



**Usman Institute of Technology**  
**Department of Computer Science Fall 2022**

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Course: Operating Systems (CS312)

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## Lab Tasks:

1. Write Linux command to List all files (and subdirectories) in the home directory.

```
└─ /home ls
notwld
└─ /home ls *
Desktop      Downloads    Pictures    saycheese   Templates
Documents    Music       Public      snap        Videos
└─ /home
```

2. Write Linux command to display the content of /etc/passwd file with as many lines at a time as the last digit of your roll number.

```
└─ /etc head -n 5 passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
```

3. Write Linux command to count all files in the current directory.

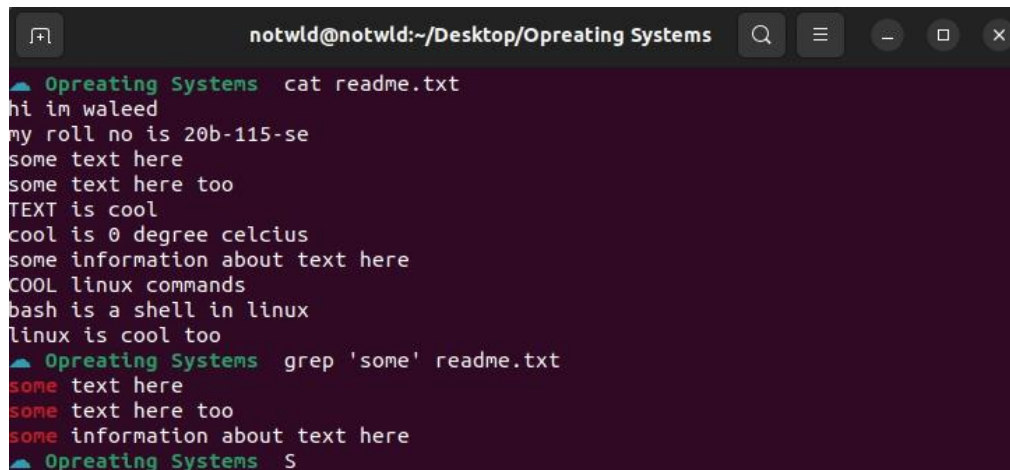
```
└─ / ls | wc -l
25
└─ /
```

4. Use grep to search for the pattern. "The" in the text file in the home directory.

```
└─ /home grep 'The' file.txt
This is The test.
└─ /home s
```

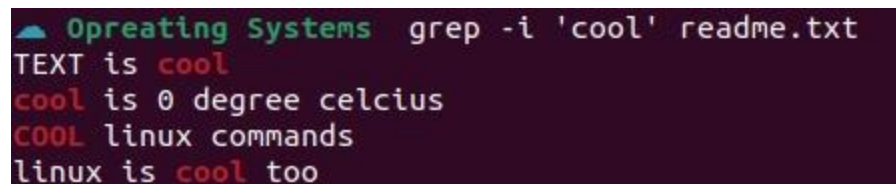
## Grep Commands:

1. Search for the given string in a single file.



```
notwld@notwld:~/Desktop/Opreating Systems
└─ Opreating Systems cat readme.txt
hi im waleed
my roll no is 20b-115-se
some text here
some text here too
TEXT is cool
cool is 0 degree celcius
some information about text here
COOL linux commands
bash is a shell in linux
linux is cool too
└─ Opreating Systems grep 'some' readme.txt
some text here
some text here too
some information about text here
└─ Opreating Systems $
```

2. Case insensitive search using grep -i.



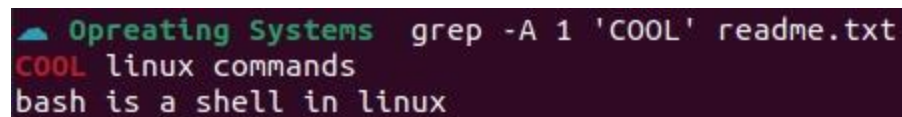
```
└─ Opreating Systems grep -i 'cool' readme.txt
TEXT is cool
cool is 0 degree celcius
COOL linux commands
linux is cool too
```

3. Match regular expression in files.



```
└─ Opreating Systems grep 'cool.*too' readme.txt
linux is cool too
```

4. Display N lines after match.



```
└─ Opreating Systems grep -A 1 'COOL' readme.txt
COOL linux commands
bash is a shell in linux
```

5. Display N lines before match.

```
└─ Operating Systems grep -B 1 'COOL' readme.txt
some information about text here
COOL linux commands
```

6. Display N lines around match.

```
└─ Operating Systems grep -C 2 'COOL' readme.txt
cool is 0 degree celcius
some information about text here
COOL linux commands
bash is a shell in linux
linux is cool too
```

7. Searching in all files recursively using grep -r.

```
└─ Operating Systems grep -r "cool" *
TEXT is cool
cool is 0 degree celcius
linux is cool too
```

8. Invert match using grep -v.

```
└─ Operating Systems grep -v "cool" readme.txt
hi im waleed
my roll no is 20b-115-se
some text here
some text here too
some information about text here
COOL linux commands
bash is a shell in linux
```

9. Display the lines which does not matches all the given pattern.

```
└─ Opreating Systems  grep -v -e "cool" -e "linux" -e "bash" readme.txt
hi im waleed
my roll no is 20b-115-se
some text here
some text here too
some information about text here
```

10. Counting the number of matches using grep -c.

```
└─ Opreating Systems  grep -c "some" readme.txt
3
```

11. When you want do find out how many lines that does not match the pattern.

```
└─ Opreating Systems  grep -v -c "some" readme.txt
7
```

12. Display only the file names which matches the given pattern using grep -l.

```
└─ Opreating Systems  cat readme.txt
hi im waleed
my roll no is 20b-115-se
some text here
some text here too
TEXT is cool
cool is 0 degree celcius
some information about text here
COOL linux commands
bash is a shell in linux
linux is cool too
└─ Opreating Systems  cat readme1.txt
some text here
└─ Opreating Systems  cat readme2.txt
some text here toos
└─ Opreating Systems  cat readmew.txt
text here too
└─ Opreating Systems  grep -l some readme*
readme1.txt
readme2.txt
readme.txt
```

13. Show only the matched string.

```
└─ Opreating Systems  grep -o 'cool.*too' readme.txt  
cool too
```

14. Show the position of match in the line.

```
└─ Opreating Systems  grep -o -b 'cool.*too' readme.txt  
198:cool too
```

15. Show line number while displaying the output using grep -n.

```
└─ Opreating Systems  grep -n 'linux' readme.txt  
8:COOL linux commands  
9:bash is a shell in linux  
10:linux is cool too
```