

Assignment - 2 : Bash Shell Basics

Task 1: File and Directory Manipulation

1. Create a directory called "my_directory".

```
mkdir my_directory
```

2. Navigate into the "my_directory".

```
cd my_directory
```

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.

```
less new_file.txt
```

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

```
echo "Hello, World!" >> new_file.txt
```

```
dquote>
```

```
dquote> "Hello world
```

```
Hello, World >> 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.

```
mv new_file.txt backup/
```

```
new_file.txt
```

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

```
rm -r backup
```

```
ls backup
```

ls: cannot access 'backup': No such file or directory

```
ls
```

Output

```
kali@kali: ~/my_directory

File Actions Edit View Help

(kali@kali)-[~]
$ mkdir my_directory

(kali@kali)-[~]
$ cd my_directory

(kali@kali)-[~/my_directory]
$ touch my_file.txt

(kali@kali)-[~/my_directory]
$ ls
my_file.txt

(kali@kali)-[~/my_directory]
$ mv my_file.txt new_file.txt

(kali@kali)-[~/my_directory]
$ less new_file.txt

(kali@kali)-[~/my_directory]
$ echo "Hello, World!" >> new_file.txt
dquote>
dquote> "Hello world
Hello, World >> new_file.txt

Hello world

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

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

(kali@kali)-[~/my_directory]
$ ls backup
new_file.txt
```

```
(kali@kali)-[~/my_directory]
$ rm -r backup

(kali@kali)-[~/my_directory]
$ ls backup
ls: cannot access 'backup': No such file or directory

(kali@kali)-[~/my_directory]
$ ls 2 x

(kali@kali)-[~/my_directory]
$ ssh
```

Task 2: Permissions and Scripting

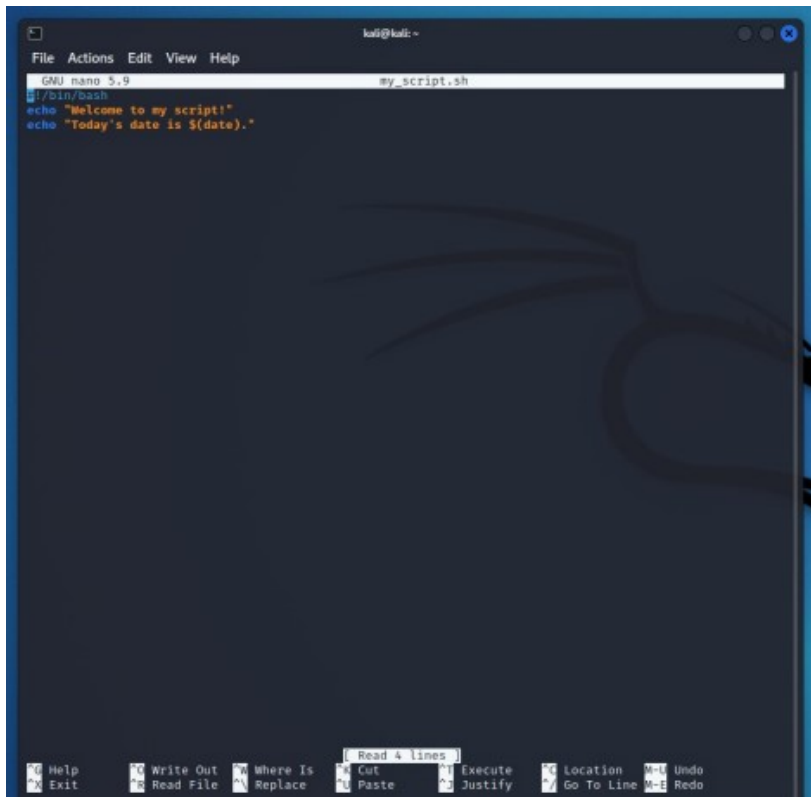
1, Create a new file called "my_script.sh".

```
touch myscript.sh
```

2, 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.
```

```
nano script.sh
```



3, Make "my_script.sh" executable.

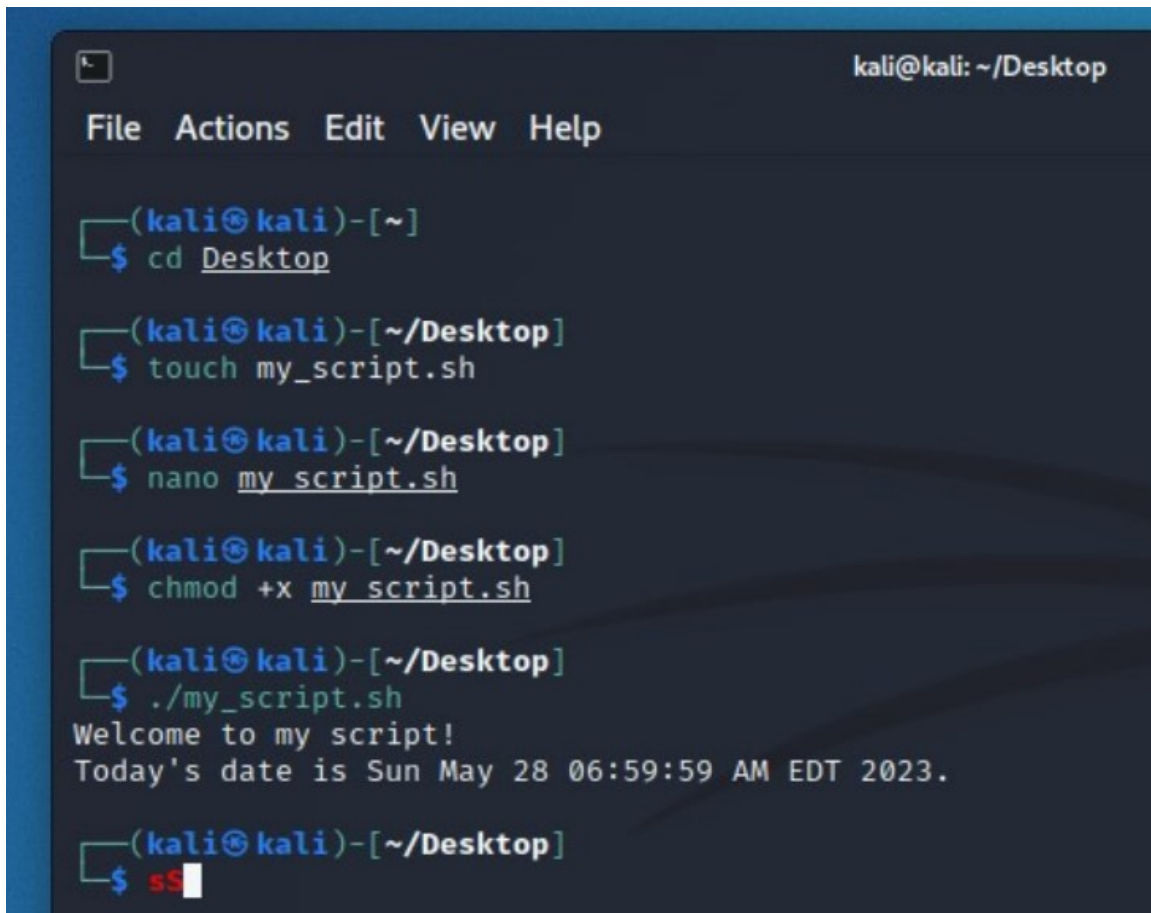
```
chmod +x my_script.sh
```

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

```
./my_script.sh
```

Welcome to my script!

Today's date is Sun May 28 06:59:59 AM EDT 2023.

A screenshot of a terminal window with a dark blue background. The window title is "kali@kali: ~/Desktop". The menu bar shows "File", "Actions", "Edit", "View", and "Help". The terminal shows a series of commands and their outputs. The prompt is "(kali@kali)-[~]". The first command is "\$ cd Desktop". The second prompt is "(kali@kali)-[~/Desktop]". The second command is "\$ touch my_script.sh". The third prompt is "(kali@kali)-[~/Desktop]". The third command is "\$ nano my_script.sh". The fourth prompt is "(kali@kali)-[~/Desktop]". The fourth command is "\$ chmod +x my_script.sh". The fifth prompt is "(kali@kali)-[~/Desktop]". The fifth command is "\$./my_script.sh". The output of this command is "Welcome to my script!" followed by "Today's date is Sun May 28 06:59:59 AM EDT 2023.". The sixth prompt is "(kali@kali)-[~/Desktop]". The sixth command is "\$ sS" followed by a cursor.

```
kali@kali: ~/Desktop
File Actions Edit View Help

(kali@kali)-[~]
$ cd Desktop

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

(kali@kali)-[~/Desktop]
$ nano 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 Sun May 28 06:59:59 AM EDT 2023.

(kali@kali)-[~/Desktop]
$ sS
```

Task 3: Command Execution and Pipelines

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

ps aux

```

kali@kali: ~/Desktop
File Actions Edit View Help
kali 1191 1.8 1.4 666596 43536 ? S 12:53 0:00 /usr/lib/x
kali 1192 1.8 1.4 399588 42804 ? S 12:53 0:00 /usr/lib/x
kali 1193 2.1 1.4 391572 43224 ? S 12:53 0:00 /usr/lib/x
kali 1194 1.7 1.3 334060 40524 ? S 12:53 0:00 /usr/lib/x
kali 1223 0.7 0.7 260956 21440 ? Ss 12:53 0:00 /usr/lib/x
kali 1262 3.0 1.3 288564 39968 ? S 12:53 0:00 /usr/bin/v
kali 1268 0.1 0.1 14648 4072 ? Ss 12:53 0:00 xcace -e S
kali 1271 2.0 0.9 779524 28096 ? SNs 12:53 0:00 /usr/lib/x
kali 1272 0.4 0.6 186052 18632 ? S 12:53 0:00 /usr/lib/p
kali 1281 2.3 1.6 485772 50740 ? S 12:53 0:00 nm-applet
kali 1297 1.3 0.8 265632 25716 ? S 12:53 0:00 light-lock
kali 1303 6.4 1.7 374800 53228 ? S 12:53 0:00 /usr/bin/p
kali 1305 0.7 0.2 858468 8624 ? S 12:53 0:00 xiccd
kali 1343 0.0 0.1 156312 4380 ? Ss 12:53 0:00 /usr/libex
kali 1347 1.8 0.8 192552 26536 ? S 12:53 0:00 xfce4-powe
colord 1357 2.2 0.5 242324 15020 ? Ss 12:53 0:00 /usr/libex
kali 1365 0.1 0.2 307768 6948 ? S 12:53 0:00 /usr/libex
kali 1373 0.5 0.4 351372 13008 ? Ss 12:53 0:00 /usr/libex
root 1378 0.8 0.4 394412 14396 ? Ss 12:53 0:00 /usr/libex
root 1473 3.0 1.2 282188 37692 ? Ss 12:53 0:00 /usr/bin/p
kali 1508 0.2 0.3 234424 10392 ? Ss 12:53 0:00 /usr/libex
kali 1512 0.2 0.2 48472 7164 ? Ss 12:53 0:00 /usr/libex
kali 1513 0.2 0.3 312392 9760 ? Ss 12:53 0:00 /usr/libex
kali 1524 0.2 0.2 233516 8308 ? Ss 12:53 0:00 /usr/libex
kali 1533 0.2 0.3 233340 10216 ? Ss 12:53 0:00 /usr/libex
kali 1548 0.2 0.3 311484 10076 ? S 12:53 0:00 /usr/libex
kali 1553 0.1 0.2 159792 6856 ? Ss 12:53 0:00 /usr/libex
kali 1594 0.5 0.5 38952 16064 ? S 12:53 0:00 /usr/bin/x
kali 1595 7.3 3.4 439680 102964 ? S 12:53 0:00 /usr/bin/q
kali 1598 3.7 0.2 10060 6356 pts/0 Ss 12:53 0:00 /usr/bin/z
root 1641 0.0 0.1 27776 5228 ? S 12:53 0:00 /lib/syste
polkitd 1643 0.0 0.0 0 0 ? Z 12:53 0:00 [pkla-chec
kali 1646 0.0 0.1 11200 4808 pts/0 R+ 12:53 0:00 ps aux

```

20BKT0075 GAGAN PARASHAR

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

```
ps aux | grep bash
```

```
kali 21398 0.0 0.1 6184 2228 pts/0 S+ 06:43 0:00 grep --color=auto bash
```

```
(kali@kali)-[~/Desktop]
$ ps aux | grep bash
kali      2089  0.0  0.0  6332  2140 pts/0    S+   12:54   0:00 grep --color=auto bash
```

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

```
ps aux | grep bash | wc -
```

```
(kali@kali)-[~/Desktop]
$ ps aux | grep bash | wc -l
1
```


20BKT0075 GAGAN PARASHAR

Submitted By Gagan parashar

20BKT0075