Topic Name:

The main aim of this lab session is to provide hands-on experience on

- Explore file structure
- File management commands
- Absolute path and Relative path
- Globbing
- Scripting

File Structure

1. Under the root directory there are many files like

/bin , /boot , /dev , /etc ,

Find out the importance of those files

Example: /etc is for user account details

S.No	Directory	Usage
1	/	Root directory
2	/bin	Binary files ede
3	/boot	Contains all the files reqired for the linux boot process.
4	/dev	Special device files for all the devices.
5	/etc	Houses configuration files for system services and daemons.
6	/home	Personal workspace for each user.
7	/lib	Shared libraray images and kernel modules that are essential
		for booting the system and running commands in the root
		filesystem.
8	/proc	A virtual file system that provindes information about the
		systems kernel and process.
9	/sbin	System administatration commands and binaries that are
		primarly used by the system administrator.
10	/tmp	A temporary storage locations for files and directories that are
		created and accessed during system runtime.
11	/var	A standard directory that stores variable files, or filles that
		change frequently while the system is running.QVV
12		
13		

2. In Linux, there are three different files

Regular file Directory Special file

Block file Character file

Socket file

Pipe file

Fill the below table:

File Type	Repr esen ted by (Hint Is)	Role	How to creat e	H o w to c h e ck	Locati on	Screen shot
Regular file	'_'	Stores data such as text	'Touc h filena me'	N A	Anywh ere in file syste m.	(kali⊛ kali)-[~] \$ cd linux (kali⊛ kali)-[~/linux] \$ touch file
- T e x t f i l e	.txt,. html, .csv.	Stores huma n reada ble text	Text	N A	Anywh ere in file syste m.	<pre>(kali⊕ kali)-[~/linux] \$ echo file.txt file.txt (kali⊕ kali)-[~/linux] \$ ls file</pre>
Compressedf:le	rar.	Stores data in compr essed files	Com press ion utiliti es	N A	Anywh ere in file syste m	<pre>(kali@ kali)-[~/linux] \$ gzip file (kali@ kali)-[~/linux] \$ ls file.gz</pre>
- I m a g e	.jpg,. png,. gif.	Stores visual data	NA	N A	Anywh ere in file syste m	<pre>(kali⑤ kali)-[~/linux] \$ sudo apt install xdg Reading package lists Done Building dependency tree Done Reading state information Done I Unable to locate package xdg (kali⑥ kali)-[~/linux] \$ xdg open Command 'xdg' not found, did you mean: command 'xdm' from deb xdm command 'xd' from deb xd command 'xd' from deb xd command 'xdx' from deb xdx command 'xdx' from deb xdx command 'xdx' from deb xdo Try: sudo apt install <deb name=""></deb></pre>

Director y	.(Dot)	Repre sents a Direct ory	Auto matic allty creat ed by file syste m	N A	Within File syste m	<pre>(kali® kali)-[~/linux]</pre>
Block file		Stores data in fixed size blocks	NA	N A	Storag e device (HDD, SSD)	(kali@ kali)-[~/linux] \$ ls file.gz hacker (kali@ kali)-[~/linux] \$ stat file.gz File: file.gz Size: 25 Blocks: 8 IO Block Device: 8,1 Inode: 4456616 Links: 1 Access: (0644/-rw-rr) Uid: (1000/ kali) Access: 2024-08-09 13:50:17.104526249 -0400 Modify: 2024-08-09 13:50:17.104526249 -0400 Change: 2024-08-09 13:52:47.280309925 -0400 Birth: 2024-08-09 13:52:47.280309925 -0400
Charact er file		Stores individ ual charec ter	NA	NA	Syste m level	S
Socket file		Comm unicati onal endpoi nt	NA	N A	Syste m level	Ckali@ kali - [~] Cd nithesh Ckali@ kali - [~] Cd nithesh Ckali@ kali - [~] Ckali@ kali@ kali - [~] Ckali@ kali@ kal

```
pipe file
                                         NA
                                                           Syste
                           Interpr
                                                    Ν
                                                                             -(<mark>kali⊛kali</mark>)-[~/nithesh]
                                                                            -$ mkfifo hacker
                                                     Α
                           ocess
                                                           m
                                                           level
                           comm
                                                                             -(kali⊕kali)-[~/nithesh]
                           unicati
                                                                           CLI example.txt file file_name filename hacker
                           on
                                                                             -(kali⊕kali)-[~/nithesh]
                                                                          total 16
                                                                          drwxr-xr-x 4 kali kali 4096 Aug 6 13:22 CLI
                                                                           -rw-r--r-- 1 kali kali
prw-r--r-- 1 kali kali
                                                                                                                   6 12:30 example.txt
9 14:08 file
6 12:38 file_name
                                                                                                          0 Aug
                                                                                                          0 Aug
                                                                          prw-r--r--
                                                                                          kali kali
                                                                                                          0 Aug
                                                                           rw-r-- 1
                                                                                          kali kali
                                                                                                           0 Aug
                                                                                                                    5 12:34 filename
                                                                                                          0 Aug
                                                                           drwxr-xr-x 2
                                                                                          kali kali 4096 Aug
                                                                                                                   6 11:11 nithesh
6 14:06 parent_fold
9 14:08 pipefile
9 14:08 pipefile.gz
                                                                          drwxr-xr-x 2 kali kali 4096 Aug
drwxr-xr-x 3 kali kali 4096 Aug
                                                                                                          0 Aug
                                                                          prw-r--r-- 1 kali kali
                                                                          prw-r--r--
                                                                                          kali kali
                                                                                                           0 Aug
                                                                                                                      12:54 time
```

- 3. Globbing: **Globbing** is a pattern matching mechanism used to specify a set of filenames. It's particularly useful for working with multiple files at once.
- 4. Go back to CYS

```
___(kali⊕ kali)-[/home/kali/nithesh]
_PS> cd cys
```

5. Create multiple subdirectories using single command

```
—(kali®kali)-[/home/kali/nithesh/cys]
-PS> touch file1 file2 file3
6.
                                LS
               —(kali⊛kali)-[/home/kali/nithesh/cys]
7.
                                    Unit1
8.
                                                 command
9.
                                                  Glob
             __(kali⊕kali)-[/home/kali/nithesh/cys]
_PS> bash unit[1-3]
10.
                                     Unit2
11.
                                                 command
12.
                                                 Grep
              —(kali⊛kali)-[/home/kali/nithesh/cys]
-PS> grep "pattern" unit2
            /usr/bin/grep: unit2: Is a directory
13.
                                     Unit3
14.
                                                  Constructs
                (kali®kali)-[/home/kali/nithesh/cys]
               —(kali⊕ kali)-[/home/kali/nithesh]
-PS> echo "Hello, World!"
15.
17. Navigate to unit1/glob
              —(kali®kali)-[/home/kali/nithesh/cys]
-PS> cd unit1
```

—(kali® kali)-[/home/kali/nithesh/cys/unit1] -PS> cd unit1/glob

- 18. Create the following files:
- 19. Commands.txt
- 20. Commands1.txt
- 21. Commands2.txt
- 22. page1.html
- 23. page2.html
- 24. page3.html
- 25. file1
- 26. file10
- 27. file11
- 28. file2
- 29. File2
- 30. File3
- 31. file33
- 32. fileAB
- 33. filea
- 34. fileA
- 35. fileAAA
- 36. file(
- 37. file 2

```
(kali@ kali)-[/home/kali/nithesh/cys/unit1]

PS> touch Commands.txt Commands1.txt Commands2.txt page1.html page2.html page3.html file1 file10 file11 file2 File2 File3 f

(kali@ kali)-[/home/kali/nithesh/cys/unit1]

PS> ls

Commands1.txt Commands2.txt Commands.txt 'file(' file1 file10 file11 'file 2' file2 File2 File3 file33
```

- 39. List all files starting with file
- 40. List all files starting with File

41. List all files starting with file and ending in a number.

42. List all files starting with file and ending with a letter

```
__(kali⊛kali)-[/home/kali/nithesh/cys/unit1]
PS> ls file*[a-zA-Z]
filea fileA fileAAA fileAB
```

43. List all files starting with File and having a digit as fifth character.

```
(kali% kali)-[/home/kali/nithesh/cys/unit1]
ps> ls File???[0-9]*
/usr/bin/ls: cannot access 'File???[0-9]*': No such file or directory
```

44. List all files starting with File and having a digit as fifth character and nothing else.

```
(kali@kali)-[/home/kali/nithesh/cys/unit1]
PS> ls File???[0-9]
/usr/bin/ls: cannot access 'File???[0-9]': No such file or directory
```

45. List (with Is) all files starting with a letter and ending in a number.

```
(kali@kali)-[/home/kali/nithesh/cys/unit1]

PS> ls [a-zA-Z]*[0-9]

file1 file10 file11 'file 2' file2 File2 File3 file33
```

46. List (with Is) all files that have exactly five characters.

47. List (with Is) all files that start with f or F and end with 3 or A.

```
__(kali⊗ kali)-[/home/kali/nithesh/cys/unit1]
PS> ls [fF]*[3A]
File3 file33 filea fileA fileAAA
```

48. List (with Is) all files that start with f have i or R as second character and end in a number.

```
(kali% kali)-[/home/kali/nithesh/cys/unit1]
PS> ls f[iR]*[0-9]
file1 file10 file11 'file 2' file2 File2 File3 file33
```

49. List all files that do not start with the letter F.

```
(kali @ kali) - [/home/kali/nithesh/cys/unit1]
PS> ls | grep -v '^F'
Commands1.txt
Commands2.txt
Commands.txt
file(
file1
file1
file2
file33
filea
fileA
fileAAA
fileABA
page1.html
page2.html
page3.html
```

50. Remove all the *.html

```
(kali@ kali)-[/home/kali/nithesh/cys/unit1]
P$> rm *.html

(kali@ kali)-[/home/kali/nithesh/cys/unit1]
P$> rm *.html
/usr/bin/rm: cannot remove '*.html': No such file or directory

(kali@ kali)-[/home/kali/nithesh/cys/unit1]
P$> ls
Commands1.txt Commands2.txt Commands.txt 'file(' file1 file10 file11 'file 2' file2 File2 File3 file3
```

51. Rename *.txt to *.json

52.

a. Go back to CYS

```
(kali⊕ kali)-[/home/kali/nithesh/cys/unit1]

PS> cd..

—(kali⊕ kali)-[/home/kali/nithesh/cys]
```

b. Create multiple subdirectories using single command

```
LS
Unit1
command
glob
Unit2
command
grep
Unit3
constructs
```

c. Navigate to unit1/glob

d. Create the following files:

Commands.txt

Commands 1.txt

Commands2.txt

page1.html

page2.html

page3.html

file1

file10

file11

file2

File2

File3

file33

fileAB

filea

fileA

fileAAA

file(

file 2

- i. List all files starting with file
- List all files starting with File
- iii. List all files starting with file and ending in a number.
- iv. List all files starting with file and ending with a letter
- v. List all files starting with File and having a digit as fifth character.
- vi. List all files starting with File and having a digit as fifth character and nothing else.
- vii. List (with ls) all files starting with a letter and ending in a number.
- viii. List (with ls) all files that have exactly five characters.
- ix. List (with ls) all files that start with f or F and end with 3 or A.
- x. List (with ls) all files that start with f have i or R as second character and end in a number.
- xi. List all files that do not start with the letter F.
- xii. Remove all the *.html
- xiii. Rename *.txt to *.json

53. Absolute path and relative path

Use rm, mv, cp, ls with absolute path and relative path as per your choice.

```
-(kali®kali)-[/home/kali/nithesh]
CLI cys example.txt
                                                        file2 file3 file_name
                                                                                     filename
___(kali⊕kali)-[/home/kali/nithesh]
PS>|rm||file[1..3]'
(kali® kali)-[/home/kali/nithesh]
PS> ls
CLI cys example.txt file file1 file2 file3 file_name filename hacker hello1 new_folder nithesh parent_foldder pipef
```

54. Wildcards

Not	Use	Exa	Screenshot
atio		mple	
n			

```
(kali% kali)-[/home/kali]
PS> Cd nithesh
        Matc
                 ls
                  *.tx
        hes
                             ___(kali⊕ kali)-[/home/kali/nithesh]
_PS> ls
                 t will
        any
                 list
                             CLI cys example.txt file1 file2 file3 file_name filename hacker he
        num
                 all
                             (kali@ kali)-[/home/kali/nithesh]
PS> ls *.txt
        ber
       of
                             example.txt
        char
        acte
        rs
?
                 ls
        Matc
                           _(kali⊛ kali)-[/home/kali/nithesh]
file1 file2 file3
                 file
        hes
                 ?.tx
        exac
        tly
        one
        char
        acte
[]
        Matc
                 ls
                            __(kali% kali)-[/home/kali/nithesh]
PS> ls file[123]
file1 file2 file3
                 file[1
        hes
                 23].t
        any
                 хt
        one
        char
        acte
        withi
        n
        the
        brac
        kets
                            (kali⊗ kali)-[/home/kali/nithesh]
ps> ls file[!123]
file1 file2 file3
[!]
        Matc
                 ls
                 file[!1
        hes
                 23].t
        any
        char
                 хt
        acte
        r
        that
        is
        not
        а
        me
        mbe
        r of
        the
        set
        char
        acte
        rs
{}
        Matc
                 file{1
                            (kali® kali)-[/home/kali/nithesh/cys]
PS> touch file1 file2 file3
        hes
                 ,2,3}
        any
        strin
        g
        withi
```

the	
brac	
es	

More on Character class

Notation	Use	Example	Screenshot
[:alnum:]	Matches any alphanumeric character	ls *[[:alnum:]]*	<pre>(kali@ kali)-[/home/kali/nithesh] PS> ls *[[:alnum:]]*</pre>
[:alpha:]	Matches any alphabetic character	ls *[[:alpha:]]*	(kali® kali)-[/home/kali/nithesh] PS> ls *[[:alpha:]]*
[:digit:]	Matches any digit (0-9)	ls *[[:digit:]]*	<pre>(kali@kali)-[/home/kali/nithesh] PS> ls *[[:digit:]]*,ls*</pre>
[:lower:]	Matches any lowercase letter	ls *[[:lower:]]*	<pre>(kali@kali)-[/home/kali/nithesh] ps> ls *[[:lower:]]*</pre>
[:upper:]	Matches any uppercase letter	ls *[[:upper:]]*	<pre>(kali⊕ kali)-[/home/kali/nithesh] PS> ls '*[[:upper:]]*'</pre>

4. change permission

a) Change the permission set of /work/readme.txt so that only the user (owner) can read,write, and execute it. Use absolute mode.

```
—(kali⊛kali)-[/home/kali/nithesh]
-PS> chmod 700 /home/kali/nithesh
    -(kali®kali)-[/home/kali/nithesh]
total 60
total 60
drwxrwxr-x 2 kali kali 4096 Aug 16 10:43 '*[[:alnum:]]*'
drwxrwxr-x 2 kali kali 4096 Aug 16 10:42 alnum
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49 '*[[:alpha:]]*'
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49 '*[[:alpha:]]*,ls'
                     kali kali 4096 Aug
                                                     6 13:22
                     kali kali 4096 Aug 12 10:24
 drwxr-xr-x 8
                                                                   cys
'*[[:digit:]]*,ls'
 drwxrwxr-x 2 kali kali 4096 Aug 16 10:49
-rw-r--r-- 1 kali kali 0 Aug 6 12:30
                                          0 Aug 6 12:30
0 Aug 12 10:18
                                                                    example.txt
file1
  rw-rw-r-- 1 kali kali
                                          0 Aug 12 10:18
0 Aug 12 10:18
                     kali kali
                     kali kali
                                          0 Aug
                                                     6 12:38
                                                                     file_name
                                          0 Aug
                                                                     filename
                     kali kali
                                             Aug
                                                                    hacker
drwxr-xr-x 2 kali kali 4096 Aug 10 05:56
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49
                                                                    hello1
                                                                    '*[[:lower:]]*'
                     kali kali 4096 Aug 16 10:46
drwxrwxr-x 2
drwxr-xr-x 2
                     kali kali 4096 Aug
                                                     6 14:06
                                                                    new_folder
 drwxr-xr-x 2
                     kali kali 4096 Aug
                                                     6 11:11
                                                                    nithesh
                     kali kali 4096 Aug
                                                      6 14:06
                                                                    parent_foldder
prw-r--- 1 kali kali 0 Aug 9 14:08
prw-r--r-- 1 kali kali 0 Aug 9 14:08
drwxr-xr-x 2 kali kali 4096 Aug 10 06:00
-rw-r--r-- 1 kali kali 0 Aug 6 10
                                                                    pipefile
                                                                     pipefile.gz
                                                                     testdir
                     kali kali 0 Aug 6 12:54 time
kali kali 4096 Aug 16 10:46 '*[[:upper:]]*'
```

b) Change the permission set of /work/readme.txt so that any user can read it, the group can read/write to it and the user (owner) can read/write/execute it. Use absolute mode.

```
(kali⊛kali)-[/home/kali/nithesh]
PS> chmod 764 /home/kali/nithesh
___(kali⊛ kali)-[/home/kali/nithesh]
total 60
drwxrwxr-x 2 kali kali 4096 Aug 16 10:43 '*[[:alnum:]]*'
drwxrwxr-x 2 kali kali 4096 Aug 16 10:42 alnum
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49 '*[[:alpha:]]*'
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49 '*[[:alpha:]]*,ls
drwxr-xr-x 4 kali kali 4096 Aug
                                               CLI
                                     6 13:22
drwxr-xr-x 8 kali kali 4096 Aug 12 10:24
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49
                                               '*[[:digit:]]*,ls
-rw-r--r--
              kali kali
                             0 Aug
                                        12:30
                                                example.txt
-rw-rw-r-- 1
              kali kali
                             0 Aug 12 10:18
                                                file1
-rw-r--r--
              kali kali
                             0 Aug
-rw-rw-r--
              kali kali
                             0 Aug 12 10:18
                                                file3
-rw-r--r-- 1 kali kali
                             0 Aug
                                     6 12:38
                                                file_name
-rw-r--r-- 1 kali kali
                                     5 12:34
                             0 Aug
                                                filename
                             0 Aug
prw-r--r--
              kali kali
                                       14:09
                                                hacker
                          4096 Aug 10 05:56
              kali kali
drwxr-xr-x 2
                                                hello1
              kali kali
                          4096 Aug 16 10:49
                                               '*[[:lower:]]*'
drwxrwxr-x
drwxrwxr-x 2 kali kali 4096 Aug
                                    16 10:46
drwxr-xr-x 2 kali kali 4096 Aug
                                     6 14:06
                                               new_folder
drwxr-xr-x 2 kali kali 4096 Aug
                                               nithesh
parent_foldder
pipefile
                                     6 11:11
drwxr-xr-x 3 kali kali 4096 Aug
                                     6 14:06
              kali kali
prw-r-- 1
                             0 Aug
                                       14:08
              kali
                    kali
                               Aug
                                        14:08
                                                pipefile.gz
drwxr-xr-x 2 kali kali
-rw-r--r-- 1 kali kali
                          4096 Aug 10 06:00
                             0 Aug
                                       12:54
                                                time
drwxrwxr-x 2 kali kali 4096 Aug 16 10:46 '*[[:upper:]]*'
```

c) Change the permission set of /bin/bash so that only the user (owner) can read/write/ execute, group, and any user can execute it. However, whenever anyone executes it, it should run with the privileges of the owner user. Use absolute mode.

```
___(kali⊗ kali)-[/home/kali/nithesh]
PS> chmod 551 /home/kali/nithesh
   —(kali®kali)-[/home/kali/nithesh]
PS> ls
drwxrwxr-x 2 kali kali 4096 Aug 16 10:43 '*[[:alnum:]]*'
drwxrwxr-x 2 kali kali 4096 Aug 16 10:42 alnum
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49 '*[[:alpha:]]*'
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49 '*[[:alpha:]]*,ls'
drwxr-xr-x 4 kali kali 4096 Aug 6 13:22 CLI
drwxr-xr-x 8 kali kali
                              4096 Aug 12 10:24
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49 '*[[:digit:]]*,ls'
-rw-r--r-- 1 kali kali 0 Aug 6 12:30 example.txt
-rw-rw-r--
              1 kali kali
                                          12 10:18
                                  0 Aug
                                                        file1
-rw-r-- 1
                                  0 Aug 12 10:18
                                                        file2
                 kali kali
                                   0 Aug 12 10:18
                 kali kali
                                                        file3
                 kali kali
                                   0 Aug
                                                        file_name
                                   0 Aug
                                                        filename
                                   0 Aug
                 kali kali
                                               14:09
                                                        hacker
drwxr-xr-x 2
                 kali kali 4096 Aug 10 05:56
                                                       hello1
drwxrwxr-x 2 kali kali 4096 Aug
                                                       '*[[:lower:]]*'
                                           16 10:49
                 kali kali
                              4096 Aug 16 10:46
drwxrwxr-x 2
drwxr-xr-x 2
                 kali kali 4096 Aug
                                                        new_folder
drwxr-xr-x 2
                 kali kali
                              4096 Aug
                                                        nithesh
drwxr-xr-x
                 kali
                              4096 Aug
                                                        parent_foldder
                                  0 Aug
                                                        pipefile
              1 kali kali
                                              14:08
                                                        pipefile.gz
prw-r-- 1
                 kali kali
                                  0 Aug
                                               14:08
drwxr-xr-x 2 kali kali 4096 Aug 10 06:00
                                                        testdir
                 kali kali
                                  0 Aug
-rw-r--r--
                                              12:54
                                                        time
                                                       '*[[:upper:]]*'
drwxrwxr-x 2 kali kali 4096 Aug 16 10:46
```

d) Change the permission set of /work/readme.txt so that only the user (owner) can read, write, and execute it. Use relative mode.

```
-(kali⊛kali)-[/home/kali/nithesh]
total 60
drwxrwxr-x 2 kali kali 4096 Aug 16 10:43 '*[[:alnum:]]*'
drwxrwxr-x 2 kali kali 4096 Aug 16 10:42 alnum
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49 '*[[:alpha:]]*'
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49 '*[[:alpha:]]*,ls'
drwxr-xr-x 4 kali kali
                                                CLI
                          4096 Aug
drwxr-xr-x 8 kali kali
                          4096 Aug 12 10:24
                                               cys
'*[[:digit:]]*,ls'
drwxrwxr-x 2 kali kali 4096 Aug
-rw-r--r-- 1 kali kali 0 Aug
                                    16 10:49
                             0 Aug
                                     6 12:30
                                                example.txt
-rw-rw-r-- 1 kali kali
                             0 Aug 12 10:18
                                                file1
-rw-r-- 1
                             0 Aug 12 10:18
                                                file2
              kali kali
                              0 Aug 12
-rw-rw-r--
              kali kali
                                        10:18
                                                file3
                              0 Aug
                                                file_name
-rw-r--r--
               kali kali
               kali kali
                              0 Aug
                                                filename
                             0 Aug
              kali kali
drwxr-xr-x 2
              kali kali 4096 Aug 10 05:56
                                                hello1
drwxrwxr-x 2 kali kali 4096 Aug
                                                *[[:lower:]]*'
                                    16 10:49
drwxrwxr-x 2
              kali kali 4096 Aug 16 10:46
drwxr-xr-x 2
              kali kali 4096 Aug
                                        14:06
                                                new_folder
drwxr-xr-x 2
              kali kali 4096 Aug
                                                nithesh
                          4096 Aug
              kali kali
                                                parent_foldder
drwxr-xr-x
                             0 Aug
prw-r--r-- 1 kali kali
                                        14:08
                                                pipefile
prw-r--r-- 1 kali kali
                             0 Aug
                                        14:08
                                                pipefile.gz
drwxr-xr-x 2 kali kali 4096 Aug 10 06:00
                                                testdir
              kali kali
                             0 Aug
                                        12:54
                                                time
-rw-r--r--
drwxrwxr-x 2
              kali kali 4096 Aug 16 10:46
                                               '*[[:upper:]]*'
```

 e) Change the permission set of /work/readme.txt so that any user can read it, the group can read/write to it and the user (owner) can read/write/execute it. Use relative mode.

```
-(kali⊛kali)-[/home/kali/nithesh]
  -PS> chmod u=rwx,g=rw,o=r /home/kali/nithesh
  —(kali⊕kali)-[/home/kali/nithesh]
total 60
drwxrwxr-x 2 kali kali 4096 Aug 16 10:43 '*[[:alnum:]]*'
drwxrwxr-x 2 kali kali 4096 Aug 16 10:42 alnum
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49 '*[[:alpha:]]*'
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49 '*[[:alpha:]]*,ls'
                                                CLI
drwxr-xr-x 4 kali kali 4096 Aug
                                      6 13:22
drwxr-xr-x 8 kali kali 4096 Aug 12 10:24
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49
                                                '*[[:digit:]]*,ls'
                              0 Aug 6 12:30
0 Aug 12 10:18
 -rw-r--r-- 1 kali
                     kali
                                                 example.txt
 -rw-rw-r-- 1 kali kali
                                                 file1
 -rw-r-- 1
               kali kali
                              0 Aug 12 10:18
                                                 file2
-rw-rw-r-- 1 kali kali
                              0 Aug 12 10:18
                                                 file3
                              0 Aug 6 12:38
0 Aug 5 12:34
-rw-r--r-- 1 kali kali
                                                 file_name
-rw-r--r--
                                                 filename
               kali kali
prw-r--r--
               kali kali
                              0 Aug
                                      9 14:09
                                                 hacker
                     kali 4096 Aug 10 05:56
               kali
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49
drwxrwxr-x 2 kali kali 4096 Aug 16 10:46
                                                '*[[:lower:]]*'
                                                ls
drwxr-xr-x 2 kali kali 4096 Aug
                                      6 14:06
                                                 new folder
drwxr-xr-x 2 kali kali 4096 Aug
                                      6 11:11
                                                 nithesh
               kali kali 4096 Aug
drwxr-xr-x 3
                                      6 14:06
                                                 parent_foldder
                                      9 14:08
                                                 pipefile
prw-r--r-- 1
                              0 Aug
                                                 pipefile.gz
               kali
                     kali
                                 Aug
                                         14:08
drwxr-xr-x 2 kali kali 4096 Aug
                                     10 06:00
                                                 testdir
                                Aug
               kali
                     kali
                              0
                                         12:54
                                                 time
-rw-r--r--
                                                '*[[:upper:]]*'
drwxrwxr-x 2 kali kali 4096 Aug 16 10:46
```

f) Change the permission set of /work/readme.txt so that only the user (owner) can read/write/ execute, group, and any user can execute it. However, whenever anyone executes it, it should run with the privileges of the group. Use absolute mode.

```
(kali® kali)-[/home/kali/nithesh]
PS> chmod 2751 /home/kali/nithesh
    (kali⊛kali)-[/home/kali/nithesh]
total 60
drwxrwxr-x 2 kali kali 4096 Aug 16 10:43 '*[[:alnum:]]*'
drwxrwxr-x 2 kali kali 4096 Aug 16 10:42 alnum
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49 '*[[:alpha:]]*'
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49 '*[[:alpha:]]*,ls
drwxr-xr-x 4 kali kali 4096 Aug
drwxr-xr-x 8 kali kali 4096 Aug
                                                  cys
'*[[:digit:]]*,ls
                                       12 10:24
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49
                                0 Aug
-rw-r--r-- 1 kali kali
                                          12:30
                                                   example.txt
-rw-rw-r-- 1
                kali kali
                                0 Aug 12 10:18
                                                    file1
                kali kali
                                0 Aug 12 10:18
                                                    file2
                kali kali
                                0 Aug 12 10:18
                                                    file3
                                0 Aug
                                                    file_name
                kali kali
-rw-r--r--
             1 kali kali
                                0 Aug
                                        5 12:34
                                                    filename
                               0 Aug
prw-r--r--
                                        9
                kali kali
                                          14:09
                                                   hacker
                kali kali 4096 Aug 10 05:56
                                                   hello1
drwxr-xr-x 2
                kali kali 4096 Aug 16 10:49
drwxrwxr-x 2
                                                  '*[[:lower:]]*'
drwxrwxr-x
                kali kali 4096 Aug 16 10:46
                                                   new_folder
                kali kali 4096 Aug
                                           14:06
               kali kali 4096 Aug
drwxr-xr-x 2
                                        6 11:11
                                                   nithesh
drwxr-xr-x 3 kali kali 4096 Aug
                                                   parent_foldder
pipefile
                                        6 14:06
                               0 Aug
prw-r--r-- 1 kali kali
                                          14:08
prw-r--r--
                kali kali
                                0 Aug
                                                    pipefile.gz
                                           14:08
drwxr-xr-x 2 kali kali 4096 Aug 10 06:00
                                                    testdir
               kali kali
                                0 Aug
                                           12:54
                                                    time
drwxrwxr-x 2 kali kali 4096 Aug 16 10:46 '*[[:upper:]]*'
```

g) Change the permission set of /work/readme.txt so that only the owner can rename or delete this file while maintaining the existing permissions. Use absolute mode.

```
(kali®kali)-[/home/kali/nithesh]
  -PS> chmod +t /home/kali/nithesh
   -(kali⊛kali)-[/home/kali/nithesh`
total 60
drwxrwxr-x 2 kali kali 4096 Aug 16 10:43 '*[[:alnum:]]*'
drwxrwxr-x 2 kali kali 4096 Aug 16 10:42 alnum
                                            alnum
'*[[:alpha:]]*'
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49
                                            '*[[:alpha:]]*,ls'
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49
drwxr-xr-x 4 kali kali 4096 Aug
                                   6 13:22
                                             CLI
drwxr-xr-x 8 kali kali 4096 Aug 12 10:24
                                            cys
'*[[:digit:]]*,ls'
drwxrwxr-x 2 kali kali 4096 Aug 16 10:49
 -rw-r--r-- 1 kali
                             Aug
                                  6 12:30
                                             example.txt
 rw-rw-r-- 1 kali
                   kali
                            0 Aug 12 10:18
 rw-r--r-- 1 kali
                            0 Aug 12 10:18
                                             file2
 rw-rw-r--
            1 kali
                   kali
                            0 Aug
                                  12 10:18
                                             file3
 rw-r--r--
           1 kali kali
                            0 Aug
                                   6 12:38
                                             file_name
           1 kali kali
                            0 Aug
                                   5 12:34
                                             filename
prw-r-- 1
                                   9 14:09
             kali
                   kali
                            0
                             Aug
                                             hacker
drwxr-xr-x 2
             kali kali 4096 Aug 10 05:56
drwxrwxr-x 2
             kali kali 4096 Aug
                                  16 10:49
                                             '*[[:lower:]]*'
                   kali 4096 Aug 16 10:46
drwxr-xr-x 2 kali kali 4096 Aug
                                   6 14:06
                                             new_folder
drwxr-xr-x 2 kali kali 4096 Aug
                                   6 11:11
                                             nithesh
                                             parent_foldder
pipefile
drwxr-xr-x 3 kali kali 4096 Aug
                                   6 14:06
prw-r--r-- 1 kali kali
                                   9 14:08
                           0 Aug
             kali kali
                            0 Aug
                                     14:08
                                             pipefile.gz
drwxr-xr-x 2 kali kali 4096 Aug
                                  10 06:00
           1 kali kali
                            0 Aug
                                            '*[[:upper:]]*'
drwxrwxr-x 2 kali kali 4096 Aug 16 10:46
```

h) What are the default permissions for the new file?

The default permissions for a new file are typically rw-r--r-- (644)

i) What was the command to view the file permissions?

ls -1

j) Change chmod.exercises permissions to -r--r--r—

chmod 444 chmod.exercises

k) Change the file permissions to Read only for the owner, group and all other users.

chmod 444 <filename>

I) What was the command for changing the file permissions to -r--r--?

chmod 444 <filename>

m) Change chmod.exercises permissions to -rw-r----

chmod 640 chmod.exercises

- n) Change the file permissions to match the following:
 - a. owner: Read and Write
 - b. group: Read
 - c. other: no permissions (None)

chmod 640 <filename>

- o) What was the command for changing the file permissions to -rw-r----?chmod 640 <filename>
- p) Change chmod.exercises permissions to -rwxr-x-x

chmod 751 chmod.exercises

- q) Change the file permissions to match the following:
 - a. owner: Read, Write and Execute
 - b. group: Read and Execute
 - c. other: Execute

chmod 751 <filename>

r) What was the command for changing the file permissions to -rwxr-x--x?

chmod 751 <filename>

Evaluation:

Marks: 10 (Deadline: 4 – Originality: 3 – Completeness: 3)

Deadline: 06.08.2024

In life there are no shortcuts. All things are connected. For success there is no fast lane. Work hard. Focus your energy, practice, remain honest, Truthful, loyal and committed.

-unknown