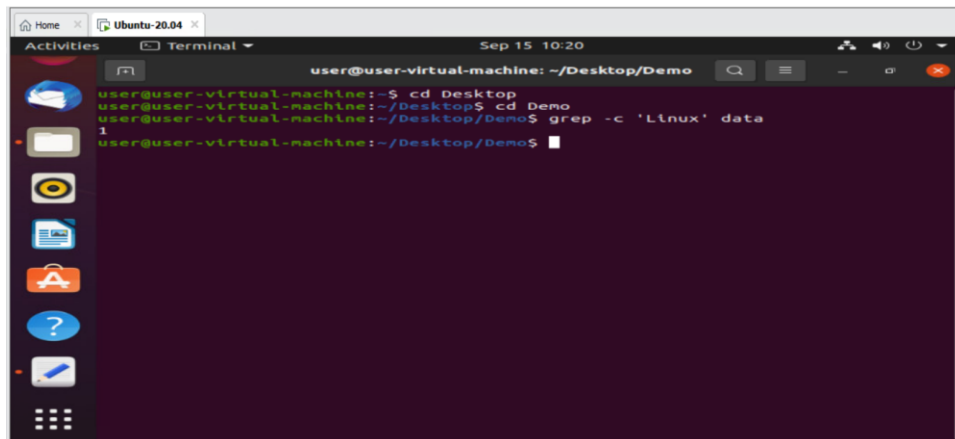


1. Grep – c

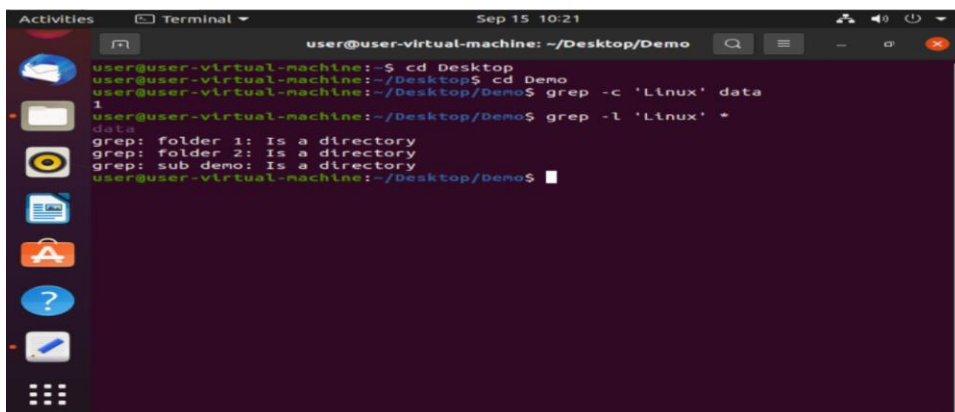
It displays in how many lines the particular word(here linux) has occurred.



```
user@user-virtual-machine:~$ cd Desktop
user@user-virtual-machine:~/Desktop$ cd Demo
user@user-virtual-machine:~/Desktop/Demo$ grep -c 'Linux' data
1
user@user-virtual-machine:~/Desktop/Demo$
```

2. Grep – l*

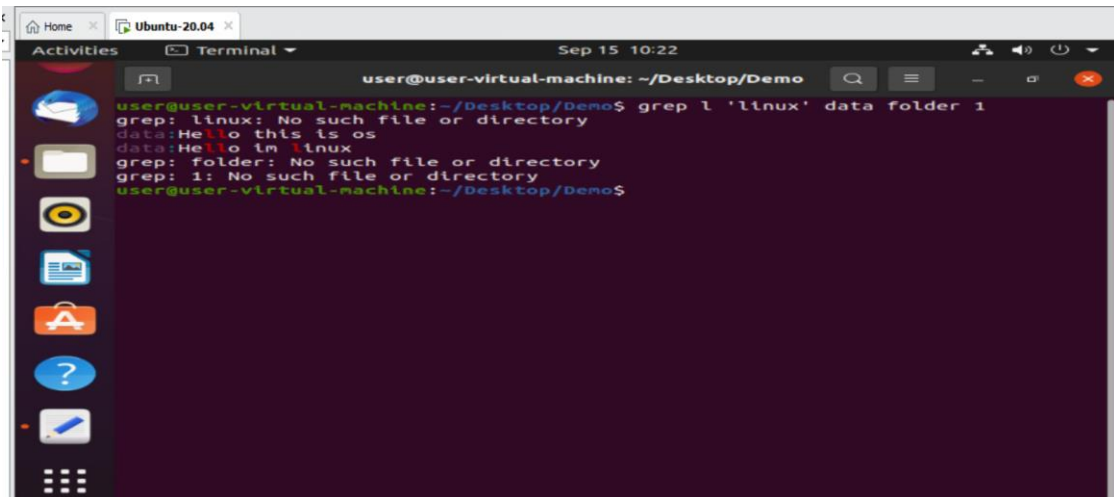
It displays all the folders and directory in which the particular word is present



```
user@user-virtual-machine:~$ cd Desktop
user@user-virtual-machine:~/Desktop$ cd Demo
user@user-virtual-machine:~/Desktop/Demo$ grep -c 'Linux' data
1
user@user-virtual-machine:~/Desktop/Demo$ grep -l 'Linux' *
data
grep: folder 1: Is a directory
grep: folder 2: Is a directory
grep: sub demo: Is a directory
user@user-virtual-machine:~/Desktop/Demo$
```

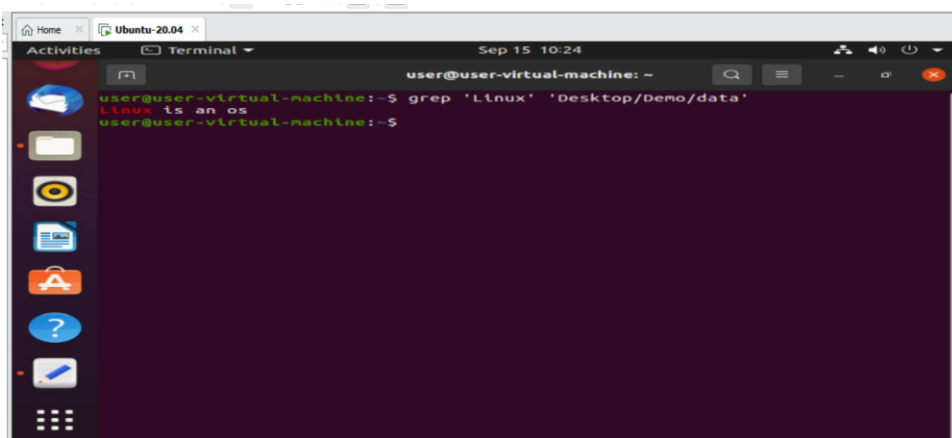
3. Grep – I

This command is used to display the particular pattern with ignoring case sensitive.



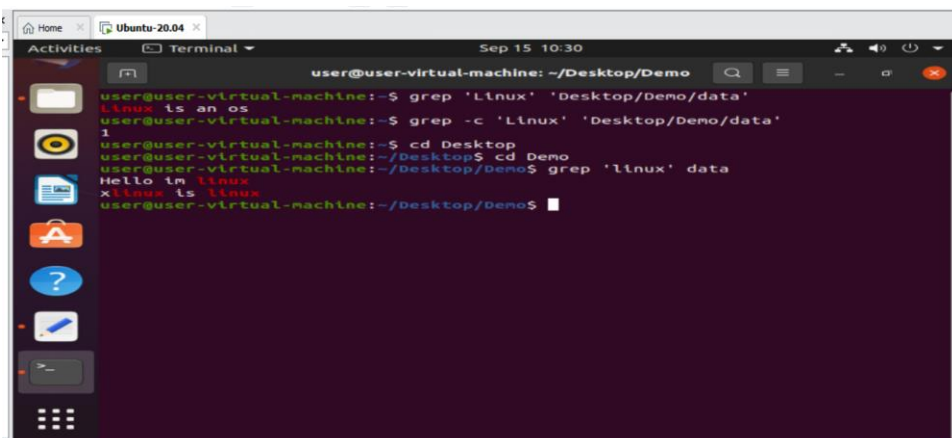
```
user@user-virtual-machine: ~/Desktop/Demo
user@user-virtual-machine:~/Desktop/Demo$ grep -l 'linux' data folder 1
grep: linux: No such file or directory
data:Hello this is os
data:Hello im linux
grep: folder: No such file or directory
grep: 1: No such file or directory
user@user-virtual-machine:~/Desktop/Demo$
```

4. Grep 'pattern name' 'directory'



```
user@user-virtual-machine: ~
user@user-virtual-machine:~$ grep 'Linux' 'Desktop/Demo/data'
Linux is an os
user@user-virtual-machine:~$
```

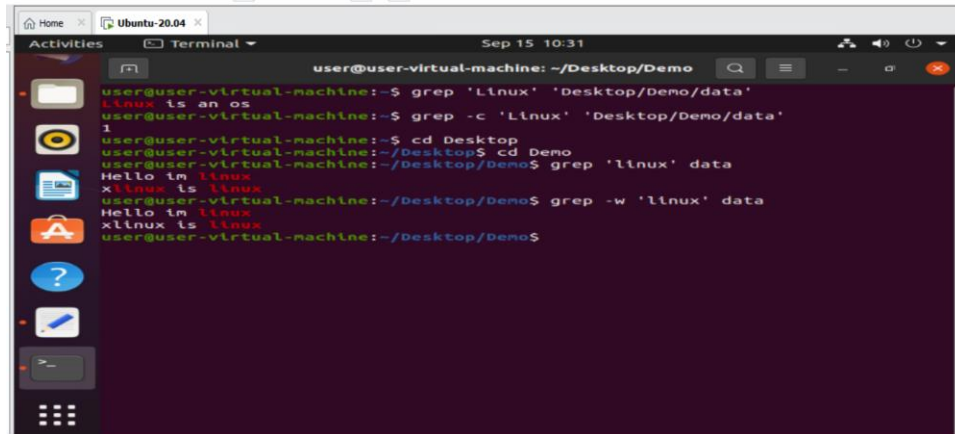
5. Grep 'pattern name' 'filename'



```
user@user-virtual-machine: ~/Desktop/Demo
user@user-virtual-machine:~$ grep 'Linux' 'Desktop/Demo/data'
Linux is an os
user@user-virtual-machine:~$ grep -c 'Linux' 'Desktop/Demo/data'
1
user@user-virtual-machine:~$ cd Desktop
user@user-virtual-machine:~/Desktop$ cd Demo
user@user-virtual-machine:~/Desktop/Demo$ grep 'linux' data
Hello im linux
Linux is linux
user@user-virtual-machine:~/Desktop/Demo$
```

6. Grep -w

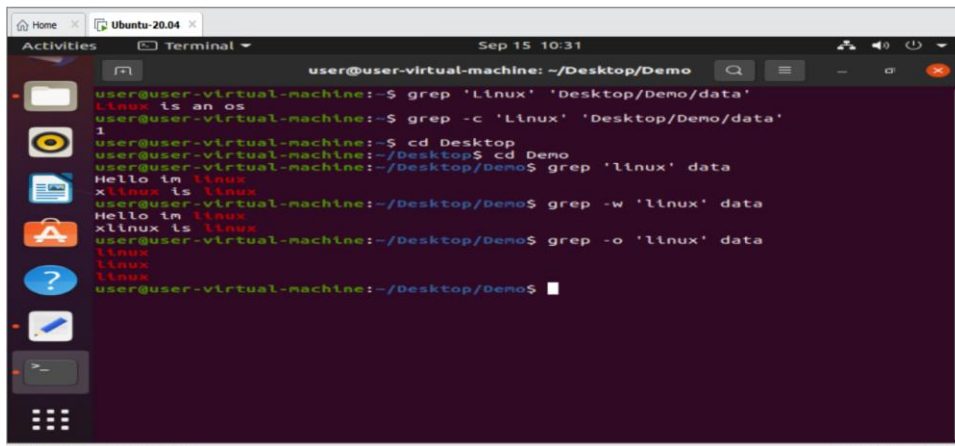
This command is used to print the pattern that matched whole word



```
user@user-virtual-machine:~$ grep 'Linux' 'Desktop/Demo/data'
Linux is an os
user@user-virtual-machine:~$ grep -c 'Linux' 'Desktop/Demo/data'
1
user@user-virtual-machine:~$ cd Desktop
user@user-virtual-machine:~/Desktop$ cd Demo
user@user-virtual-machine:~/Desktop/Demo$ grep 'linux' data
Hello im linux
Xlinux is linux
user@user-virtual-machine:~/Desktop/Demo$ grep -w 'linux' data
Hello im linux
Xlinux is linux
user@user-virtual-machine:~/Desktop/Demo$
```

7. Grep –o

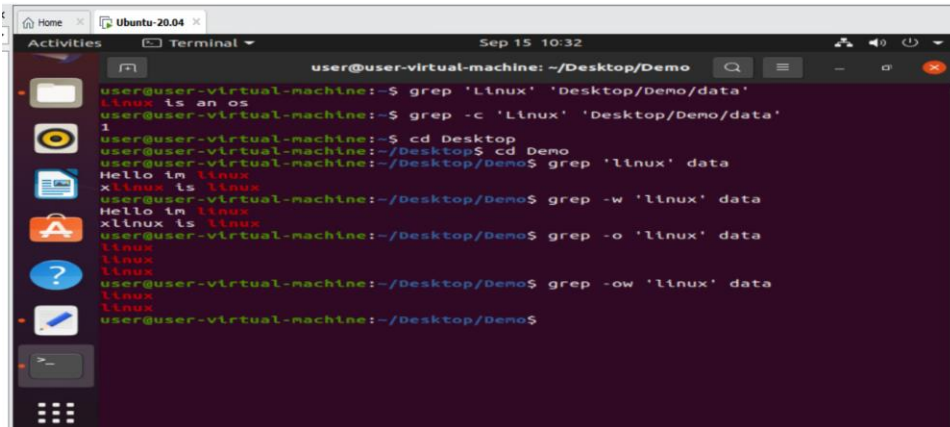
This command is used to print only the matched parts of a matching line, with each such part on a separate output line.



```
user@user-virtual-machine:~$ grep 'Linux' 'Desktop/Demo/data'
Linux is an os
user@user-virtual-machine:~$ grep -c 'Linux' 'Desktop/Demo/data'
1
user@user-virtual-machine:~$ cd Desktop
user@user-virtual-machine:~/Desktop$ cd Demo
user@user-virtual-machine:~/Desktop/Demo$ grep 'linux' data
Hello im linux
Xlinux is linux
user@user-virtual-machine:~/Desktop/Demo$ grep -w 'linux' data
Hello im linux
Xlinux is linux
user@user-virtual-machine:~/Desktop/Demo$ grep -o 'linux' data
linux
linux
linux
user@user-virtual-machine:~/Desktop/Demo$
```

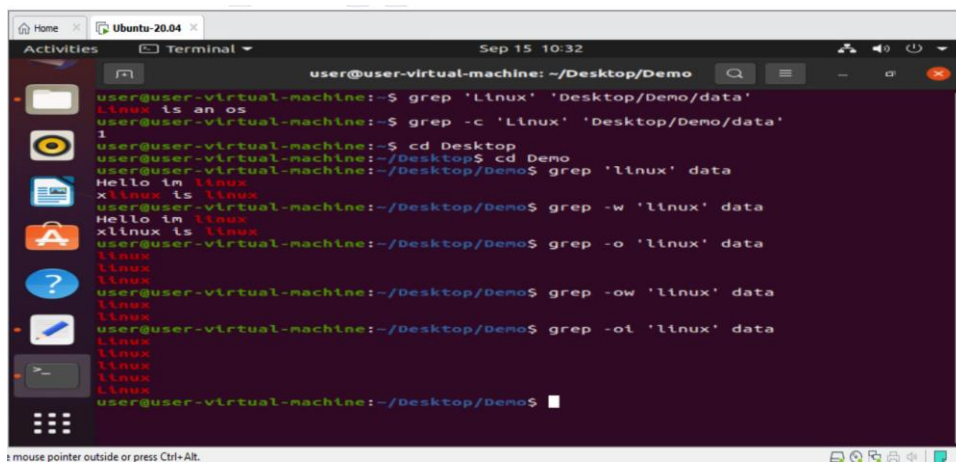
8. Grep –ow

This command is used to print all the specific pattern without any matching or unmatching.



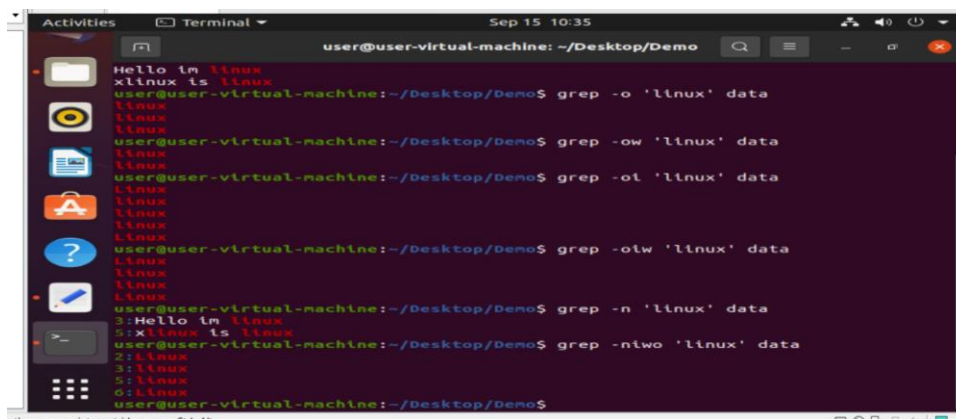
```
user@user-virtual-machine: ~/Desktop/Demo
user@user-virtual-machine:~$ grep 'Linux' 'Desktop/Demo/data'
Linux is an os
user@user-virtual-machine:~$ grep -c 'Linux' 'Desktop/Demo/data'
1
user@user-virtual-machine:~$ cd Desktop
user@user-virtual-machine:~/Desktop$ cd Demo
user@user-virtual-machine:~/Desktop/Demo$ grep 'linux' data
Hello im linux
xlinux is linux
user@user-virtual-machine:~/Desktop/Demo$ grep -w 'linux' data
Hello im linux
xlinux is linux
user@user-virtual-machine:~/Desktop/Demo$ grep -o 'linux' data
linux
linux
linux
user@user-virtual-machine:~/Desktop/Demo$ grep -ow 'linux' data
linux
linux
linux
user@user-virtual-machine:~/Desktop/Demo$
```

9.Grep -oi



```
user@user-virtual-machine:~/Desktop/Demo
user@user-virtual-machine:~$ grep 'Linux' 'Desktop/Demo/data'
Linux is an os
user@user-virtual-machine:~$ grep -c 'Linux' 'Desktop/Demo/data'
1
user@user-virtual-machine:~$ cd Desktop
user@user-virtual-machine:~/Desktop$ cd Demo
user@user-virtual-machine:~/Desktop/Demo$ grep 'linux' data
Hello im linux
xlinux is linux
user@user-virtual-machine:~/Desktop/Demo$ grep -w 'linux' data
Hello im linux
xlinux is linux
user@user-virtual-machine:~/Desktop/Demo$ grep -o 'linux' data
linux
linux
linux
user@user-virtual-machine:~/Desktop/Demo$ grep -ow 'linux' data
linux
linux
linux
user@user-virtual-machine:~/Desktop/Demo$ grep -oi 'linux' data
linux
linux
linux
linux
linux
linux
linux
user@user-virtual-machine:~/Desktop/Demo$
```

10.Grep -oiw



```
user@user-virtual-machine:~/Desktop/Demo
user@user-virtual-machine:~/Desktop/Demo$ grep -o 'linux' data
linux
linux
linux
user@user-virtual-machine:~/Desktop/Demo$ grep -ow 'linux' data
linux
linux
linux
user@user-virtual-machine:~/Desktop/Demo$ grep -oi 'linux' data
linux
linux
linux
linux
linux
linux
linux
user@user-virtual-machine:~/Desktop/Demo$ grep -oiw 'linux' data
linux
linux
linux
user@user-virtual-machine:~/Desktop/Demo$ grep -n 'linux' data
3:Hello im linux
5:xlinux is linux
user@user-virtual-machine:~/Desktop/Demo$ grep -niw 'linux' data
2:linux
3:linux
5:linux
6:linux
user@user-virtual-machine:~/Desktop/Demo$
```

11.Grep -n

The screenshot shows a terminal window titled 'user@user-virtual-machine: ~/Desktop/Demo'. The user has executed several grep commands to search for the word 'linux' in a file named 'data'.

```

user@user-virtual-machine:~/Desktop/Demo$ grep -w 'linux' data
Hello im linux
linux is linux
user@user-virtual-machine:~/Desktop/Demo$ grep -o 'linux' data
linux
linux
linux
linux
user@user-virtual-machine:~/Desktop/Demo$ grep -ow 'linux' data
linux
linux
linux
linux
linux
linux
user@user-virtual-machine:~/Desktop/Demo$ grep -ol 'linux' data
linux
linux
linux
linux
linux
linux
user@user-virtual-machine:~/Desktop/Demo$ grep -oiw 'linux' data
linux
linux
linux
linux
linux
linux
user@user-virtual-machine:~/Desktop/Demo$ grep -n 'linux' data
3:Hello im linux
5:linux is linux
user@user-virtual-machine:~/Desktop/Demo$ grep -niw 'linux' data
2:linux
3:linux
5:linux
6:linux

```

14.Grep –ni

15.Grep –no

16.Grep –now

17.Grep –nowi

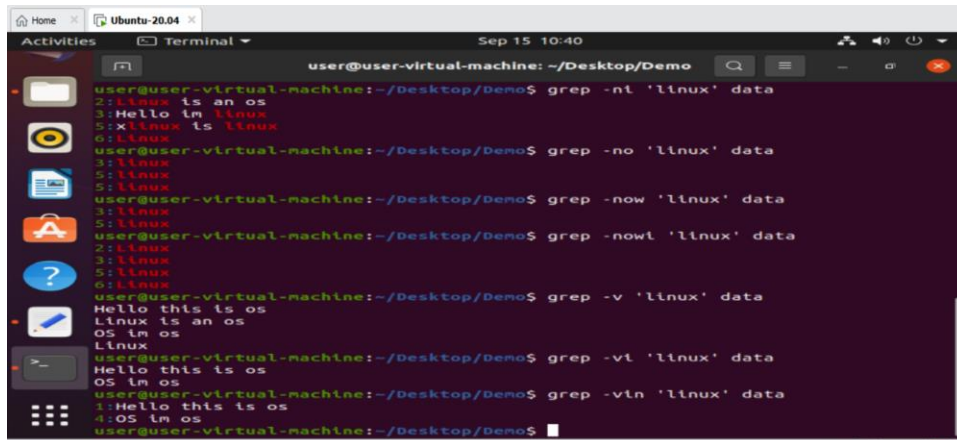
```
user@user-virtual-machine: ~/Desktop/Demo
1:linux
2:linux
3:linux
user@user-virtual-machine:~/Desktop/Demo$ grep -n 'linux' data
3:Hello im linux
5:xlinux is linux
user@user-virtual-machine:~/Desktop/Demo$ grep -niw 'linux' data
2:linux
3:linux
5:linux
6:linux
user@user-virtual-machine:~/Desktop/Demo$ grep -niw 'linux' data
2:linux is an os
3:Hello im linux
5:xlinux is linux
6:linux
user@user-virtual-machine:~/Desktop/Demo$ grep -ni 'linux' data
2:linux is an os
3:Hello im linux
5:xlinux is linux
6:linux
user@user-virtual-machine:~/Desktop/Demo$ grep -no 'linux' data
3:linux
5:linux
5:linux
user@user-virtual-machine:~/Desktop/Demo$ grep -now 'linux' data
3:linux
5:linux
6:linux
user@user-virtual-machine:~/Desktop/Demo$
```

```
user@user-virtual-machine:~/Desktop/Demo$ grep -niw 'linux' data
5:xlinux is linux
user@user-virtual-machine:~/Desktop/Demo$ grep -niw 'linux' data
2:linux
3:linux
5:linux
6:linux
user@user-virtual-machine:~/Desktop/Demo$ grep -niw 'linux' data
2:linux is an os
3:Hello im linux
5:xlinux is linux
6:linux
user@user-virtual-machine:~/Desktop/Demo$ grep -ni 'linux' data
2:linux is an os
3:Hello im linux
5:xlinux is linux
6:linux
user@user-virtual-machine:~/Desktop/Demo$ grep -no 'linux' data
3:linux
5:linux
5:linux
user@user-virtual-machine:~/Desktop/Demo$ grep -now 'linux' data
3:linux
5:linux
6:linux
user@user-virtual-machine:~/Desktop/Demo$
```

18.Grep -v

```
user@user-virtual-machine:~/Desktop/Demo$ grep -niw 'linux' data
6:linux
2:linux is an os
3:Hello im linux
5:xlinux is linux
6:linux
user@user-virtual-machine:~/Desktop/Demo$ grep -ni 'linux' data
2:linux is an os
3:Hello im linux
5:xlinux is linux
6:linux
user@user-virtual-machine:~/Desktop/Demo$ grep -no 'linux' data
3:linux
5:linux
5:linux
user@user-virtual-machine:~/Desktop/Demo$ grep -now 'linux' data
3:linux
5:linux
6:linux
user@user-virtual-machine:~/Desktop/Demo$ grep -nowi 'linux' data
2:linux
3:linux
5:linux
6:linux
user@user-virtual-machine:~/Desktop/Demo$ grep -v 'linux' data
Hello this is os
Linux is an os
OS im os
Linux
user@user-virtual-machine:~/Desktop/Demo$
```

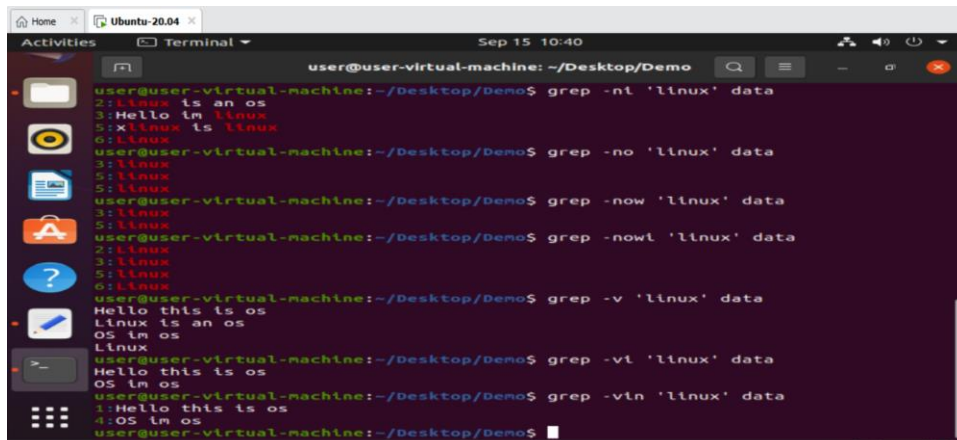
19.Grep -vi



A terminal window titled 'user@user-virtual-machine: ~/Desktop/Demo' showing the following commands and output:

```
user@user-virtual-machine:~/Desktop/Demo$ grep -nt 'linux' data
2:Linux is an os
3:Hello im linux
5:Linux is linux
6:Linux
user@user-virtual-machine:~/Desktop/Demo$ grep -no 'linux' data
3:Linux
5:Linux
5:Linux
user@user-virtual-machine:~/Desktop/Demo$ grep -now 'linux' data
3:Linux
5:Linux
6:Linux
user@user-virtual-machine:~/Desktop/Demo$ grep -nowl 'linux' data
2:Linux
3:Linux
5:Linux
6:Linux
user@user-virtual-machine:~/Desktop/Demo$ grep -v 'linux' data
Hello this is os
Linux is an os
OS im os
Linux
user@user-virtual-machine:~/Desktop/Demo$ grep -vl 'linux' data
Hello this is os
OS im os
user@user-virtual-machine:~/Desktop/Demo$ grep -vin 'linux' data
1:Hello this is os
4:OS im os
user@user-virtual-machine:~/Desktop/Demo$
```

20.Grep –vin



A terminal window titled 'user@user-virtual-machine: ~/Desktop/Demo' showing the following commands and output:

```
user@user-virtual-machine:~/Desktop/Demo$ grep -nt 'linux' data
2:Linux is an os
3:Hello im linux
5:Linux is linux
6:Linux
user@user-virtual-machine:~/Desktop/Demo$ grep -no 'linux' data
3:Linux
5:Linux
5:Linux
user@user-virtual-machine:~/Desktop/Demo$ grep -now 'linux' data
3:Linux
5:Linux
6:Linux
user@user-virtual-machine:~/Desktop/Demo$ grep -nowl 'linux' data
2:Linux
3:Linux
5:Linux
6:Linux
user@user-virtual-machine:~/Desktop/Demo$ grep -v 'linux' data
Hello this is os
Linux is an os
OS im os
Linux
user@user-virtual-machine:~/Desktop/Demo$ grep -vl 'linux' data
Hello this is os
OS im os
user@user-virtual-machine:~/Desktop/Demo$ grep -vin 'linux' data
1:Hello this is os
4:OS im os
user@user-virtual-machine:~/Desktop/Demo$
```

21.Grep –vino

22.Grep – ^

23.Grep – ^ linux

24.Grep – l ^

25.Grep –l \$

26.Grep – \$

27.Grep –n

```
user@user-virtual-machine: ~/Desktop/Demo
user@user-virtual-machine:~/Desktop/Demo$ grep -vno 'linux' data
user@user-virtual-machine:~/Desktop/Demo$ grep '^linux' data
linux
user@user-virtual-machine:~/Desktop/Demo$ grep -i '^linux' data
linux
user@user-virtual-machine:~/Desktop/Demo$ grep -i 'os$' data
Hello this is os
Linux is an os
OS is os
user@user-virtual-machine:~/Desktop/Demo$ grep -n 'os$' data
data:Linux is an os
data:Hello is linux
data:Linux is linux
data:Linux
user@user-virtual-machine:~/Desktop/Demo$ grep -n 'os$' data
grep: n: No such file or directory
grep: os$: No such file or directory
user@user-virtual-machine:~/Desktop/Demo$ grep -n 'os$' data
1:Hello this is os
2:Linux is an os
4:OS is os
user@user-virtual-machine:~/Desktop/Demo$ grep -nl 'os$' data
1:Hello this is os
2:Linux is an os
4:OS is os
user@user-virtual-machine:~/Desktop/Demo$
```

28.Grep niw

29. Grep nio

```
user@user-virtual-machine: ~/Desktop/Demo
user@user-virtual-machine:~/Desktop/Demo$ grep -n 'os$' data
grep: os$: No such file or directory
data:Linux is an os
data:Hello is linux
data:Linux is linux
data:Linux
user@user-virtual-machine:~/Desktop/Demo$ grep -n 'os$' data
grep: n: No such file or directory
grep: os$: No such file or directory
user@user-virtual-machine:~/Desktop/Demo$ grep -n 'os$' data
1:Hello this is os
2:Linux is an os
4:OS is os
user@user-virtual-machine:~/Desktop/Demo$ grep -nl 'os$' data
1:Hello this is os
2:Linux is an os
4:OS is os
user@user-virtual-machine:~/Desktop/Demo$ grep -nlw 'os$' data
1:Hello this is os
2:Linux is an os
4:OS is os
user@user-virtual-machine:~/Desktop/Demo$ grep -nlo 'os$' data
1:Hello this is os
2:Linux is an os
4:OS is os
user@user-virtual-machine:~/Desktop/Demo$
```

30.Grep ^os

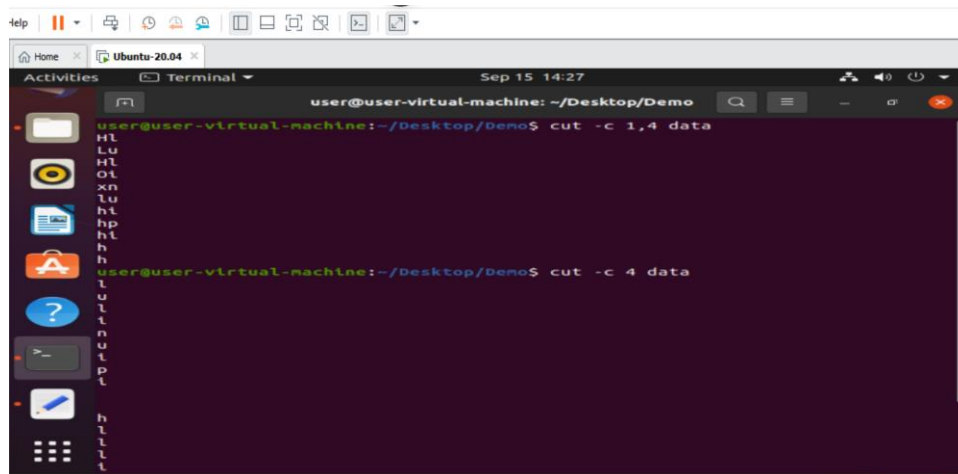
31.Grep h.p\$

32. Grep h..p\$

```
user@user-virtual-machine: ~/Desktop/Demo
user@user-virtual-machine:~$ cd Desktop
user@user-virtual-machine:~/Desktop$ cd demo
bash: cd: demo: No such file or directory
user@user-virtual-machine:~/Desktop$ cd Demo
user@user-virtual-machine:~/Desktop/Demo$ grep -nt -E "^os .* os$" data
4:OS is os
user@user-virtual-machine:~/Desktop/Demo$ grep -nt -E "^h.p$" data
11:h.p
user@user-virtual-machine:~/Desktop/Demo$ grep -nt -E "^h..p$" data
8:h1.p
user@user-virtual-machine:~/Desktop/Demo$ grep -nt -E "^h[l]p$" data
user@user-virtual-machine:~/Desktop/Demo$
```


33. \$cut -c 1,4 data2

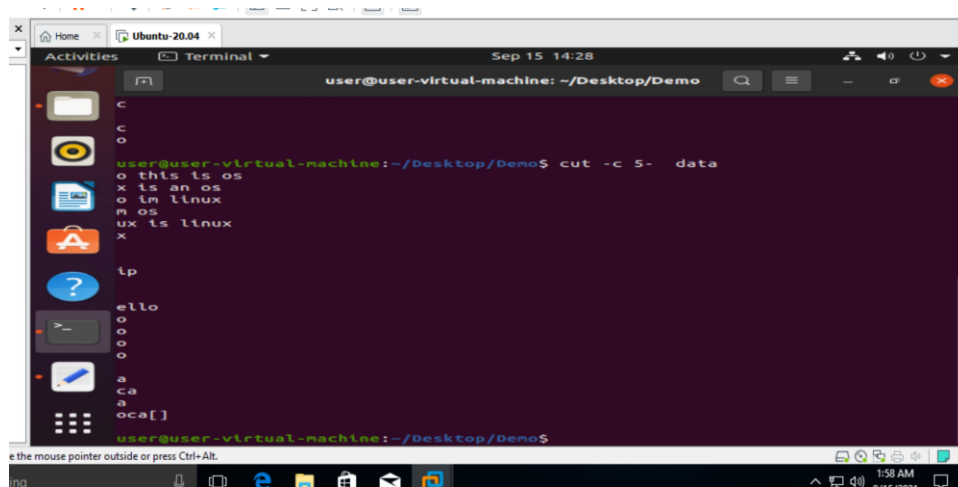
34. \$cut -c 4 data2



A terminal window titled 'Terminal' with the prompt 'user@user-virtual-machine: ~/Desktop/Demo'. The command 'cut -c 1,4 data2' has been executed, resulting in the following output:

```
Hl
Lu
Hl
Ot
xn
lu
hi
hp
hi
h
h
user@user-virtual-machine:~/Desktop/Demo$ cut -c 4 data2
t
u
l
t
n
u
i
p
l
h
l
l
l
l
```

35. \$cut -c 5- data2



A terminal window titled 'Terminal' with the prompt 'user@user-virtual-machine: ~/Desktop/Demo'. The command 'cut -c 5- data2' has been executed, resulting in the following output:

```
c
c
o
o this is os
x is an os
o im linux
n os
ux is linux
x
ip
ello
o
o
o
o
a
ca
a
oca[]
user@user-virtual-machine:~/Desktop/Demo$
```

36. \$cut -c 1-5 data2

A terminal window titled 'Terminal' with the prompt 'user@user-virtual-machine: ~/Desktop/Demo'. The command 'cut -c 1-5 data' has been executed, resulting in the following output:

```
co ca
coo c
coca
cooo

Hello
Linux
Hello
OS ln
xlinu
linux
hlll
hllp
hlll
hp
hzp
os he
hello
hlllo
hylllo
hylllo
hrto
co ca
coo c
coca
cooo

user@user-virtual-machine:~/Desktop/Demo$
```

37.\$cut -c 4-9 data2

38. \$cut -c 1,5-9 data2

A terminal window titled 'Terminal' with the prompt 'user@user-virtual-machine: ~/Desktop/Demo'. The command 'cut -c 1-5,9 data' has been executed, resulting in the following output:

```
co ca
coo c
coca
cooo

Hello!
Linux
Hello
OS ln
xlinus
linux
hlll
hllp
hlll
hp
hzp
os he
hello
hlllo
hylllo
hylllo
hrto
co ca
coo c
coca
cooo]

user@user-virtual-machine:~/Desktop/Demo$
```

39.\$cut -c 1-5 , 10-15 data

```
co ca
coo c
coca
cooo

user@user-virtual-machine:~/Desktop/Demo$ cut -c 1-5,10-15 data
Hello is o
Linuxan os
HelloLinux
OS im
xlinu linux
linux
htll
htlp
htlll
hp
hzp
os he
hello
hillo
hylllo
hytlo
hrto
co ca
coo c
coca
cooo

user@user-virtual-machine:~/Desktop/Demo$
```

40.\$cut -b -5 data

```
co ca
coo c
coca
cooo

user@user-virtual-machine:~/Desktop/Demo$ cut -b -5 data
Hello
Linux
Hello
OS im
xlinu
linux
htll
htlp
htlll
hp
hzp
os he
hello
hillo
hylllo
hytlo
hrto
co ca
coo c
coca
cooo

user@user-virtual-machine:~/Desktop/Demo$
```

41.Cut -b 5-9 data

```
co ca
coo c
coca
cooo

user@user-virtual-machine:~/Desktop/Demo$ cut -b 5-9 data
o thl
x is
o lm
n os
ux is
x

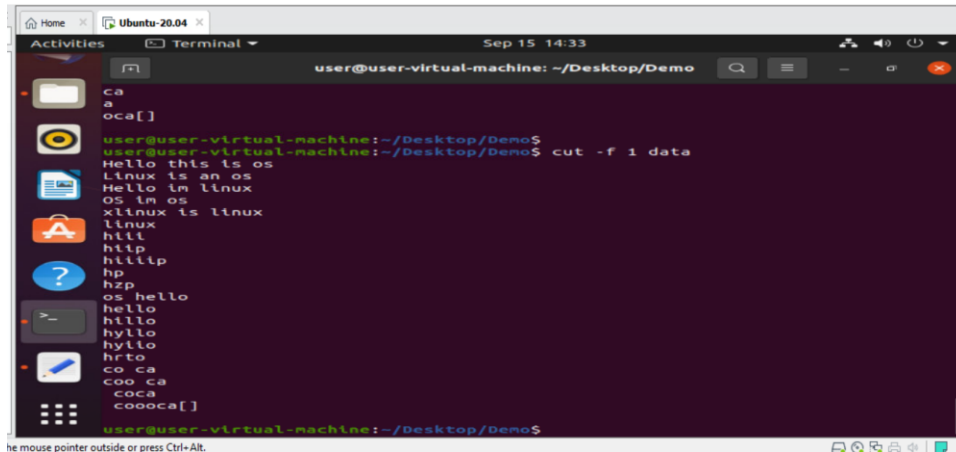
lp

ello
oo
o

a
ca
a
oca[]

user@user-virtual-machine:~/Desktop/Demo$
```

42. Cut -f 1 data



A terminal window titled 'user@user-virtual-machine: ~/Desktop/Demo' showing the command `cut -f 1 data` and its output. The output consists of the first column of a file named 'data', which contains various words and phrases separated by spaces. The output is as follows:

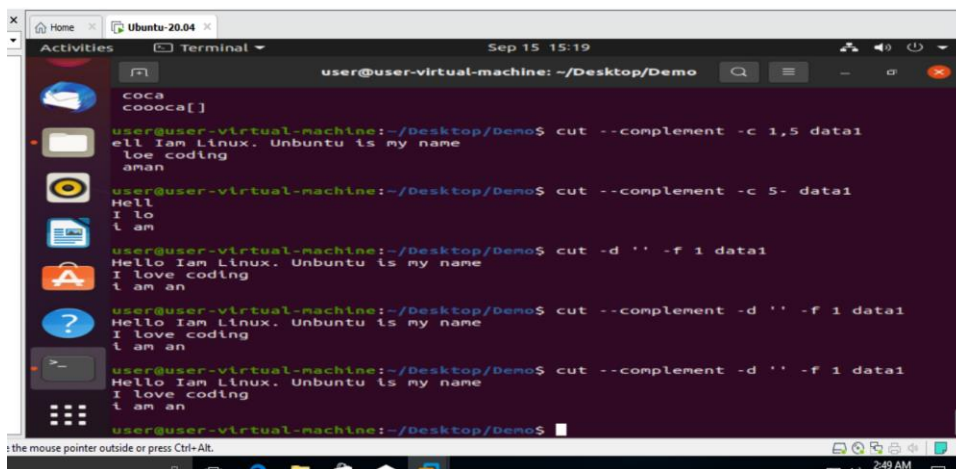
```
ca
a
oca[]
user@user-virtual-machine:~/Desktop/Demo$ cut -f 1 data
Hello this is os
Linux is an os
Hello Im Linux
OS Im os
xlinux is linux
linux
hll
hllp
hlllp
hp
hzp
os hello
hello
hlllo
hylllo
hytlo
hrto
co ca
coo ca
coca
coooca[]
user@user-virtual-machine:~/Desktop/Demo$
```

43. `$cut --complement -c 1,5 data1` :- This command is used to display the selected column of the file.

44. `$cut --complement -c 5- data1` - This command is used to display the the data from 1 column to 4th column

45. `Cut -d ' ' -f 1 data1`

46. `$cut --complement -d ' ' -f 1 data1`



A terminal window titled 'user@user-virtual-machine: ~/Desktop/Demo' showing the command `cut --complement -c 1,5 data1` and its output. The output consists of the first column of a file named 'data1', which contains various words and phrases separated by spaces. The output is as follows:

```
coca
coooca[]
user@user-virtual-machine:~/Desktop/Demo$ cut --complement -c 1,5 data1
ell Iam Linux. Unbuntu is my name
Ioe coding
aman
user@user-virtual-machine:~/Desktop/Demo$ cut --complement -c 5- data1
Hell
I lo
t an
user@user-virtual-machine:~/Desktop/Demo$ cut -d ' ' -f 1 data1
Hello Iam Linux. Unbuntu is my name
I love coding
t am an
user@user-virtual-machine:~/Desktop/Demo$ cut --complement -d ' ' -f 1 data1
Hello Iam Linux. Unbuntu is my name
I love coding
t am an
user@user-virtual-machine:~/Desktop/Demo$ cut --complement -d ' ' -f 1 data1
Hello Iam Linux. Unbuntu is my name
I love coding
t am an
user@user-virtual-machine:~/Desktop/Demo$
```

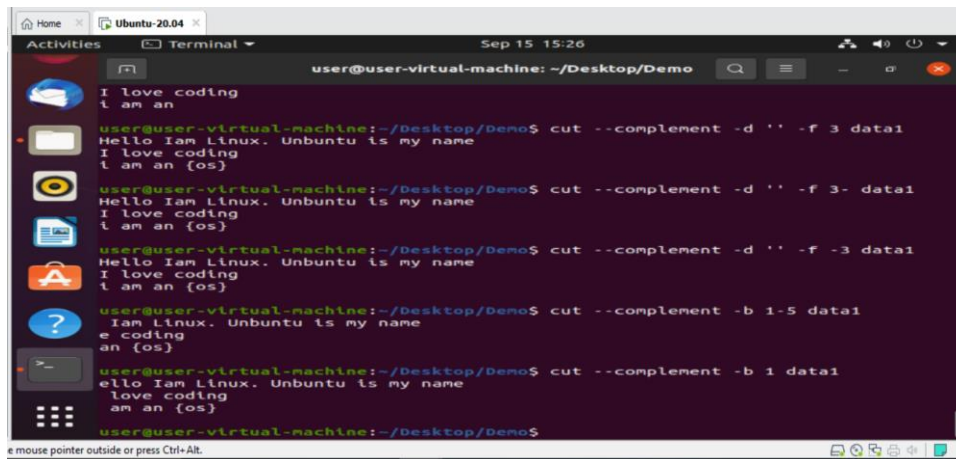
47. `$cut --complement -d ' ' -f 3 data1`

48. `$cut --complement -d ' ' -f 3- data1`

49. `$cut --complement -d ' ' -f -3 data1`

50. `$cut --complement -b 1-5 data1`

51. `$cut -complement -b 1 data1`



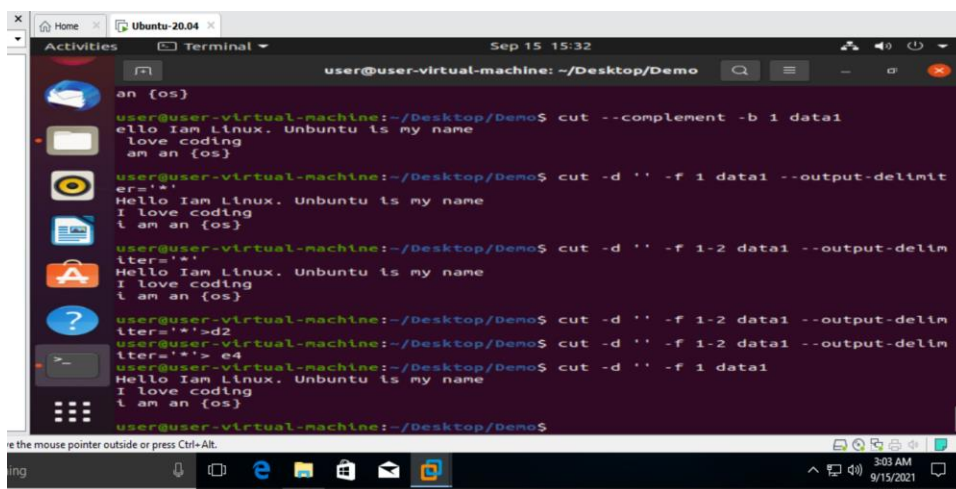
A terminal window titled 'Terminal' with a subtitle 'Sep 15 15:26'. The prompt is 'user@user-virtual-machine: ~/Desktop/Demo'. The input text is:
I love coding
I am an
Hello Iam Linux. Unbuntu is my name
I love coding
I am an {os}
The command executed is `cut --complement -d ' ' -f 3 data1`. The output is:
Hello Iam Linux. Unbuntu is my name
I love coding
I am an {os}

52. `$ cut -d ' ' -f 1 data1 -output-delimiter="*"`

53. `$cut -complement -d ' ' -f 1 data1`

54. `$cut -complement -d ' ' -f 1 data1 -output-delimiter="*" >d2`

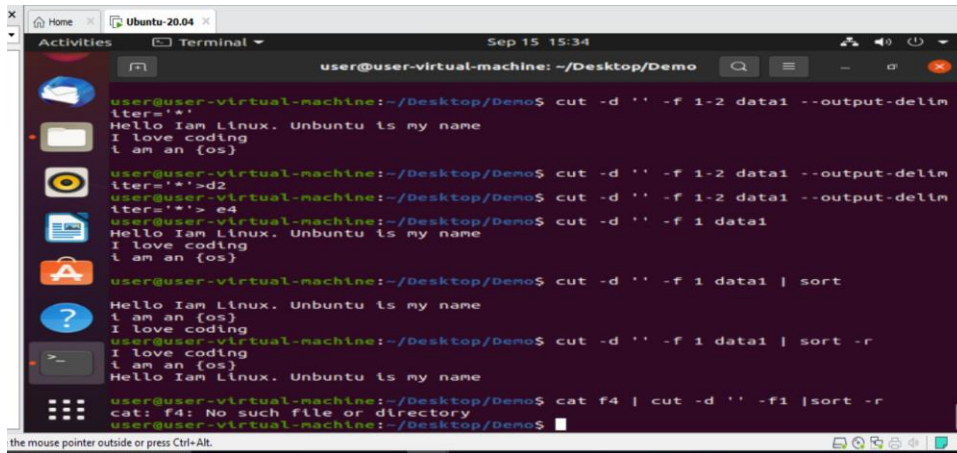
55. `$cut -complement -d ' ' -f 1 data1 -output-delimiter="*" >e4`



A terminal window titled 'Terminal' with a subtitle 'Sep 15 15:32'. The prompt is 'user@user-virtual-machine: ~/Desktop/Demo'. The input text is:
an {os}
Hello Iam Linux. Unbuntu is my name
I love coding
I am an {os}
The command executed is `cut --complement -b 1 data1`. The output is:
ello Iam Linux. Unbuntu is my name
love coding
am an {os}

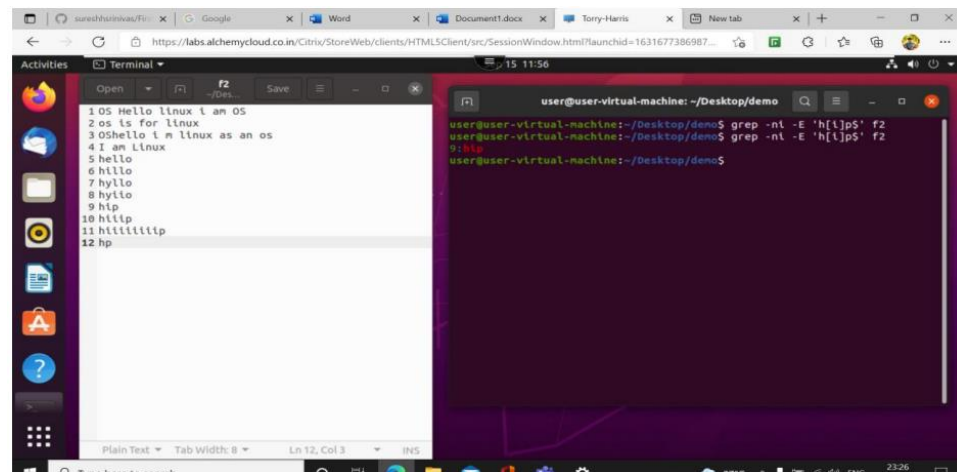
56. `Cut -d ' ' -f 1 data1 | sort`

57. `Cut -d ' ' -r 1 data1 | sort -r`



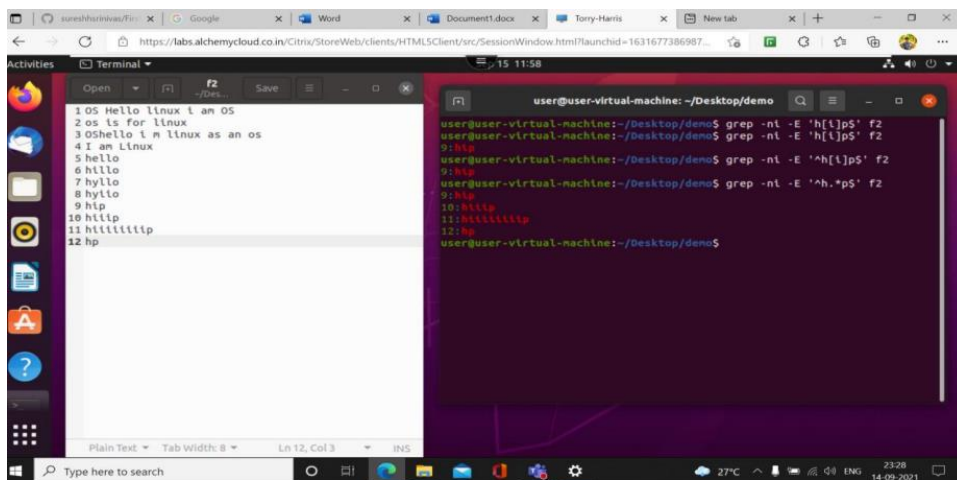
```
user@user-virtual-machine: ~/Desktop/Demo
user@user-virtual-machine:~/Desktop/Demo$ cut -d ' ' -f 1-2 data1 --output-delimiter='*'
Hello Iam Linux. Ubuntu is my name
I love coding
I am an (os)
user@user-virtual-machine:~/Desktop/Demo$ cut -d ' ' -f 1-2 data1 --output-delimiter='*'>d2
user@user-virtual-machine:~/Desktop/Demo$ cut -d ' ' -f 1-2 data1 --output-delimiter='*'> e4
user@user-virtual-machine:~/Desktop/Demo$ cut -d ' ' -f 1 data1
Hello Iam Linux. Ubuntu is my name
I love coding
I am an (os)
user@user-virtual-machine:~/Desktop/Demo$ cut -d ' ' -f 1 data1 | sort
Hello Iam Linux. Ubuntu is my name
I am an (os)
I love coding
user@user-virtual-machine:~/Desktop/Demo$ cut -d ' ' -f 1 data1 | sort -r
I love coding
I am an (os)
Hello Iam Linux. Ubuntu is my name
user@user-virtual-machine:~/Desktop/Demo$ cat f4 | cut -d ' ' -f1 | sort -r
cat: f4: No such file or directory
user@user-virtual-machine:~/Desktop/Demo$
```

58. `$grep -ni -E '^h[l]p$' f2`



```
user@user-virtual-machine: ~/Desktop/demo
user@user-virtual-machine:~/Desktop/demo$ grep -ni -E 'h[l]p$' f2
9:hlp
10:http
11:hlllllllp
12:hp
user@user-virtual-machine:~/Desktop/demo$
```

59. `$grep -ni -E '^h.*p$' f2`



```
user@user-virtual-machine: ~/Desktop/demo
user@user-virtual-machine:~/Desktop/demo$ grep -ni -E 'h[l]p$' f2
9:hlp
10:http
11:hlllllllp
12:hp
user@user-virtual-machine:~/Desktop/demo$ grep -ni -E 'h[l]p$' f2
9:hlp
10:http
11:hlllllllp
12:hp
user@user-virtual-machine:~/Desktop/demo$ grep -ni -E '^h[l]p$' f2
9:hlp
10:http
11:hlllllllp
12:hp
user@user-virtual-machine:~/Desktop/demo$ grep -ni -E '^h.*p$' f2
9:hlp
10:http
11:hlllllllp
12:hp
user@user-virtual-machine:~/Desktop/demo$
```

60. `$grep -ni -E '^h[l]*p$' f2`

```
1 os Hello linux i am os
2 os is for linux
3 oshello i m linux as an os
4 i am linux
5 hello
6 hillo
7 hyllo
8 hyllo
9 hlp
10 hllp
11 hlllllllp
12 hp

user@user-virtual-machine: ~/Desktop/demo
user@user-virtual-machine:~/Desktop/demo$ grep -nl -E '^h[l]+p$' f2
9:hlp
10:hllp
11:hlllllllp
12:hp
user@user-virtual-machine:~/Desktop/demo$
```

61. `grep -ni -E '^h[l]+p$' f2`

```
1 os Hello linux i am os
2 os is for linux
3 oshello i m linux as an os
4 i am linux
5 hello
6 hillo
7 hyllo
8 hyllo
9 hlp
10 hllp
11 hlllllllp
12 hp

user@user-virtual-machine: ~/Desktop/demo
user@user-virtual-machine:~/Desktop/demo$ grep -nl -E '^h[l]+p$' f2
9:hlp
10:hllp
11:hlllllllp
12:hp
user@user-virtual-machine:~/Desktop/demo$
```

62. `$grep -ni -E '^h[^\l].*o$' f2`

```
1 os Hello linux i am os
2 os is for linux
3 oshello i m linux as an os
4 i am linux
5 hello
6 hillo
7 hyllo
8 hyllo
9 hlp
10 hllp
11 hlllllllp
12 hp
13 cola co
14 co ca
15 cacca

user@user-virtual-machine: ~/Desktop/demo
user@user-virtual-machine:~/Desktop/demo$ grep -nl -E '^h[^\l].*o$' f2
14:co ca
15:cacca
user@user-virtual-machine:~/Desktop/demo$
```

63. `$grep -n -E '^h[a-z].*' f2`

The screenshot shows a web browser window with a URL from labs.alchemycloud.co.in. It contains two terminal windows. The left terminal displays the contents of a file named 'f2', which includes lines like '105 Hello linux i am OS', '205 is for linux', '305hello i n linux as an os', '4 i am linux', '5 hello', '6 hillo', '7 hyllo', '8 hyllo', '9 hlp', '10 hllp', '11 hlllllllp', '12 hp', '13 cola co', '14 co ca', and '15 cacca'. The right terminal shows the execution of three grep commands: 'grep -nl -E 'h[^y].*os' f2' (outputting lines 6, 7, 8, 9, 10, 11), 'grep -n -E '^[A-Z].*' f2' (outputting lines 1, 3, 4, 10), and 'grep -n -E '^[a-z].*' f2' (outputting lines 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15).

64. Cat data1 | tr '[:upper:]' '[:lower:]'

65. Cat data1 | tr '[:space:]' '\n'

The screenshot shows a terminal window on a system with Ubuntu 20.04. The user has created a file 'data1' containing the text: 'coo ca', 'coca', 'cooooca[]', 'hello iam linux. unbuntu is my name', 'i love coding', and 'i am an (os)'. The terminal shows the following commands and outputs: 'cat data1 | tr '[:upper:]' '[:lower:]'' outputs the same text in lowercase; 'cat data1 | tr '[:a-z:]' '[:A-Z:]'' results in an error 'tr: invalid character class 'a-z''; 'cat data1 | tr '[:space:]' '\n'' outputs the text with each line on a new line, including the closing bracket from the first line.

66. Cat data1 | tr '[H]' '[o]'

67. Cat data1 | tr '[Hil]' '[olx]'

68. Cat data1 | tr 'hel' 'l'

69. Cat data1 | tr '{} '()'

A terminal window titled 'Terminal' with the prompt 'user@user-virtual-machine: ~/Desktop/Demo'. It shows five commands using 'cat data1 | tr' to replace characters in a file named 'data1'. The original content of 'data1' is: 'Hello Iam Linux. Unbuntu is my name', 'I love coding', and 'I am an {os}'. The commands and their outputs are: 1. 'cat data1 | tr '[H]' '[o]'' results in 'oello Iam Linux. Unbuntu is my name'. 2. 'cat data1 | tr '[Hil]' '[olx]'' results in 'oexxo Iam Linux. Unbuntu is my name'. 3. 'cat data1 | tr 'hel' 'la'' results in 'Haaao Iam Linux. Unbuntu is my nama'. 4. 'cat data1 | tr 'hel' 'l'' results in 'Hillo Iam Linux. Unbuntu is my naml'. 5. 'cat data1 | tr '()' '()' results in 'Hello Iam Linux. Unbuntu is my name'.

```
user@user-virtual-machine: ~/Desktop/Demo
[os]
user@user-virtual-machine:~/Desktop/Demo$ cat data1 | tr '[H]' '[o]'
```

oello Iam Linux. Unbuntu is my name
I love coding
I am an {os}

```
user@user-virtual-machine:~/Desktop/Demo$ cat data1 | tr '[Hil]' '[olx]'
```

oexxo Iam Linux. Unbuntu is my name
I xove coding
I am an {os}

```
user@user-virtual-machine:~/Desktop/Demo$ cat data1 | tr 'hel' 'la'
```

Haaao Iam Linux. Unbuntu is my nama
I aova coding
I am an {os}

```
user@user-virtual-machine:~/Desktop/Demo$ cat data1 | tr 'hel' 'l'
```

Hillo Iam Linux. Unbuntu is my naml
I lovl coding
I am an {os}

```
user@user-virtual-machine:~/Desktop/Demo$ cat data1 | tr '()' '()'
```

Hello Iam Linux. Unbuntu is my name
I love coding
I am an {os}

```
user@user-virtual-machine:~/Desktop/Demo$
```

70. Cat data1 | tr -s [:space:] ' ' cat data1 | tr -d 'l'

71. Cat data1 | tr -s [:space:] ' ' cat data1 | tr -d '[:digit:]'

A terminal window titled 'Terminal' with the prompt 'user@user-virtual-machine: ~/Desktop/Demo'. It shows three commands: 1. 'cat data1 | tr -s [:space:] '' which replaces all spaces with empty strings, resulting in 'HelloIamLinux.Unbuntuismyname', 'Ilovecoding', and 'Iaman{os}'. 2. 'cat data1 | tr -d 'l'' which deletes all lowercase 'l' characters, resulting in 'Hello am Linux. Unbuntu is my name', 'love coding', and 'I am an {os}'. 3. 'cat data1 | tr -d '[:digit:]'' which deletes all digits, resulting in an empty line.

```
user@user-virtual-machine:~/Desktop/Demo$ cat data1 | tr -s [:space:] ''
```

HelloIamLinux.Unbuntuismyname
Ilovecoding
Iaman{os}

```
user@user-virtual-machine:~/Desktop/Demo$ cat data1 | tr -d 'l'
```

Hello am Linux. Unbuntu is my name
love coding
I am an {os}

```
user@user-virtual-machine:~/Desktop/Demo$ cat data1 | tr -d '[:digit:]'
```

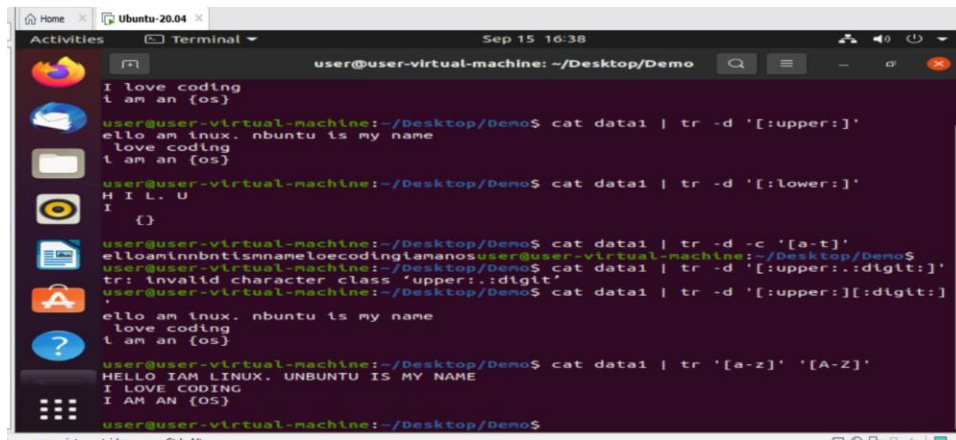
>

72. Cat data1 | tr -d '[:upper:]'

73. Cat data1 | tr -d '[:lower:]'

74. Cat data1 | tr -d '[:upper:][:digit:]'

75. cat data1 | tr -d -c '[a-t]'



```
user@user-virtual-machine: ~/Desktop/Demo
I love coding
I am an {os}
ello am inux. nbuntu is my name
love coding
I am an {os}
user@user-virtual-machine:~/Desktop/Demo$ cat data1 | tr -d '[:upper:]'
ello am inux. nbuntu is my name
love coding
I am an {os}
user@user-virtual-machine:~/Desktop/Demo$ cat data1 | tr -d '[:lower:]'
H I L. U
I
()
user@user-virtual-machine:~/Desktop/Demo$ cat data1 | tr -d -c '[a-t]'
elloaminnbntismnameloeodinglamanosuser@user-virtual-machine:~/Desktop/Demo$
user@user-virtual-machine:~/Desktop/Demo$ cat data1 | tr -d '[:upper:][:digit:]'
tr: invalid character class 'upper:[:digit:]'
user@user-virtual-machine:~/Desktop/Demo$ cat data1 | tr -d '[:upper:][:digit:]'
ello am inux. nbuntu is my name
love coding
I am an {os}
user@user-virtual-machine:~/Desktop/Demo$ cat data1 | tr '[:a-z:]' '[:A-Z:]'
HELLO I AM LINUX. UNBUNTU IS MY NAME
I LOVE CODING
I AM AN {OS}
user@user-virtual-machine:~/Desktop/Demo$
```

Important commands

[]: Matches any one of a set characters

[] with hyphen: Matches any one of a range characters

^: The pattern following it must occur at the beginning of each line

^ with []: The pattern must not contain any character in the set specified

\$. The pattern preceding it must occur at the end of each line

. (dot): Matches any one character

\ (backslash): Ignores the special meaning of the character following it

*: zero or more occurrences of the previous character

(dot).*: Nothing or any numbers of characters.