mv new_file.txt backup/`

10. Verify that "new_file.txt" is now located in the "backup" directory:

Command: `ls backup/`

11. Delete the "backup" directory and all its contents:

Command: `rm -r backup/`

```
(kali㉿kali)-[~/Desktop/my_directory]
$ mkdir backup

(kali㉿kali)-[~/Desktop/my_directory]
$ mv new_file.txt backup/

(kali㉿kali)-[~/Desktop/my_directory]
$ ls backup
new_file.txt

(kali㉿kali)-[~/Desktop/my_directory]
$ rm -r backup/

(kali㉿kali)-[~/Desktop/my_directory]
$ ls

(kali㉿kali)-[~/Desktop/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.

Solution:

1. Create a new file called "my_script.sh":

Command: touch my_script.sh

2. Open "my_script.sh" using a text editor of your choice and add the following lines:

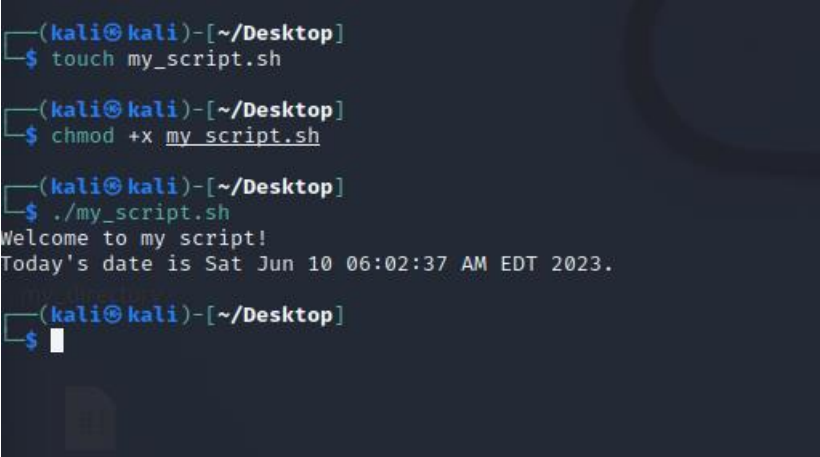
```
#!/bin/bash
echo "Welcome to my script!"
echo "Today's date is $(date)."
```

3. Make "my_script.sh" executable:

Command: chmod +x my_script.sh

4. Run "my_script.sh" and verify the output matches the expected result:

Command: ./my_script.sh



```
(kali㉿kali)-[~/Desktop]
$ touch my_script.sh

(kali㉿kali)-[~/Desktop]
$ chmod +x my_script.sh

(kali㉿kali)-[~/Desktop]
$ ./my_script.sh
Welcome to my script!
Today's date is Sat Jun 10 06:02:37 AM EDT 2023.

(kali㉿kali)-[~/Desktop]
$
```

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.

Solution:

1. List all the processes running on your system using the "ps" command:

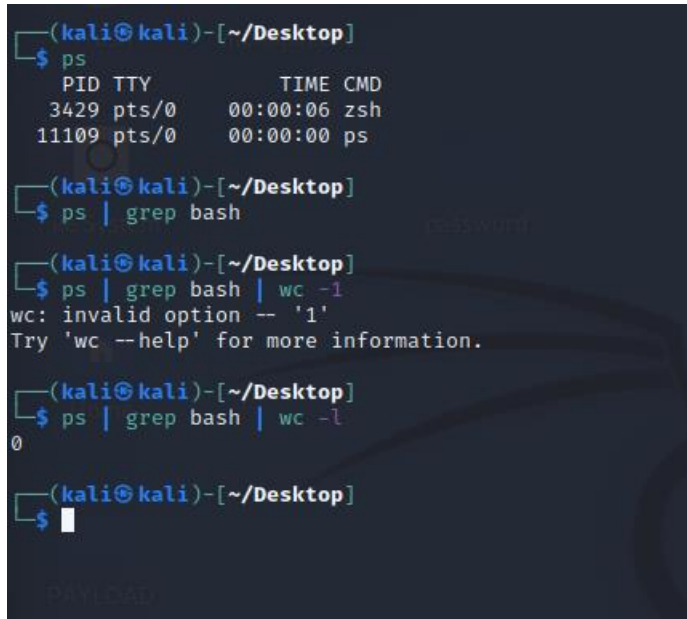
Command: ps

2. Use the "grep" command to filter the processes list and display only the processes with "bash" in their name:

Command: ps | grep bash

3. Use the "wc" command to count the number of lines in the filtered output:

Command: ps | grep bash | wc -l



```
(kali㉿kali)-[~/Desktop]
$ ps
  PID TTY          TIME CMD
 3429 pts/0        00:00:06 zsh
 11109 pts/0        00:00:00 ps

(kali㉿kali)-[~/Desktop]
$ ps | grep bash

(kali㉿kali)-[~/Desktop]
$ ps | grep bash | wc -l
wc: invalid option -- '1'
Try 'wc --help' for more information.

(kali㉿kali)-[~/Desktop]
$ ps | grep bash | wc -l
0

(kali㉿kali)-[~/Desktop]
$
```