

Lab3:

The main idea of this assignment is to provide hands on experience on the following topics

Grep

Pipe

redirection

read

command Line arguments

head,tail,tr

1. Create a file “poem.txt” with the following lines

We have not wings, we cannot soar;
But we have feet to scale and climb
By slow degrees, by more and more,
The cloudy summits of our time.

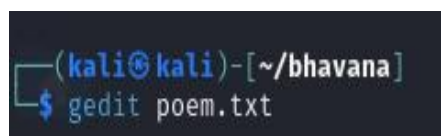
The mighty pyramids of stone
That wedge-like cleave the desert airs,
When nearer seen and better known,
Are but gigantic flights of stairs.

The distant mountains, that uprear
Their solid bastions of the skies,
Are crossed by pathways that appear
As we to higher levels rise.

The heights by great men reached and kept
Were not attained by sudden flight,
But they, while their companions slept,
Were toiling upward in the night.

END

Henry Wadsworth Longfellow (1807–1882) was an American poet and educator.



Do the following task using grep command

- a. Print all the lines with the pattern “they”

```
(kali㉿kali)-[~/bhavana]
$ grep 'they' poem.txt
But they, while their companions slept,
```

- b. Print all the lines other than pattern “They”

```
(kali㉿kali)-[~/bhavana]
$ grep -v 'they' poem.txt
We have not wings, we cannot soar;
But we have feet to scale and climb
By slow degrees, by more and more,
The cloudy summits of our time.
The mighty pyramids of stone
That wedge-like cleave the desert airs,
When nearer seen and better known,
Are but gigantic flights of stairs.
The distant mountains, that uprear
Their solid bastions of the skies,
Are crossed by pathways that appear
As we to higher levels rise.
The heights by great men reached and kept
Were not attained by sudden flight,
Were toiling upward in the night.
END
```

- c. Print all the lines starts with “w”

```
(kali㉿kali)-[~/bhavana]
$ grep '^w' poem.txt
```

- d. Print the next lines after the pattern “stone” matches

Hint: man grep

```
(kali㉿kali)-[~/bhavana]
$ grep -A 1 'stone' poem.txt | tail -n +2
That wedge-like cleave the desert airs,
```

- e. Print the 2 lines above the pattern “stone” matches

Hint: man grep

```
(kali㉿kali)-[~/bhavana]
$ grep -B 2 'stone' poem.txt | head -n +2
By slow degrees, by more and more,
The cloudy summits of our time.
```

- f. Search the pattern with exact match

```
(kali㉿kali)-[~/bhavana]
$ grep -o 'and' poem.txt
and
and
and
and
```

2. Write a shell script to get the pattern and filenames from the user and check whether the pattern is present or not.

```
#!/usr/bin/bash
read -p "enter the pattern:" pattern
read -p "enter the filename:" file
if [ -f "$file" ]; then
    grep "$pattern" "$file"
else
    echo "file doesnot exists"
fi
```

```
(kali@kali)-[~/cys/bhavana]
$ ./pattern.sh
enter the pattern:they
enter the filename:poem.txt
But they, while their companions slept,
```

3. Rewrite the above shell script using command line arguments. (pass the pattern and file through command line arguments)

```
1 #!/usr/bin/bash
2 pattern=$1
3 filename=$2
4 if [ -f "$filename" ]; then
5     grep "$pattern" "$filename"
6 else
7     echo "file does not exist"
8 fi
```

```
(kali@kali)-[~/bhavana]
$ gedit 1.sh
(gedit:51798): tepl-WARNING **: 10:36:42.973: Style scheme 'Kali-Dark' cannot be found, falling back to 'Kali-Dark' default style scheme.
(gedit:51798): tepl-WARNING **: 10:36:42.973: Default style scheme 'Kali-Dark' cannot be found, check your installation.
(gedit:51798): Gtk-WARNING **: 10:36:47.945: Calling org.xfce.Session.Manager.Inhibit failed: GDBus.Error:org.freedesktop.DBus.Error.UnknownMethod: No such method "Inhibit"
(kali@kali)-[~/bhavana]
$ ./1.sh 'they' 'poem.txt'
zsh: permission denied: ./1.sh
(kali@kali)-[~/bhavana]
$ chmod +x 1.sh
(kali@kali)-[~/bhavana]
$ ./1.sh 'they' 'poem.txt'
But they, while their companions slept,
```

4. Write a shell script to count total number of regular files in the current working directory.

```
1 #!/usr/bin/bash
2 count=$(find . -maxdepth 1 -type f | wc -l)
3
4 echo "Number of regular files in current directory: $count"
5
```

```
(kali@kali)-[~/bhavana]
$ gedit 2.sh
(gedit:56003): tepl-WARNING **: 10:45:10.043: Style scheme 'Kali-Dark' cannot be found, falling back to
'Kali-Dark' default style scheme.
(gedit:56003): tepl-WARNING **: 10:45:10.043: Default style scheme 'Kali-Dark' cannot be found, check yo
ur installation.
(gedit:56003): Gtk-WARNING **: 10:45:19.445: Calling org.xfce.Session.Manager.Inhibit failed: GDBus.Error:org.Freedesktop.DBus.Error.UnknownMethod: No such method "Inhibit"
(kali@kali)-[~/bhavana]
$ ./2.sh
the no of regular file in curr directory: 5
```

5. pipe

- a) Pick the line from 3 to 5.

```
(kali@kali)-[~/bhavana]
$ sed -n '3,5p' poem.txt
By slow degrees, by more and more,
The cloudy summits of our time.
The mighty pyramids of stone
```

- b) List the top 5 largest files in a directory and display their sizes

```
(kali@kali)-[~/bhavana]
$ ls -l | head -n 6
total 16
-rwxrwxr-x 1 kali kali 130 Aug 22 10:38 1.sh
-rwxrwxr-x 1 kali kali 117 Aug 22 10:45 2.sh
-rw-rw-r-- 1 kali kali 214 Aug 11 12:19 bhavana
-rw-rw-r-- 1 kali kali 590 Aug 22 10:24 poem.txt
```

- c) Print the last 2 modified file details

```
(kali@kali)-[~/bhavana]
$ ls -lt | head -n 3
total 16
-rwxrwxr-x 1 kali kali 117 Aug 22 10:45 2.sh
-rwxrwxr-x 1 kali kali 130 Aug 22 10:38 1.sh
```

6. Redirection

- a) Convert uppercase into lowercase characters

```

(kali㉿kali)-[~/bhavana]
$ tr 'A-Z' 'a-z' <poem.txt> outputfile.txt

(kali㉿kali)-[~/bhavana]
$ cat outputfile.txt
we have not wings, we cannot soar;
but we have feet to scale and climb
by slow degrees, by more and more,
the cloudy summits of our time.
the mighty pyramids of stone
that wedge-like cleave the desert airs,
when nearer seen and better known,
are but gigantic flights of stairs.
the distant mountains, that uprear
their solid bastions of the skies,
are crossed by pathways that appear
as we to higher levels rise.
the heights by great men reached and kept
were not attained by sudden flight,
but they, while their companions slept,
were toiling upward in the night.
end

```

B) List the contents of your current directory, including the ownership and permissions, and redirect the output to a file called contents.txt within your home directory.

```

(kali㉿kali)-[~/bhavana]
$ ls -l
total 20
-rwxrwxr-x 1 kali kali 130 Aug 22 10:38 1.sh
-rwxrwxr-x 1 kali kali 117 Aug 22 10:45 2.sh
-rw-rw-r-- 1 kali kali 214 Aug 11 12:19 bhavana
-rw-rw-r-- 1 kali kali 590 Aug 22 10:51 outputfile.txt
-rw-rw-r-- 1 kali kali 590 Aug 22 10:24 poem.txt

```

```

(kali㉿kali)-[~/bhavana]
$ ls -l > ~/content.txt

(kali㉿kali)-[~/bhavana]
$ cat ~/content.txt
total 20
-rwxrwxr-x 1 kali kali 130 Aug 22 10:38 1.sh
-rwxrwxr-x 1 kali kali 117 Aug 22 10:45 2.sh
-rw-rw-r-- 1 kali kali 214 Aug 11 12:19 bhavana
-rw-rw-r-- 1 kali kali 590 Aug 22 10:51 outputfile.txt
-rw-rw-r-- 1 kali kali 590 Aug 22 10:24 poem.txt

```

b) Rewrite the shell script (3) using <<

```
1 #!/usr/bin/bash
2 cat << EOF
3 enter the pattern search and filename
4 EOF
5
6 read -p "enter the pattern to search:" pattern
7 read -p "enter the file name" filename
8
9 if [ -f "$filename" ]; then
10 grep "$pattern" "$filename"
11 else
12 echo "file does not exist"
13 fi
```

```
(kali@kali)-[~/bhavana]
$ ./12.sh
enter the pattern search and filename
enter the pattern to search:they
enter the file namepoem.txt
But they, while their companions slept,
```

“You don't have to see the whole staircase, just take the first step.”

— **Martin Luther King Jr.**