Task1.Part2

1) Examine the **tree** command. Master the technique of applying a template, for example, display all files that contain a character **c**, or files that contain a specific sequence of characters. List subdirectories of the root directory up to and including the second nesting level.

1- tree –P *c* ./ 2- tree –P sample* ./ 3- tree –L 2 /

2) What command can be used to determine the type of file (for example, text or binary)? Give an example.

```
[davig@oracle ~]$ file 1.txt
1.txt: ASCII text
[davig@oracle ~]$ file script1.sh
script1.sh: Bourne-Again shell script, ASCII text executable
[davig@oracle ~]$
```

3) Master the skills of navigating the file system using relative and absolute paths. How can you go back to your home directory from anywhere in the filesystem?

```
[davig@oracle /]$ cd ~
[davig@oracle ~]$ cd /
[davig@oracle /]$ cd
[davig@oracle ~]$ cd /home/davig/
[davig@oracle ~]$
```

4) Become familiar with the various options for the **ls** command. Give examples of listing directories using different keys. Explain the information displayed on the terminal using the **-l** and **-a** switches.

1- ls –l long listing format 2- ls –a - show hidden files and . and ..

5) Perform the following sequence of operations:

- create a subdirectory in the home directory;
- in this subdirectory create a file containing information about directories located in the root directory (using I/O redirection operations);
- view the created file;
- copy the created file to your home directory using relative and absolute addressing.
- delete the previously created subdirectory with the file requesting removal;
- delete the file copied to the home directory.

```
[davig@oracle ~]$ mkdir subdir
[davig@oracle ~]$ ls / > ./subdir/file.txt
[davig@oracle ~]$ cat ./subdir/file.txt
bin
boot
creator
data1
data2
dev
etc
home
lib
lib64
media
mnt
opt
proc
root
run
sbin
srv
sys
tmp
usr
var
[davig@oracle ~]$ cp ./subdir/file.txt ~/
[davig@oracle ~]$ cp /home/davig/subdir/file.txt /home/davig/
[davig@oracle ~]$ rm -rf ./subdir
[davig@oracle ~]$ rm file.txt
[davig@oracle ~]$
```

6) Perform the following sequence of operations:
- create a subdirectory **test** in the home directory;
- copy the **.bash_history** file to this directory while changing its name to **labwork2**;
- create a hard and soft link to the **labwork2** file in the test subdirectory;
- how to define soft and hard link, what do these concepts;
- change the data by opening a symbolic link. What changes will happen and why
- rename the hard link file to **hard_lnk_labwork2**;
- rename the soft link file to **symb_lnk_labwork2 file**;
- then delete the **labwork2**. What changes have occurred and why?

```
[davig@oracle ~]$ mkdir test
[davig@oracle ~]$ cp .bash_history ./test/labwork2
[davig@oracle ~]$ cd test
[davig@oracle test]$ ln labwork2 hard_labwork2
[davig@oracle test]$ ln -s labwork2 soft_labwork2
[davig@oracle test]$ stat hard_labwork2 soft_labwork2
  File: hard_labwork2
  Size: 20640           Blocks: 48         IO Block: 4096   regular file
Device: fc00h/64512d    Inode: 3505        Links: 2
Access: (0600/-rw-------)  Uid: ( 1001/   davig)   Gid: ( 1001/   davig)
Access: 2022-07-11 16:27:08.599032510 -0400
Modify: 2022-07-11 16:24:27.101547229 -0400
Change: 2022-07-11 16:24:59.149468455 -0400
 Birth: 2022-07-11 16:24:27.101547229 -0400
  File: soft_labwork2 -> labwork2
  Size: 8               Blocks: 0          IO Block: 4096   symbolic link
Device: fc00h/64512d    Inode: 215663      Links: 1
Access: (0777/lrwxrwxrwx)  Uid: ( 1001/   davig)   Gid: ( 1001/   davig)
Access: 2022-07-11 16:26:41.857601503 -0400
Modify: 2022-07-11 16:25:26.092880058 -0400
Change: 2022-07-11 16:25:26.092880058 -0400
 Birth: 2022-07-11 16:25:26.092880058 -0400
[davig@oracle test]$ vim soft_labwork2
[davig@oracle test]$ stat hard_labwork2 soft_labwork2
  File: hard_labwork2
  Size: 20638           Blocks: 48         IO Block: 4096   regular file
Device: fc00h/64512d    Inode: 3505        Links: 2
Access: (0600/-rw-------)  Uid: ( 1001/   davig)   Gid: ( 1001/   davig)
Access: 2022-07-11 16:43:21.120604802 -0400
Modify: 2022-07-11 16:43:32.786484096 -0400
Change: 2022-07-11 16:43:32.791483616 -0400
 Birth: 2022-07-11 16:24:27.101547229 -0400
  File: soft_labwork2 -> labwork2
  Size: 8               Blocks: 0          IO Block: 4096   symbolic link
Device: fc00h/64512d    Inode: 215663      Links: 1
Access: (0777/lrwxrwxrwx)  Uid: ( 1001/   davig)   Gid: ( 1001/   davig)
Access: 2022-07-11 16:26:41.857601503 -0400
Modify: 2022-07-11 16:25:26.092880058 -0400
Change: 2022-07-11 16:25:26.092880058 -0400
 Birth: 2022-07-11 16:25:26.092880058 -0400
[davig@oracle test]$ mv hard_labwork2 hard_ln_labwork2
[davig@oracle test]$ mv soft_labwork2 'symb_lnk_labwork2 file'
[davig@oracle test]$ rm labwork2
[davig@oracle test]$ ls -l
total 24
-rw------- 1 davig davig 20638 Jul 11 16:43  hard_ln_labwork2
lrwxrwxrwx 1 davig davig     8 Jul 11 16:25 'symb_lnk_labwork2 file' -> labwork2
[davig@oracle test]$
```

7) Using the locate utility, find all files that contain the squid and traceroute sequence.

```
[davig@oracle test]$ locate squid
/home/davig/task/vim/vim74/syntax/squid.vim
/usr/lib/firewalld/services/squid.xml
/usr/share/vim/vim80/syntax/squid.vim
[davig@oracle test]$ locate traceroute
/usr/bin/tcptraceroute
/usr/bin/traceroute
/usr/bin/traceroute6
/usr/local/share/nmap/scripts/http-traceroute.nse
/usr/local/share/nmap/scripts/targets-traceroute.nse
/usr/local/share/nmap/scripts/traceroute-geolocation.nse
/usr/share/doc/traceroute
/usr/share/doc/traceroute/COPYING
/usr/share/doc/traceroute/CREDITS
/usr/share/doc/traceroute/README
/usr/share/doc/traceroute/TODO
/usr/share/man/man8/tcptraceroute.8.gz
/usr/share/man/man8/traceroute.8.gz
/usr/share/man/man8/traceroute6.8.gz
/usr/share/nmap/scripts/http-traceroute.nse
/usr/share/nmap/scripts/targets-traceroute.nse
/usr/share/nmap/scripts/traceroute-geolocation.nse
[davig@oracle test]$
```

8) Determine which partitions are mounted in the system, as well as the types of these partitions.

```
[davig@oracle test]$ lsblk -f
NAME        FSTYPE      LABEL UUID                                   MOUNTPOINT
sda
├─sda1      xfs               1b56e9c2-da0b-47c0-97a5-a86c43984914   /boot
└─sda2      LVM2_member       oj6a69-oZ40-m5uD-yqjr-v0ff-Tdq6-q5YpYt
  ├─ol-root xfs               a9420296-2308-4d07-b026-d88368f79ad1   /
  └─ol-swap swap              fa74944c-3f07-4991-82f6-63fa54b41892   [SWAP]
sdb
├─sdb1      ext4              76ba3e6c-7a50-469f-b8d6-55810087d895   /media/1
├─sdb2
└─sdb5      ext4              cfccd34a-6f17-42e6-9d41-13ffb5522c5c   /media/5
sr0
[davig@oracle test]$
```

9) Count the number of lines containing a given sequence of characters in a given file.

grep sequence_of_characters filename | wc –l

10) Using the **find** command, find all files in the /etc directory containing the **host** character sequence.

```
[davig@oracle test]$ sudo find  /etc/ -name *host*
/etc/host.conf
/etc/hosts
/etc/nvme/hostnqn
/etc/nvme/hostid
/etc/ssh/ssh_host_ed25519_key
/etc/ssh/ssh_host_ed25519_key.pub
/etc/ssh/ssh_host_ecdsa_key
/etc/ssh/ssh_host_ecdsa_key.pub
/etc/ssh/ssh_host_rsa_key
/etc/ssh/ssh_host_rsa_key.pub
/etc/hostname
[davig@oracle test]$
```

11)

List all objects in /etc that contain the ss character sequence. How can I duplicate a similar command using a bunch of **grep**?

find /etc/ -name *ss*

find /etc/ | grep ss

12) Organize a screen-by-screen print of the contents of the /etc directory. Hint: You must use stream redirection operations.

find /etc/ > /dev/pts/2

13) What are the types of devices and how to determine the type of device? Give examples.

/dev/console
/dev/sd
/dev/tty
/dev/null

14) How to determine the type of file in the system, what types of files are there?

File type: Regular file, Directory, Symbolic link, Block device, Character device, Pipe, Socket.

```
[davig@oracle ~]$ file /dev/sda1
/dev/sda1: block special (8/1)
[davig@oracle ~]$ file /dev/zero
/dev/zero: character special (1/5)
[davig@oracle ~]$
```

15) * List the first 5 directory files that were recently accessed in the **/etc** directory.

```
[davig@oracle ~]$ ls -u /etc/ | head -5
anacrontab
issue
system-release-cpe
updatedb.conf
rsyslog.conf
[davig@oracle ~]$
```