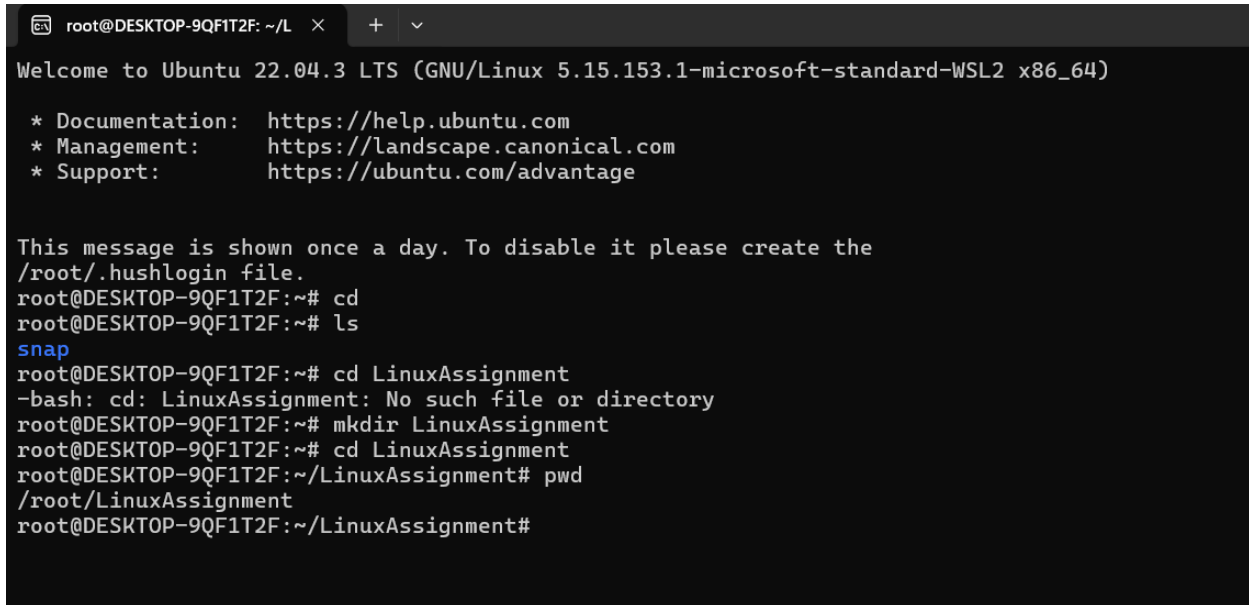


Assignment 1

Screenshots of the solutions:

1.



```
root@DESKTOP-9QF1T2F: ~/L × + v
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 5.15.153.1-microsoft-standard-WSL2 x86_64)

* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:       https://ubuntu.com/advantage

This message is shown once a day. To disable it please create the
/root/.hushlogin file.
root@DESKTOP-9QF1T2F:~# cd
root@DESKTOP-9QF1T2F:~# ls
snap
root@DESKTOP-9QF1T2F:~# cd LinuxAssignment
-bash: cd: LinuxAssignment: No such file or directory
root@DESKTOP-9QF1T2F:~# mkdir LinuxAssignment
root@DESKTOP-9QF1T2F:~# cd LinuxAssignment
root@DESKTOP-9QF1T2F:~/LinuxAssignment# pwd
/root/LinuxAssignment
root@DESKTOP-9QF1T2F:~/LinuxAssignment#
```

```
root@DESKTOP-9QF1T2F: ~/L  ×  +  ∨

Latest sources and executables are at ftp://ftp.info-zip.org/pub/infozip,
as of above date; see http://www.info-zip.org/ for other sites.

Compiled with gcc 11.2.0 for Unix (Linux ELF).

Zip special compilation options:
  USE_EF_UT_TIME      (store Universal Time)
  BZIP2_SUPPORT      (bzip2 library version 1.0.8, 13-Jul-2019)
                     bzip2 code and library copyright (c) Julian R Seward
                     (See the bzip2 license for terms of use)
  SYMLINK_SUPPORT     (symbolic links supported)
  LARGE_FILE_SUPPORT  (can read and write large files on file system)
  ZIP64_SUPPORT       (use Zip64 to store large files in archives)
  UNICODE_SUPPORT     (store and read UTF-8 Unicode paths)
  STORE_UNIX_UIDs_GIDs (store UID/GID sizes/values using new extra field)
  UIDGID_NOT_16BIT    (old Unix 16-bit UID/GID extra field not used)
  [encryption, version 2.91 of 05 Jan 2007] (modified for Zip 3)

Encryption notice:
  The encryption code of this program is not copyrighted and is
  put in the public domain.  It was originally written in Europe
  and, to the best of our knowledge, can be freely distributed
  in both source and object forms from any country, including
  the USA under License Exception TSU of the U.S. Export
  Administration Regulations (section 740.13(e)) of 6 June 2002.

Zip environment options:
  ZIP: [none]
  ZIPOPT: [none]
root@DESKTOP-9QF1T2F:~/LinuxAssignment# cd ~/LinuxAssignment
root@DESKTOP-9QF1T2F:~/LinuxAssignment# zip -r docs.zip docs
  adding: docs/ (stored 0%)
  adding: docs/file2.txt (stored 0%)
root@DESKTOP-9QF1T2F:~/LinuxAssignment# mkdir extracted_docs
root@DESKTOP-9QF1T2F:~/LinuxAssignment# unzip docs.zip -d extracted_docs
Archive:  docs.zip
  creating: extracted_docs/docs/
  extracting: extracted_docs/docs/file2.txt
root@DESKTOP-9QF1T2F:~/LinuxAssignment# ls extracted_docs
docs
root@DESKTOP-9QF1T2F:~/LinuxAssignment#
```

```
root@DESKTOP-9QF1T2F: ~/LinuxAssignment# find . -type f -name "*.txt"
./docs/file2.txt
./file1.txt
root@DESKTOP-9QF1T2F:~/LinuxAssignment# grep "specific_word" filename.txt
grep: filename.txt: No such file or directory
root@DESKTOP-9QF1T2F:~/LinuxAssignment# grep "hello" file1.txt
root@DESKTOP-9QF1T2F:~/LinuxAssignment# grep -i "hello" filename.txt
grep: filename.txt: No such file or directory
root@DESKTOP-9QF1T2F:~/LinuxAssignment# grep -n "hello" filename.txt
grep: filename.txt: No such file or directory
root@DESKTOP-9QF1T2F:~/LinuxAssignment# cd ~/LinuxAssignment
root@DESKTOP-9QF1T2F:~/LinuxAssignment# "hello" filename.txt
Command 'hello' not found, but can be installed with:
snap install hello # version 2.10, or
apt install hello # version 2.10-2ubuntu4
apt install hello-traditional # version 2.10-5
See 'snap info hello' for additional versions.
root@DESKTOP-9QF1T2F:~/LinuxAssignment# echo -e "This is a sample text file.\nThere was an flower in the garden.\nAll systems operational.\nAnother flower o
ccurred." > example.txt
root@DESKTOP-9QF1T2F:~/LinuxAssignment# grep "flower" example.txt
There was an flower in the garden.
Another flower occurred.
root@DESKTOP-9QF1T2F:~/LinuxAssignment#
```

```
root@DESKTOP-9QF1T2F:~/LinuxAssignment# find . -type f -name "*.txt"
./docs/file2.txt
./file1.txt
root@DESKTOP-9QF1T2F:~/LinuxAssignment# grep "specific_word" filename.txt
grep: filename.txt: No such file or directory
root@DESKTOP-9QF1T2F:~/LinuxAssignment# grep "hello" file1.txt
root@DESKTOP-9QF1T2F:~/LinuxAssignment# grep -i "hello" filename.txt
grep: filename.txt: No such file or directory
root@DESKTOP-9QF1T2F:~/LinuxAssignment# grep -n "hello" filename.txt
grep: filename.txt: No such file or directory
root@DESKTOP-9QF1T2F:~/LinuxAssignment# cd ~/LinuxAssignment
root@DESKTOP-9QF1T2F:~/LinuxAssignment# "hello" filename.txt
Command 'hello' not found, but can be installed with:
snap install hello # version 2.10, or
apt install hello # version 2.10-2ubuntu4
apt install hello-traditional # version 2.10-5
See 'snap info hello' for additional versions.
root@DESKTOP-9QF1T2F:~/LinuxAssignment# echo -e "This is a sample text file.\nThere was an flower in the garden.\nAll systems operational.\nAnother flower o
ccurred." > example.txt
root@DESKTOP-9QF1T2F:~/LinuxAssignment# grep "flower" example.txt
There was an flower in the garden.
Another flower occurred.
root@DESKTOP-9QF1T2F:~/LinuxAssignment# date
Wed Aug 28 23:54:12 IST 2024
root@DESKTOP-9QF1T2F:~/LinuxAssignment#
```

```

root@DESKTOP-9QF1T2F: ~/L  ×  +  ∨
64 bytes from dell1s13-in-f14.1e100.net (142.250.192.238): icmp_seq=76 ttl=52 time=62.0 ms
64 bytes from dell1s13-in-f14.1e100.net (142.250.192.238): icmp_seq=77 ttl=52 time=62.7 ms
64 bytes from dell1s13-in-f14.1e100.net (142.250.192.238): icmp_seq=78 ttl=52 time=61.8 ms
64 bytes from dell1s13-in-f14.1e100.net (142.250.192.238): icmp_seq=79 ttl=52 time=65.1 ms
64 bytes from dell1s13-in-f14.1e100.net (142.250.192.238): icmp_seq=80 ttl=52 time=61.1 ms
64 bytes from dell1s13-in-f14.1e100.net (142.250.192.238): icmp_seq=81 ttl=52 time=62.1 ms
64 bytes from dell1s13-in-f14.1e100.net (142.250.192.238): icmp_seq=82 ttl=52 time=61.4 ms
64 bytes from dell1s13-in-f14.1e100.net (142.250.192.238): icmp_seq=83 ttl=52 time=61.6 ms
64 bytes from dell1s13-in-f14.1e100.net (142.250.192.238): icmp_seq=84 ttl=52 time=61.2 ms
64 bytes from dell1s13-in-f14.1e100.net (142.250.192.238): icmp_seq=85 ttl=52 time=62.2 ms
64 bytes from dell1s13-in-f14.1e100.net (142.250.192.238): icmp_seq=86 ttl=52 time=61.7 ms
^C
--- google.com ping statistics ---
86 packets transmitted, 86 received, 0% packet loss, time 85137ms
rtt min/avg/max/mdev = 60.670/64.845/234.174/18.778 ms
root@DESKTOP-9QF1T2F:~/LinuxAssignment# ip addr show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet 10.255.255.254/32 brd 10.255.255.254 scope global lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether 00:15:5d:38:cc:05 brd ff:ff:ff:ff:ff:ff
    inet 172.20.131.207/20 brd 172.20.143.255 scope global eth0
        valid_lft forever preferred_lft forever
    inet6 fe80::215:5dff:fe38:cc05/64 scope link
        valid_lft forever preferred_lft forever
root@DESKTOP-9QF1T2F:~/LinuxAssignment# ping google.com
PING google.com (142.250.193.14) 56(84) bytes of data:
64 bytes from dell1s14-in-f14.1e100.net (142.250.193.14): icmp_seq=1 ttl=110 time=48.8 ms
64 bytes from dell1s14-in-f14.1e100.net (142.250.193.14): icmp_seq=2 ttl=110 time=45.4 ms
64 bytes from dell1s14-in-f14.1e100.net (142.250.193.14): icmp_seq=3 ttl=110 time=46.5 ms
64 bytes from dell1s14-in-f14.1e100.net (142.250.193.14): icmp_seq=4 ttl=110 time=44.9 ms
^C
--- google.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/mdev = 44.946/46.402/48.805/1.496 ms
root@DESKTOP-9QF1T2F:~/LinuxAssignment#

```

```

root@DESKTOP-9QF1T2F: ~/L  ×  +  ∨
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 5.15.153.1-microsoft-standard-WSL2 x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

This message is shown once a day. To disable it please create the
/root/.hushlogin file.
root@DESKTOP-9QF1T2F:~# cd
root@DESKTOP-9QF1T2F:~# ls
snap
root@DESKTOP-9QF1T2F:~# cd LinuxAssignment
-bash: cd: LinuxAssignment: No such file or directory
root@DESKTOP-9QF1T2F:~# mkdir LinuxAssignment
root@DESKTOP-9QF1T2F:~# cd LinuxAssignment
root@DESKTOP-9QF1T2F:~/LinuxAssignment# pwd
/root/LinuxAssignment
root@DESKTOP-9QF1T2F:~/LinuxAssignment# cd ~/LinuxAssignment
root@DESKTOP-9QF1T2F:~/LinuxAssignment# touch file1.txt
root@DESKTOP-9QF1T2F:~/LinuxAssignment# cat file1.txt
root@DESKTOP-9QF1T2F:~/LinuxAssignment# ls
file1.txt
root@DESKTOP-9QF1T2F:~/LinuxAssignment#

```

root@DESKTOP-9QF1T2F: ~/L

This message is shown once a day. To disable it please create the /root/.hushlogin file.

root@DESKTOP-9QF1T2F:~# cd

root@DESKTOP-9QF1T2F:~# ls

snap

root@DESKTOP-9QF1T2F:~# cd LinuxAssignment

-bash: cd: LinuxAssignment: No such file or directory

root@DESKTOP-9QF1T2F:~# mkdir LinuxAssignment

root@DESKTOP-9QF1T2F:~# cd LinuxAssignment

root@DESKTOP-9QF1T2F:~/LinuxAssignment# pwd

/root/LinuxAssignment

root@DESKTOP-9QF1T2F:~/LinuxAssignment# cd ~/LinuxAssignment

root@DESKTOP-9QF1T2F:~/LinuxAssignment# touch file1.txt

root@DESKTOP-9QF1T2F:~/LinuxAssignment# cat file1.txt

root@DESKTOP-9QF1T2F:~/LinuxAssignment# ls

file1.txt

root@DESKTOP-9QF1T2F:~/LinuxAssignment# cd ~/LinuxAssignment

root@DESKTOP-9QF1T2F:~/LinuxAssignment# mkdir docs

root@DESKTOP-9QF1T2F:~/LinuxAssignment# ls

docs file1.txt

root@DESKTOP-9QF1T2F:~/LinuxAssignment# cd ~/LinuxAssignment

root@DESKTOP-9QF1T2F:~/LinuxAssignment# cp file1.txt docs/file2.txt

root@DESKTOP-9QF1T2F:~/LinuxAssignment# ls docs

file2.txt

root@DESKTOP-9QF1T2F:~/LinuxAssignment# cd ~/LinuxAssignment/docs

root@DESKTOP-9QF1T2F:~/LinuxAssignment/docs# chmod 744 file2.txt

root@DESKTOP-9QF1T2F:~/LinuxAssignment/docs# sudo chown \$USER:\$USER file2.txt

root@DESKTOP-9QF1T2F:~/LinuxAssignment/docs# ls -l file2.txt

-rwxr--r-- 1 root root 0 Aug 28 23:28 file2.txt

root@DESKTOP-9QF1T2F:~/LinuxAssignment/docs#

```
root@DESKTOP-9QF1T2F: ~/L × + v
docs file1.txt
root@DESKTOP-9QF1T2F:~/LinuxAssignment# cd ~/LinuxAssignment
root@DESKTOP-9QF1T2F:~/LinuxAssignment# cp file1.txt docs/file2.txt
root@DESKTOP-9QF1T2F:~/LinuxAssignment# ls docs
file2.txt
root@DESKTOP-9QF1T2F:~/LinuxAssignment# cd ~/LinuxAssignment/docs
root@DESKTOP-9QF1T2F:~/LinuxAssignment/docs# chmod 744 file2.txt
root@DESKTOP-9QF1T2F:~/LinuxAssignment/docs# sudo chown $USER:$USER file2.txt
root@DESKTOP-9QF1T2F:~/LinuxAssignment/docs# ls -l file2.txt
-rwxr--r-- 1 root root 0 Aug 28 23:28 file2.txt
root@DESKTOP-9QF1T2F:~/LinuxAssignment/docs# cd ~/LinuxAssignment
root@DESKTOP-9QF1T2F:~/LinuxAssignment# ls -l
docs
file1.txt
root@DESKTOP-9QF1T2F:~/LinuxAssignment# ls -l /
total 2144
lrwxrwxrwx 1 root root 7 Nov 23 2023 bin -> usr/bin
drwxr-xr-x 2 root root 4096 Apr 18 2022 boot
drwxr-xr-x 16 root root 3560 Aug 28 23:14 dev
drwxr-xr-x 73 root root 4096 Aug 28 23:15 etc
drwxr-xr-x 2 root root 4096 Apr 18 2022 home
-rwxrwxrwx 1 root root 2127224 Apr 25 23:47 init
lrwxrwxrwx 1 root root 7 Nov 23 2023 lib -> usr/lib
lrwxrwxrwx 1 root root 9 Nov 23 2023 lib32 -> usr/lib32
lrwxrwxrwx 1 root root 9 Nov 23 2023 lib64 -> usr/lib64
lrwxrwxrwx 1 root root 10 Nov 23 2023 libx32 -> usr/libx32
drwx----- 2 root root 16384 Aug 27 18:16 lost+found
drwxr-xr-x 2 root root 4096 Nov 23 2023 media
drwxr-xr-x 8 root root 4096 Aug 27 18:17 mnt
drwxr-xr-x 2 root root 4096 Nov 23 2023 opt
dr-xr-xr-x 207 root root 0 Aug 28 23:14 proc
drwx----- 5 root root 4096 Aug 28 23:17 root
drwxr-xr-x 18 root root 560 Aug 28 23:15 run
lrwxrwxrwx 1 root root 8 Nov 23 2023 sbin -> usr/sbin
drwxr-xr-x 8 root root 4096 Nov 23 2023 snap
drwxr-xr-x 2 root root 4096 Nov 23 2023 srv
dr-xr-xr-x 11 root root 0 Aug 28 23:14 sys
drwxrwxrwt 10 root root 4096 Aug 28 23:25 tmp
drwxr-xr-x 14 root root 4096 Nov 23 2023 usr
drwxr-xr-x 13 root root 4096 Nov 23 2023 var
root@DESKTOP-9QF1T2F:~/LinuxAssignment#
```

2. A

```
root@DESKTOP-9QF1T2F:~  
cd ~/Documentsroot@DESKTOP-9QF1T2F:~#  
root@DESKTOP-9QF1T2F:~# cd ~/Documents  
-bash: cd: /root/Documents: No such file or directory  
root@DESKTOP-9QF1T2F:~# nano data.txt  
root@DESKTOP-9QF1T2F:~# cat data.txt  
This is a list of important data:  
- CDAC Test: July 30, 2024  
- CDAC Result: August 1, 2024  
- CDAC Counselling: August 10, 2024  
- CDAC Counselling Result: August 15, 2024  
- CDAC Seat Allocation: August 18, 2024  
- CDAC Fees Payment: Aug 20, 2024  
- CDAC 2nd Counselling: Aug 20, 2024  
- CDAC 2nd Counselling Result: Aug 25, 2024  
- CDAC Last Day Fees Payment: Aug 27, 2024  
- CDAC Admission: Aug 28, 2024  
- Start of PG Diploma Courses: Aug 29, 2024  
- End of PG Diploma Courses: Feb 12, 2025  
- CCEE Exam  
- CCEE Result  
- Start of Placements  
- Start of Placements  
root@DESKTOP-9QF1T2F:~# head -n 10 data.txt  
This is a list of important data:  
- CDAC Test: July 30, 2024  
- CDAC Result: August 1, 2024  
- CDAC Counselling: August 10, 2024  
- CDAC Counselling Result: August 15, 2024  
- CDAC Seat Allocation: August 18, 2024  
- CDAC Fees Payment: Aug 20, 2024  
- CDAC 2nd Counselling: Aug 20, 2024  
- CDAC 2nd Counselling Result: Aug 25, 2024  
- CDAC Last Day Fees Payment: Aug 27, 2024  
root@DESKTOP-9QF1T2F:~# |
```

2. B

```
root@DESKTOP-9QF1T2F:~# cat data.txt  
This is a list of important data:  
- CDAC Test: July 30, 2024  
- CDAC Result: August 1, 2024  
- CDAC Counselling: August 10, 2024  
- CDAC Counselling Result: August 15, 2024  
- CDAC Seat Allocation: August 18, 2024  
- CDAC Fees Payment: Aug 20, 2024  
- CDAC 2nd Counselling: Aug 20, 2024  
- CDAC 2nd Counselling Result: Aug 25, 2024  
- CDAC Last Day Fees Payment: Aug 27, 2024  
- CDAC Admission: Aug 28, 2024  
- Start of PG Diploma Courses: Aug 29, 2024  
- End of PG Diploma Courses: Feb 12, 2025  
- CCEE Exam  
- CCEE Result  
- Start of Placements  
- Start of Placements  
root@DESKTOP-9QF1T2F:~# head -n 10 data.txt  
This is a list of important data:  
- CDAC Test: July 30, 2024  
- CDAC Result: August 1, 2024  
- CDAC Counselling: August 10, 2024  
- CDAC Counselling Result: August 15, 2024  
- CDAC Seat Allocation: August 18, 2024  
- CDAC Fees Payment: Aug 20, 2024  
- CDAC 2nd Counselling: Aug 20, 2024  
- CDAC 2nd Counselling Result: Aug 25, 2024  
- CDAC Last Day Fees Payment: Aug 27, 2024  
root@DESKTOP-9QF1T2F:~# tail -n 5 data.txt  
- End of PG Diploma Courses: Feb 12, 2025  
- CCEE Exam  
- CCEE Result  
- Start of Placements  
- Start of Placements  
root@DESKTOP-9QF1T2F:~# |
```

2. C

```
- Start of Placements  
root@DESKTOP-9QF1T2F:~# nano numbers.txt  
root@DESKTOP-9QF1T2F:~# head -n 15 numbers.txt  
2001  
2002  
2003  
2004  
2005  
2006  
2007  
2008  
2009  
2010  
2011  
2012  
2013  
2014  
2015  
root@DESKTOP-9QF1T2F:~# |
```

2. D

```

root@DESKTOP-9QF1T2F:~# nano numbers.txt
root@DESKTOP-9QF1T2F:~# head -n 15 numbers.txt
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
root@DESKTOP-9QF1T2F:~# tail -n 3 numbers.txt
2022
2023
2024
root@DESKTOP-9QF1T2F:~# |

```

2. E

```

2011
2012
2013
2014
2015
root@DESKTOP-9QF1T2F:~# tail -n 3 numbers.txt
2022
2023
2024
root@DESKTOP-9QF1T2F:~# nano input.txt
root@DESKTOP-9QF1T2F:~# cat input.txt | tr 'a-z' 'A-Z' > output.txt
root@DESKTOP-9QF1T2F:~# cat input.txt | tr 'a-z' 'A-Z' > output.txt
root@DESKTOP-9QF1T2F:~# |

```

2. F

```

2022
2023
2024
root@DESKTOP-9QF1T2F:~# nano input.txt
root@DESKTOP-9QF1T2F:~# cat input.txt | tr 'a-z' 'A-Z' > output.txt
root@DESKTOP-9QF1T2F:~# cat input.txt | tr 'a-z' 'A-Z' > output.txt
root@DESKTOP-9QF1T2F:~# nano duplicate.txt
root@DESKTOP-9QF1T2F:~# sort duplicate.txt | uniq

5 Star
Cadbury
Gems
Kinderjoy
Kitkat
root@DESKTOP-9QF1T2F:~# sort duplicate.txt | uniq > unique_lines.txt

```

2. G

```

root@DESKTOP-9QF1T2F:~# nano fruit.txt
root@DESKTOP-9QF1T2F:~# sort fruit.txt | uniq -c

 2 Apple
 2 Blueberry
 1 Grape
 2 Kiwi
 1 Orange
 1 Strawberry
root@DESKTOP-9QF1T2F:~# sort fruit.txt | uniq -c > fruit_count.txt
root@DESKTOP-9QF1T2F:~# |

```