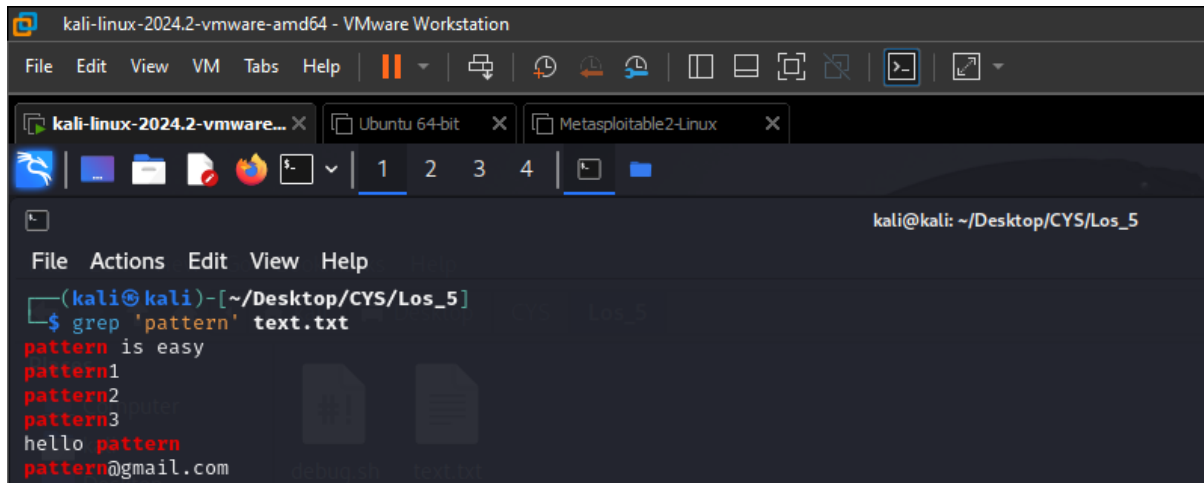


More on Grep

1. Print all the lines having the word "pattern".

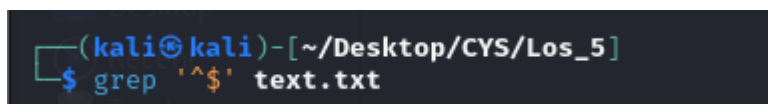


The screenshot shows a Kali Linux terminal window with the command `grep 'pattern' text.txt` executed. The output lists several lines from the file `text.txt` that contain the word "pattern".

```
(kali@kali)-[~/Desktop/CYS/Los_5]
$ grep 'pattern' text.txt
pattern is easy
pattern1
pattern2
pattern3
hello pattern
pattern@gmail.com
```

- This searches for the exact word "pattern" in the file.

2. Pick out the blank lines in the file

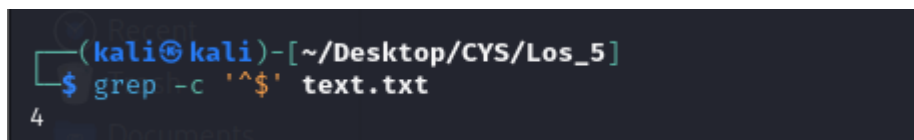


The screenshot shows the command `grep '^$' text.txt` being entered in the terminal.

```
(kali@kali)-[~/Desktop/CYS/Los_5]
$ grep '^$' text.txt
```

- `^$` matches lines that start and end with nothing, which are blank lines.

3. Count total number of empty lines in the file.

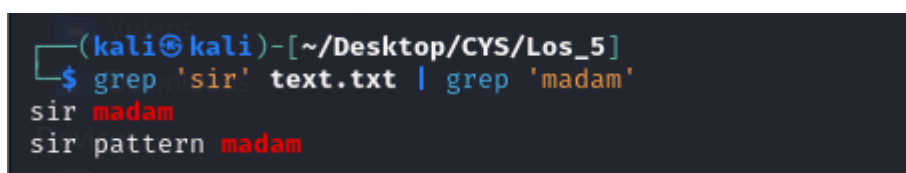


The screenshot shows the command `grep -c '^$' text.txt` being entered in the terminal, with the output `4` displayed below it.

```
(kali@kali)-[~/Desktop/CYS/Los_5]
$ grep -c '^$' text.txt
4
```

- `-c` counts the number of matching lines.

4. Print the line which have both "Sir and Madam".



The screenshot shows the command `grep 'sir' text.txt | grep 'madam'` being entered in the terminal. The output shows two lines: `sir madam` and `sir pattern madam`.

```
(kali@kali)-[~/Desktop/CYS/Los_5]
$ grep 'sir' text.txt | grep 'madam'
sir madam
sir pattern madam
```

- This uses a pipe (`|`) to combine two grep commands, ensuring both words are present in a line.

5. pick out lines with "pattern1" "pattern2" or "pattern3". (use the alternator `|`)



The screenshot shows the command `grep 'pattern1|pattern2|pattern3' text.txt` being entered in the terminal. The output lists the first three lines of the file, all of which contain one of the specified patterns.

```
(kali@kali)-[~/Desktop/CYS/Los_5]
$ grep 'pattern1|pattern2|pattern3' text.txt
pattern1
pattern2
pattern3
```

- The | symbol acts as an OR operator between the patterns.
- pick out lines that have at least two p's followed by any number of letters followed by 'ore'. The p's do not have to be next to each other.

```
(kali@kali)-[~/Desktop/CYS/Los_5]
$ grep 'p.*p.*ore' text.txt
Popcorn popped before

(kali@kali)-[~/Desktop/CYS/Los_5]
$ grep 'P.*p.*ore' text.txt
Popcorn popped before
```

- * allows any characters between the p and ore.

- pick out all the lines with v, z or l in them

```
(kali@kali)-[~]
$ cd Desktop/CYS/Los_5

(kali@kali)-[~/Desktop/CYS/Los_5]
$ grep '[vzi]' text.txt
pattern is easy
good Morning!
geood Evening
pattern@gmail.com
sir madam
sir
sir pattern madam

(kali@kali)-[~/Desktop/CYS/Los_5]
$
```

- This matches any line containing one of the specified characters.

- pick out all the lines that do not start with an uppercase letter.

```
(kali@kali)-[~/Desktop/CYS/Los_5]
$ grep '^[^A-Z]' text.txt
pattern is easy
pattern1
pattern2
pattern3
hello pattern
good Morning!
geood Evening
pattern@gmail.com
sir madam
sir
madam
sir pattern madam
```

- [^A-Z] matches anything that is not an uppercase letter.

- pick out all the lines that end with a dash –

```
(kali@kali)-[~/Desktop/CYS/Los_5]
$ grep -- '-$' text.txt
hello pattern--
sir madam--
```

- -\$ matches lines ending with a dash.

10. pick out all the words that end with ore

```
(kali㉿kali)-[~/Desktop/CYS/Los_5]
$ grep -o '\b\w*ore\b' text.txt
before
```

- \b marks word boundaries, and \w*ore matches any word ending with "ore".

11. pick out all the words that start with f or F

```
(kali㉿kali)-[~/Desktop/CYS/Los_5]
$ grep -o '\b[fF]\w*' text.txt
fun
fish
for
CYS
(kali㉿kali)-[~/Desktop/CYS/Los_5]
$
```

- [Ff] matches f or F.

12. pick out lines that uses first letter alliteration - starting two words with the same letter.

```
(kali㉿kali)-[~/Desktop/CYS/Los_5]
$ grep -E '\b(\w)\w*\s+\1\w*' text.txt
hello hello hello
```

- This uses a backreference \1 to match two words starting with the same letter.

13. determine how many times contains the word "pattern".

```
(kali㉿kali)-[~/Desktop/CYS/Los_5]
$ grep -o 'pattern' text.txt | wc -l
7
(kali㉿kali)-[~/Desktop/CYS/Los_5]
$
```

- This counts occurrences of "pattern" in the file.

14. to pick out lines with at least 10 characters:

```
(kali㉿kali)-[~/Desktop/CYS/Los_5]
$ grep -E '.{10}' text.txt
pattern is easy
hello pattern--
good Morning!
geood Evening
pattern@gmail.com
sir madam-
for sir pattern madam
Popcorn popped before

(kali㉿kali)-[~/Desktop/CYS/Los_5]
$
```

- `.{10,}` matches any line with 40 or more characters.

15. to pick out lines with no punctuation

```
(kali㉿kali)-[~/Desktop/CYS/Los_5]
$ grep -v '[:punct:]' text.txt
pattern is easy
pattern1
pattern2
pattern3

fun
geood Evening
fish

sir
madam
for sir pattern madam

Popcorn popped before

(kali㉿kali)-[~/Desktop/CYS/Los_5]
$
```

- `-v` inverts the match, selecting lines without punctuation.

16. to pick out lines with an uppercase letter other than the first character. (The first character on the line does not count.)

```
(kali㉿kali)-[~/Desktop/CYS/Los_5]
$ grep '^A-Z][A-Z]' text.txt
good Morning!
geood Evening

(kali㉿kali)-[~/Desktop/CYS/Los_5]
$
```

- This matches lines with an uppercase letter not at the beginning.

17. To pick out lines without rav

Quotes:

```
(kali㉿kali)-[~/Desktop/CYS/Los_5]
$ grep -v 'patt' text.txt

good Morning!
fun
geood Evening
fish

sir madam-
sir
madam

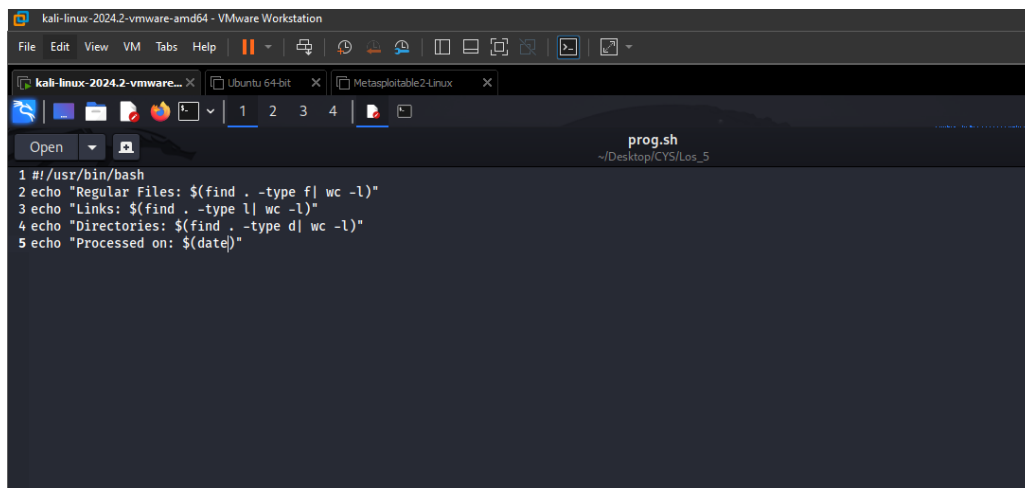
Popcorn popped before
```

- -v selects lines that do not contain "patt".

18. Write a shell script to generate a report with the following details.

- Number of regular files
- Number of links
- Number of directories
- Print the date when it was processed!

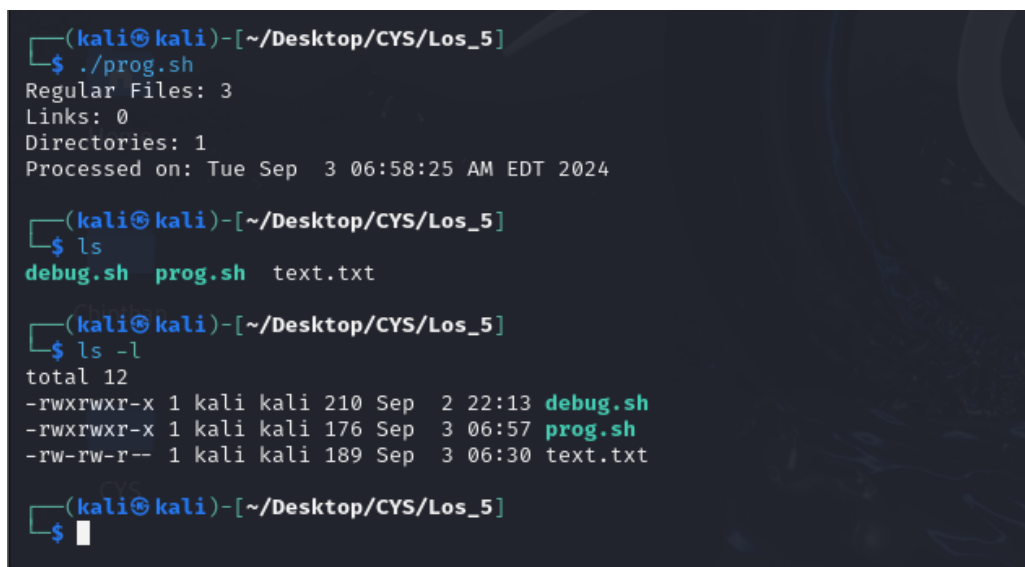
Redirection



```

kali-linux-2024.2-vmware-amd64 - VMware Workstation
File Edit View VM Tabs Help
kali-linux-2024.2-vmware... X Ubuntu 64-bit X Metasploit24Linux X
prog.sh
~/Desktop/CYS/Los_5
1 #!/usr/bin/bash
2 echo "Regular Files: $(find . -type f| wc -l)"
3 echo "Links: $(find . -type l| wc -l)"
4 echo "Directories: $(find . -type d| wc -l)"
5 echo "Processed on: $(date)"

```



```

(kali@kali)-[~/Desktop/CYS/Los_5]
$ ./prog.sh
Regular Files: 3
Links: 0
Directories: 1
Processed on: Tue Sep  3 06:58:25 AM EDT 2024

(kali@kali)-[~/Desktop/CYS/Los_5]
$ ls
debug.sh  prog.sh  text.txt

(kali@kali)-[~/Desktop/CYS/Los_5]
$ ls -l
total 12
-rwxrwxr-x 1 kali kali 210 Sep  2 22:13 debug.sh
-rwxrwxr-x 1 kali kali 176 Sep  3 06:57 prog.sh
-rw-rw-r-- 1 kali kali 189 Sep  3 06:30 text.txt

(kali@kali)-[~/Desktop/CYS/Los_5]
$

```

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

```

(kali@kali)-[~/Desktop/CYS/Los_5]
$ ls -l > ~/contents.txt

(kali@kali)-[~/Desktop/CYS/Los_5]
$ cat ~/contents.txt

total 12
-rwxrwxr-x 1 kali kali 210 Sep  2 22:13 debug.sh
-rwxrwxr-x 1 kali kali 176 Sep  3 06:57 prog.sh
-rw-rw-r-- 1 kali kali 189 Sep  3 06:30 text.txt

(kali@kali)-[~/Desktop/CYS/Los_5]
$

```

20. Sort the contents of the contents.txt file from your current directory and append it to the end of a new file named contents-sorted.txt.

```

(kali@kali)-[~/Desktop/CYS/Los_5]
$ sort ~/contents.txt >> ~/contents_sorted.txt

(kali@kali)-[~/Desktop/CYS/Los_5]
$ cat ~/contents_sorted.txt

-rw-rw-r-- 1 kali kali 189 Sep  3 06:30 text.txt
-rwxrwxr-x 1 kali kali 176 Sep  3 06:57 prog.sh
-rwxrwxr-x 1 kali kali 210 Sep  2 22:13 debug.sh
total 12

(kali@kali)-[~/Desktop/CYS/Los_5]
$

```

21. Display the last 10 lines of the /etc/passwd file and redirect it to a new file in the your user's Documents directory.

```

(kali@kali)-[~/Desktop/CYS/Los_5]
$ tail -n 10 /etc/passwd > ~/content1.txt

(kali@kali)-[~/Desktop/CYS/Los_5]
$ cat ~/content1.txt

_gophish:x:124:130::/var/lib/gophish:/usr/sbin/nologin
iodine:x:125:65534::/run/iodine:/usr/sbin/nologin
miredo:x:126:65534::/var/run/miredo:/usr/sbin/nologin
statd:x:127:65534::/var/lib/nfs:/usr/sbin/nologin
redis:x:128:131::/var/lib/redis:/usr/sbin/nologin
postgres:x:129:132:PostgreSQL administrator,,,:/var/lib/postgresql:/bin/bash
mosquitto:x:130:133::/var/lib/mosquitto:/usr/sbin/nologin
inetsim:x:131:134::/var/lib/inetsim:/usr/sbin/nologin
_gvm:x:132:135::/var/lib/openvas:/usr/sbin/nologin
kali:x:1000:1000::,/home/kali:/usr/bin/zsh

(kali@kali)-[~/Desktop/CYS/Los_5]
$

```

22. Count the number of words within the contents.txt file and append the output to the end of a file field2.txt in your home directory. You will need to use both input and output redirection.

```
(kali㉿kali)-[~/Desktop/CYS/Los_5]
$ cat ~/contents.txt
total 12
-rwxrwxr-x 1 kali kali 210 Sep  2 22:13 debug.sh
-rwxrwxr-x 1 kali kali 176 Sep  3 06:57 prog.sh
-rw-rw-r-- 1 kali kali 189 Sep  3 06:30 text.txt

(kali㉿kali)-[~/Desktop/CYS/Los_5]
$
```

23. Display the first 5 lines of the /etc/passwd file and sort the output reverse alphabetically.

```
(kali㉿kali)-[~/Desktop/CYS/Los_5]
$ head -n 5 /etc/passwd | sort -r
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
root:x:0:0:root:/root:/usr/bin/zsh
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin

(kali㉿kali)-[~/Desktop/CYS/Los_5]
$
```

24. Using the previously created contents.txt file, count the number of characters of the last 9 lines.

Debug

```
(kali㉿kali)-[~/Desktop/CYS/Los_5]
$ tail -n 9 ~/contents.txt | wc -m
155

(kali㉿kali)-[~/Desktop/CYS/Los_5]
$
```

25. Debug the script 1_debug.sh

1) #fix the error

/!bin/bash

fruit1 = Apples

fruit2 = Oranges

if [\$1 -lt \$#]

then

echo "This is like comparing \$fruit1 and \$fruit2!"

elif test [\$1 -gt \$2]

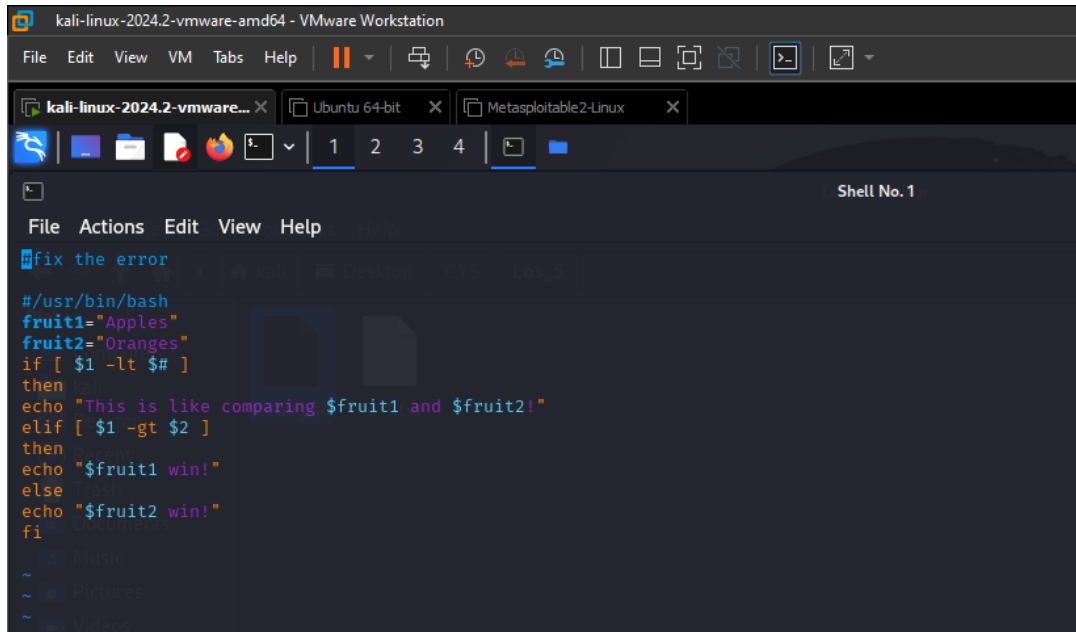
then

echo '\$fruit1 win!'

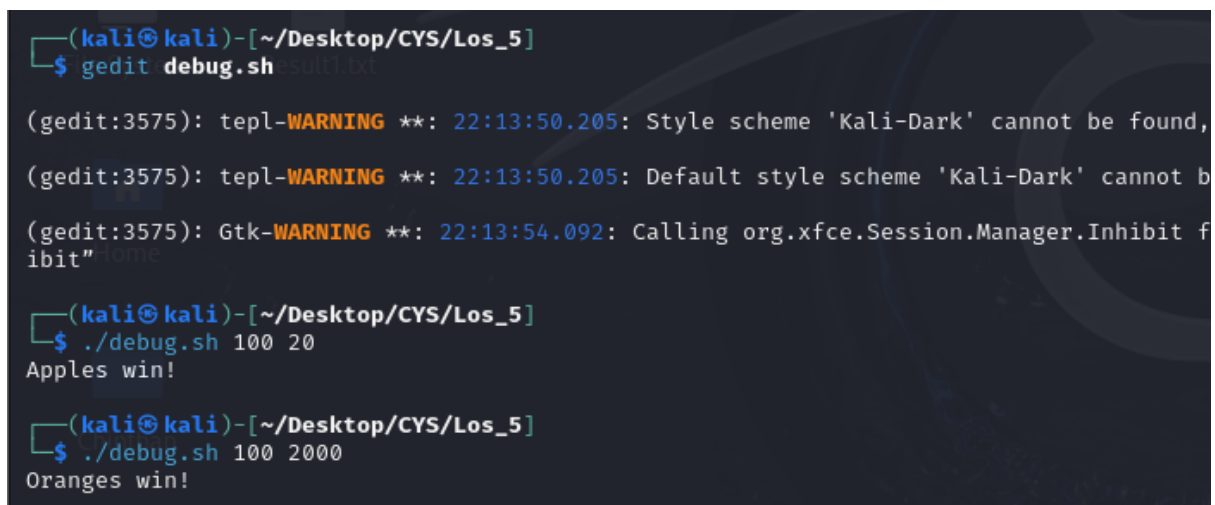
else

echo "Fruit2 win!"

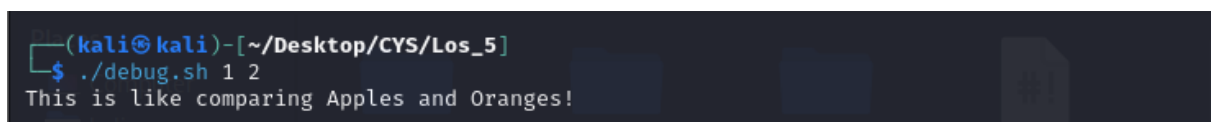
done



```
kali-linux-2024.2-vmware-amd64 - VMware Workstation
File Edit View VM Tabs Help
kali-linux-2024.2-vmware... X Ubuntu 64-bit X Metasploitable2-Linux X
1 2 3 4
Shell No. 1
File Actions Edit View Help
fix the error
#usr/bin/bash
fruit1="Apples"
fruit2="Oranges"
if [ $1 -lt $# ]
then
echo "This is like comparing $fruit1 and $fruit2!"
elif [ $1 -gt $2 ]
then
echo "$fruit1 win!"
else
echo "$fruit2 win!"
fi
~
~
~
```



```
(kali@kali)-[~/Desktop/CYS/Los_5]
$ gedit debug.sh result1.txt
(gedit:3575): tepl-WARNING **: 22:13:50.205: Style scheme 'Kali-Dark' cannot be found,
(gedit:3575): tepl-WARNING **: 22:13:50.205: Default style scheme 'Kali-Dark' cannot b
(gedit:3575): Gtk-WARNING **: 22:13:54.092: Calling org.xfce.Session.Manager.Inhibit f
ibit" home
(kali@kali)-[~/Desktop/CYS/Los_5]
$ ./debug.sh 100 20
Apples win!
(kali@kali)-[~/Desktop/CYS/Los_5]
$ ./debug.sh 100 2000
Oranges win!
```



```
(kali@kali)-[~/Desktop/CYS/Los_5]
$ ./debug.sh 1 2
This is like comparing Apples and Oranges!
```