System security Lab-5

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Chapter 1:

1.15:

Q1.)

```
crimsonshadow@L:~$ whoami
crimsonshadow
crimsonshadow@L:~$ echo $USER
crimsonshadow
crimsonshadow@L:~$
```

Q2.)

```
crimsonshadow@L:~$ who
crimsonshadow pts/1         2025-01-09 15:37
crimsonshadow@L:~$
```

Q3.)

```
crimsonshadow@L:~$ w
 17:34:41 up  2:00,  1 user,  load average: 0.00, 0.00, 0.00
USER     TTY      FROM            LOGIN@   IDLE   JCPU   PCPU WHAT
crimsons pts/1    -               15:37    1:56m  0.01s  0.01s -bash
crimsonshadow@L:~$
```

Q4.)

```
crimsonshadow@L:~$ id
uid=1000(crimsonshadow) gid=1000(crimsonshadow) groups=1000(crimsonshadow),4(adm),20(dialout),24(cdrom),25(floppy),27(sudo),29(audio),30(dip),44(video),46(plugdev),100(users),107(netdev)
crimsonshadow@L:~$
```

Q5.)

```
crimsonshadow@L:~$ su emperor
Password:
emperor@L:/home/crimsonshadow$ id
uid=1001(emperor) gid=1001(emperor) groups=1001(emperor),100(users)
emperor@L:/home/crimsonshadow$ exit
exit
crimsonshadow@L:~$
```

Q6.)

```
crimsonshadow@L:~$ su - emperor
Password:
emperor@L:~$ pwd
/home/emperor
emperor@L:~$ logout
crimsonshadow@L:~$
```

Q7.)

```
crimsonshadow@L:~$ useradd emperor69
useradd: Permission denied.
useradd: cannot lock /etc/passwd; try again later.
crimsonshadow@L:~$ /usr/sbin/useradd emperor69
useradd: Permission denied.
useradd: cannot lock /etc/passwd; try again later.
crimsonshadow@L:~$
```

Q8.)

```
crimsonshadow@L:~$ sudo /usr/sbin/useradd emperor69
crimsonshadow@L:~$ sudo /usr/sbin/useradd emperor691
crimsonshadow@L:~$
```

Chapter 2:

2.13:

Q1.)

```
┌──(root㉿kali)-[~]
└─# useradd -m -c 'Serena Williams' serena

┌──(root㉿kali)-[~]
└─#
```

Q2.)

```
┌──(root㉿kali)-[~]
└─# useradd -m -c "Venus Williams" -s /bin/bash venus

┌──(root㉿kali)-[~]
└─#
```

Q3.)

```
┌──(root💀kali)-[~]
└─# tail -2 /etc/passwd
serena:x:10236:10236:Serena Williams:/home/serena:/bin/sh
venus:x:10237:10237:Venus Williams:/home/venus:/bin/bash

┌──(root💀kali)-[~]
└─# tail -2 /etc/shadow
serena:!:20093:0:99999:7:::
venus:!:20093:0:99999:7:::

┌──(root💀kali)-[~]
└─# tail -2 /etc/group
serena:x:10236:
venus:x:10237:

┌──(root💀kali)-[~]
└─# █
```

Q4.)

```
┌──(root💀kali)-[~]
└─# ls -lrt /home | tail -2
drwx──────   5 serena  serena  4096 Jan   5 05:09 serena
drwx──────   5 venus   venus   4096 Jan   5 05:09 venus
```

Q5.)

```
┌──(root💀kali)-[~]
└─# useradd -s /bin/date einstime
```

Q7.)

```
┌──(root💀kali)-[~]
└─# su - einstime
su: warning: cannot change directory to /home/einstime: No such file or directory
Sun Jan  5 05:14:42 EST 2025
```

Q8.)

```
┌──(root💀kali)-[~]
└─# echo Hello > /etc/skel/welcome.txt

┌──(root💀kali)-[~]
└─# █
```

Q9.)

```
┌──(root💀kali)-[~]
└─# useradd -m test

┌──(root💀kali)-[~]
└─# ls -l /home/test
total 4
-rw-r--r-- 1 test test 6 Jan  5 05:16 welcome.txt

┌──(root💀kali)-[~]
└─# userdel -r test
userdel: test mail spool (/var/mail/test) not found
```

Q10.)

```
┌──(root💀kali)-[~]
└─#  grep serena /etc/passwd
serena:x:10236:10236:Serena Williams:/home/serena:/bin/sh

┌──(root💀kali)-[~]
└─# usermod -s /bin/bash serena

┌──(root💀kali)-[~]
└─# grep serena /etc/passwd
serena:x:10236:10236:Serena Williams:/home/serena:/bin/bash

┌──(root💀kali)-[~]
└─#
```

Chapter 3:

3.10:

Q1.)

```
┌──(root💀kali)-[~]
└─#  passwd serena
New password:
Retype new password:
passwd: password updated successfully

┌──(root💀kali)-[~]
└─#
```

Q2.)

```
┌──(root㉿kali)-[~]
└─# passwd venus
New password:
Retype new password:
passwd: password updated successfully

┌──(root㉿kali)-[~]
└─# grep venus /etc/shadow | cut -c1-70
venus:$y$j9T$SXTdBEUBECzh4z1JSF6Uu1$02CFHrnh42sbnf2fthFfYFSJRbuhhlAa/y

┌──(root㉿kali)-[~]
└─# usermod -L venus

┌──(root㉿kali)-[~]
└─# grep venus /etc/shadow | cut -c1-70
venus:!$y$j9T$SXTdBEUBECzh4z1JSF6Uu1$02CFHrnh42sbnf2fthFfYFSJRbuhhlAa/

┌──(root㉿kali)-[~]
└─#
```

Q3.)

```
┌──(root㉿kali)-[~]
└─# grep serena /etc/shadow | cut -c1-70
serena:$y$j9T$gcKdcTg4AI3im/bXW9VeV0$2GQjyBRBOOMHOTgyTk1TA7gY7eVaYLaBk

┌──(root㉿kali)-[~]
└─# passwd -d serena
passwd: password changed.

┌──(root㉿kali)-[~]
└─# grep serena /etc/shadow
serena::20093:0:99999:7:::

┌──(root㉿kali)-[~]
└─#
```

Q4.)

Ans.) Locking will prevent the user from logging into the system with the password and disabling will erase the password from /etc/shadow

Q5.)

```
┌──(root㉿kali)-[~]
└─# su - serena
┌──(serena㉿kali)-[~]
└─$ passwd serena
New password:
Retype new password:
You must choose a longer password.
New password:
Retype new password:
passwd: password updated successfully

┌──(serena㉿kali)-[~]
└─$
```

Q6.)

```
┌──(serena💀kali)-[~]
└─$ sudo chage -M 10 serena
[sudo] password for serena:

┌──(serena💀kali)-[~]
└─$ 
```

Q7.)

```
File  Actions  Edit  View  Help
  GNU nano 8.2
#
# If defined, file which inhibits all the usual chatter during the login
# sequence.  If a full pathname, then hushed mode will be enabled if the
# user's name or shell are found in the file.  If not a full pathname, then
# hushed mode will be enabled if the file exists in the user's home directory.
#
HUSHLOGIN_FILE  .hushlogin
#HUSHLOGIN_FILE /etc/hushlogins


#
# *REQUIRED*  The default PATH settings, for superuser and normal users.
#
# (they are minimal, add the rest in the shell startup files)
ENV_SUPATH      PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin
ENV_PATH        PATH=/usr/local/bin:/usr/bin:/bin:/usr/local/games:/usr/games


#
# Terminal permissions for terminals after login(1).
# These settings are ignored for remote and other logins.
#
#     TTYGROUP          Login tty will be assigned this group ownership.
#     TTYPERM           Login tty will be set to this permission.
#
#TTYGROUP        tty
TTYPERM         0600


#
# Login configuration initializations:
#
#     ERASECHAR         Terminal ERASE character ('\010' = backspace).
#     KILLCHAR          Terminal KILL character ('\025' = CTRL/U).
#
# The ERASECHAR and KILLCHAR are used only on System V machines.
#
ERASECHAR       0177
KILLCHAR        025

# HOME_MODE is used by useradd(8) and newusers(8) to set the mode for new
# home directories.
HOME_MODE       0700

#
# Password aging controls:
#
#     PASS_MAX_DAYS  Maximum number of days a password may be used.
#     PASS_MIN_DAYS  Minimum number of days allowed between password changes.
#     PASS_WARN_AGE  Number of days warning given before a password expires.
#
PASS_MAX_DAYS   10
PASS_MIN_DAYS   0
PASS_WARN_AGE   7

#
```

Q8.)

Ans.) Yes

Q9.)

Ans.) vipw will give a warning when someone else is already using that file

Q10.)

Q11.)

Ans.)-d

Q12.)

Chapter 4:

4.9:

Q1.)

```
┌──(kali◉kali)-[~]
└─$ ls -a ~
.               .bash_logout     .config    .face.icon  .local      .sudo_as_admin_successful  .xsession-errors      .zshrc      Downloads  Public      karun       sender         test.c
..              .bashrc          .dmrc      .gnupg      .mozilla    .viminfo                   .xsession-errors.old  CPU_Sync    IPC        Templates   py_envs     sender2        test2.c
.ICEauthority   .bashrc.original .dotnet    .gtkrc-2.0  .pki        .vscode                    .zprofile             Desktop     Music      Videos      receiver    sender_shared  test3.c
.Xauthority     .cache           .face      .java       .profile    .wget-hsts                 .zsh_history          Documents   Pictures   endsemeval  receiver2   test           test4.c

┌──(kali◉kali)-[~]
└─$
```

```
┌──(kali◉kali)-[~]
└─$ ls -l /etc/pro* /etc/bash*
-rw-r--r-- 1 root root 1997 Sep 13 13:02 /etc/bash.bashrc
-rw-r--r-- 1 root root   45 Jan 24  2020 /etc/bash_completion
-rw-r--r-- 1 root root  828 Sep  5 23:02 /etc/profile
-rw-r--r-- 1 root root 3144 Oct 17  2022 /etc/protocols
-rw-r--r-- 1 root root 5847 Jan 26  2024 /etc/proxychains4.conf

/etc/bash_completion.d:
total 28
-rw-r--r-- 1 root root 17877 May 15  2024 000_bash_completion_compat.bash
-rw-r--r-- 1 root root   439 Nov 26  2023 git-prompt
-rw-r--r-- 1 root root   379 Nov  8  2023 global-python-argcomplete

/etc/profile.d:
total 48
lrwxrwxrwx 1 root root   52 Dec 26 13:59 70-systemd-shell-extra.sh → /usr/lib/systemd/profile.d/70-systemd-shell-extra.sh
-rw-r--r-- 1 root root  747 May 15  2024 bash_completion.sh
-rw-r--r-- 1 root root   39 Oct  7 13:15 dotnet-cli-tools-bin-path.sh
-rw-r--r-- 1 root root 1107 Feb 19  2023 gawk.csh
-rw-r--r-- 1 root root  757 Feb 19  2023 gawk.sh
-rw-r--r-- 1 root root 1010 Nov 13  2023 gnome-session_gnomerc.sh
-rw-r--r-- 1 root root  376 Mar 20  2023 im-config_wayland.sh
-rw-r--r-- 1 root root  267 Dec 30 06:21 kali-themes.sh
-rw-r--r-- 1 root root  390 Feb 16  2024 kali.sh
-rw-r--r-- 1 root root   26 Jan  2 12:14 nmap.sh
-rw-r--r-- 1 root root 5058 Sep 16 08:14 vte-2.91.sh
-rw-r--r-- 1 root root  967 Jan  2  2024 vte.csh

┌──(kali◉kali)-[~]
└─$
```

Q3.)

```
┌──(kali◉kali)-[~]
└─$ expoexport GLOBAL_VAR="global_value"
alias gdir="ls -l /etc"
function global_func() { echo "This is a global function"; }


┌──(kali◉kali)-[~]
└─$ expoexport BASHRC_VAR="bashrc_value"
alias l="ls -lah"
function bashrc_func() { echo "This is a function from .bashrc"; }


┌──(kali◉kali)-[~]
└─$ expoexport PROFILE_VAR="profile_value"
alias pdir="ls -l /home"
function profile_func() { echo "This is a function from .profile"; }


┌──(kali◉kali)-[~]
└─$
```

Q4.)

Q5.)

Ans.) It is in the order name, aliases, functions and variable respectively.

Q6.)

Ans.) Yes

Chapter 5:

5.10:

Q1.)

Q2.)

Q3.)

```
┌──(kali⊛kali)-[~]
└─$ sudo groupmod -n foot football

┌──(kali⊛kali)-[~]
└─$ █
```

Q4.)

```
  GNU nano 8.2
scanner:x:129:saned,kali
saned:x:130:
polkitd:x:988:
rtkit:x:131:
colord:x:132:
Debian-gdm:x:133:
nm-openvpn:x:134:
nm-openconnect:x:135:
kali-trusted:x:136:
kali:x:1000:
kaboxer:x:137:kali
fwupd-refresh:x:987:
Debian-exim:x:138:
gnome-remote-desktop:x:986:
USERNAME:x:1001:
karun:x:1003:
wheel:x:1004:karun
developers:x:1005:karun,solider3
solider:x:1006:
soldier1:x:1007:
soldier:x:1008:
navin:x:1009:
solider1:x:1010:
navin1:x:1500:
solider2:x:1501:
navin2:x:1502:
navin3:x:10089:
admins:x:10090:solider3
webadmin:x:10091:solider3
solider3:x:10092:
shilpi:x:10093:
aparna:x:10094:
solider4:x:10095:
mansi:x:10096:
solide:x:10097:
ravi:x:10098:
avishek:x:1019:
navin6:x:1027:
navin7:x:1029:
navin10:x:10231:
ntpsec:x:139:
_chrony:x:140:
karun1:x:10232:
karun2:x:10233:
karun4:x:10234:
karun32:x:10235:
serena:x:10236:
venus:x:10237:
einstime:x:10238:
tennis:x:10239:serena█
sports:x:10241:venus
foot:x:10240:
```

Q5.)

```
┌──(root💀kali)-[~]
└─# su - serena
┌──(serena💀kali)-[~]
└─$ id
uid=10236(serena) gid=10236(serena) groups=10236(serena),10239(tennis)

┌──(serena💀kali)-[~]
└─$ ▮
```

Q6.)

```
┌──(serena💀kali)-[~]
└─$ gpasswd -A
gpasswd: option requires an argument -- 'A'
Usage: gpasswd [option] GROUP

Options:
  -a, --add USER                add USER to GROUP
  -d, --delete USER             remove USER from GROUP
  -h, --help                    display this help message and exit
  -Q, --root CHROOT_DIR         directory to chroot into
  -r, --remove-password         remove the GROUP's password
  -R, --restrict                restrict access to GROUP to its members
  -M, --members USER, ...       set the list of members of GROUP
  -A, --administrators ADMIN, ...
                                set the list of administrators for GROUP
Except for the -A and -M options, the options cannot be combined.

┌──(serena💀kali)-[~]
└─$ gpasswd -a
gpasswd: option requires an argument -- 'a'
Usage: gpasswd [option] GROUP

Options:
  -a, --add USER                add USER to GROUP
  -d, --delete USER             remove USER from GROUP
  -h, --help                    display this help message and exit
  -Q, --root CHROOT_DIR         directory to chroot into
  -r, --remove-password         remove the GROUP's password
  -R, --restrict                restrict access to GROUP to its members
  -M, --members USER, ...       set the list of members of GROUP
  -A, --administrators ADMIN, ...
                                set the list of administrators for GROUP
Except for the -A and -M options, the options cannot be combined.

┌──(serena💀kali)-[~]
└─$ ▮
```

Chapter 6:

Q1.)

```
┌──(kali💀kali)-[~]
└─$ mkdir ~/permissions

┌──(kali💀kali)-[~]
└─$ touch ~/permissions/myfile.txt

┌──(kali💀kali)-[~]
└─$ ▮
```

Q2.)

```
┌──(kali㉿kali)-[~]
└─$ cp /etc/hosts ~/permissions/

┌──(kali㉿kali)-[~]
└─$ █
```

Q3.)

```
┌──(root㉿kali)-[~]
└─# touch /home/username/permissions/rootfile

┌──(root㉿kali)-[~]
└─# █
```

Q4.)

```
┌──(root㉿kali)-[~]
└─# ls -l ~/permissions
total 0

┌──(root㉿kali)-[~]
└─# █
```

Q5.)

```
┌──(root㉿kali)-[~/permissions]
└─# chown kali ~/permissions/*

┌──(root㉿kali)-[~/permissions]
└─# █
```

Q6.)

```
┌──(root㉿kali)-[~]
└─# chmod 644 ~/permissions/*

┌──(root㉿kali)-[~]
└─# chmod 755 ~/permissions

┌──(root㉿kali)-[~]
└─# █
```

Q7.)

Ans.) Yes

Q8.)

Ans.) No

Q9.)

Ans.) Yes

Q10.)

Ans.) No

Q11a.)

Q11b.)

Q12.)
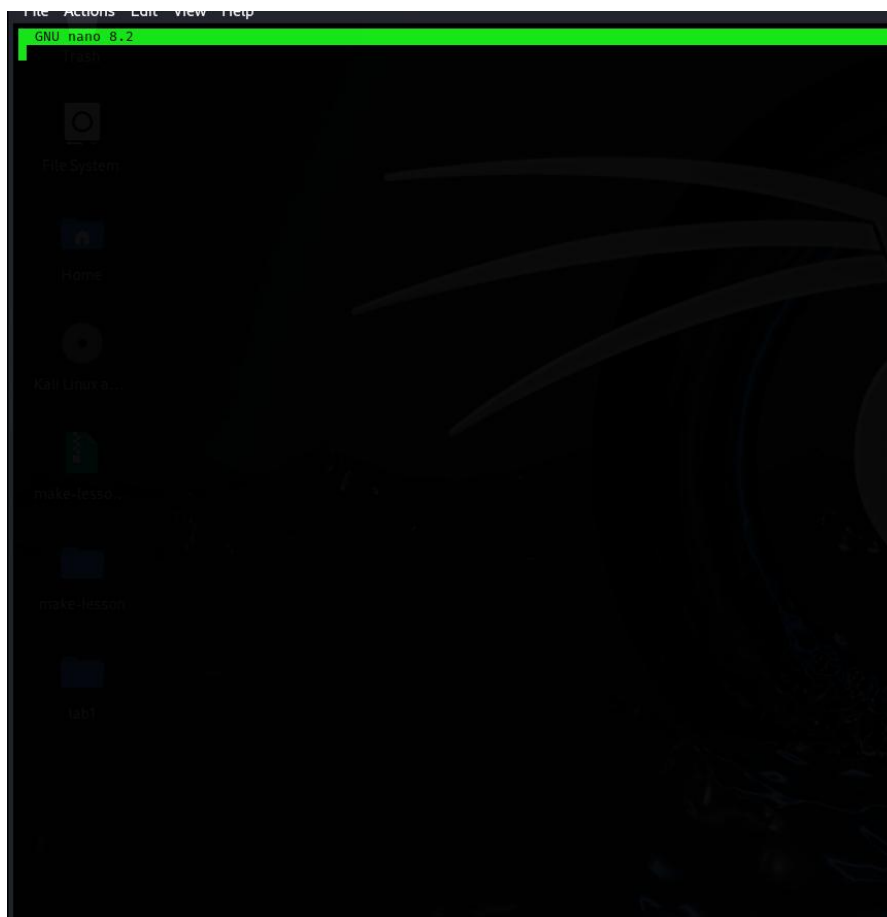
```
┌──(kali㉿kali)-[~]
└─$ sudo su -
[sudo] password for kali:
┌──(root㉿kali)-[~]
└─# echo hello > /home/username/root.txt

┌──(root㉿kali)-[~]
└─# chmod 744 /home/username/root.txt

┌──(root㉿kali)-[~]
└─# su - kali
┌──(kali㉿kali)-[~]
└─$ vi ~/root.txt

zsh: suspended  vi ~/root.txt

┌──(kali㉿kali)-[~]
└─$ nano ~/root.txt

┌──(kali㉿kali)-[~]
└─$ 
```

Q13a.)

Yes, they can read

Q13b.)

Ans.) Yes root can read this file

Q14.)

Chapter 7:

7.5:

Q1a.)

```
┌──(root㉿kali)-[~]
└─# groupadd sports

┌──(root㉿kali)-[~]
└─# mkdir /home/sports

┌──(root㉿kali)-[~]
└─# chown root:sports /home/sports

┌──(root㉿kali)-[~]
└─#
```

Q1b.)

```
┌──(root㉿kali)-[~]
└─# chmod 770 /home/sports

┌──(root㉿kali)-[~]
└─#
```

Q1c.)

```
┌──(root㉿kali)-[~]
└─# chmod 2770 /home/sports

┌──(root㉿kali)-[~]
└─#
```

Q1d.)

```
┌──(root㉿kali)-[~]
└─# chmod +t /home/sports

┌──(root㉿kali)-[~]
└─#
```

Q1e.)

```
┌──(root👁kali)-[~]
└─# su - user1
┌──(user1👁kali)-[~]
└─$ cd /path/to/sports_dir
-bash: cd: /path/to/sports_dir: No such file or directory

┌──(user1👁kali)-[~]
└─$ touch user1_file.txt

┌──(user1👁kali)-[~]
└─$ ls -l
total 4
-rw-rw──── 1 user1 user1 0 Jan  5 09:18 user1_file.txt
-rw-r--r-- 1 user1 user1 6 Jan  5 09:12 welcome.txt

┌──(user1👁kali)-[~]
└─$ █
```

```
┌──(root👁kali)-[~]
└─# su - karun23
┌──(karun23👁kali)-[~]
└─$ cd /path/to/sports_dir
-bash: cd: /path/to/sports_dir: No such file or directory

┌──(karun23👁kali)-[~]
└─$ rm user1_file.txt
rm: cannot remove 'user1_file.txt': No such file or directory

┌──(karun23👁kali)-[~]
└─$ touch user2_file.txt

┌──(karun23👁kali)-[~]
└─$ rm user2_file.txt
```

Q2.)

```
┌──(root👁kali)-[~]
└─# ls -l /usr/bin/passwd
-rwsr-xr-x 1 root root 118168 Dec  6 07:51 /usr/bin/passwd

┌──(root👁kali)-[~]
└─# chmod 755 /usr/bin/passwd

┌──(root👁kali)-[~]
└─# ls -l /usr/bin/passwd
-rwxr-xr-x 1 root root 118168 Dec  6 07:51 /usr/bin/passwd

┌──(root👁kali)-[~]
└─# █
```

Q3.)

```
┌──(kali㉿kali)-[~]
└─$ sudo su -
[sudo] password for kali:
┌──(root㉿kali)-[~]
└─# mkdir attr

┌──(root㉿kali)-[~]
└─# cd attr/

┌──(root㉿kali)-[~/attr]
└─# touch file42

┌──(root㉿kali)-[~/attr]
└─# lsattr
────────────e───────  ./file42

┌──(root㉿kali)-[~/attr]
└─# chattr +i file42

┌──(root㉿kali)-[~/attr]
└─# lsattr
───i────────e───────  ./file42

┌──(root㉿kali)-[~/attr]
└─# rm -rf file42
rm: cannot remove 'file42': Operation not permitted

┌──(root㉿kali)-[~/attr]
└─# chattr -i file42

┌──(root㉿kali)-[~/attr]
└─# rm -rf file42

┌──(root㉿kali)-[~/attr]
└─#
```

Chapter 9:

9.6:

Q1.)

```
┌──(kali㉿kali)-[~]
└─$ echo cold > winter.txt
┌──(kali㉿kali)-[~]
└─$ echo hot > summer.txt
┌──(kali㉿kali)-[~]
└─$
```

Q2.)

```
┌──(kali㊉kali)-[~]
└─$ ln winter.txt hlwinter.txt

┌──(kali㊉kali)-[~]
└─$ ▮
```

Q3.)

```
┌──(kali㊉kali)-[~]
└─$ ls -li winter.txt summer.txt hlwinter.txt
1573723 -rw-rw──── 2 kali kali 5 Jan  5 09:25 hlwinter.txt
1573724 -rw-rw──── 1 kali kali 4 Jan  5 09:25 summer.txt
1573723 -rw-rw──── 2 kali kali 5 Jan  5 09:25 winter.txt

┌──(kali㊉kali)-[~]
└─$ ▮
```

Q4.)

```
┌──(kali㊉kali)-[~]
└─$ ls -i
1596056 CPU_Sync   1596099 Downloads  1596104 Pictures   1596105 Videos      1573723 hlwinter.txt  1618940 py_envs       1596046 sender         1573724 summer.txt  1596051 test2.c  1573723 winter.txt
1596098 Desktop    1607894 IPC        1596101 Public     1611427 endsemeval   1627298 karun         1596047 receiver      1596055 sender2        1595945 test        1596054 test3.c
1596102 Documents  1596103 Music      1596100 Templates  1573722 file         1627325 permissions   1596050 receiver2  1596053 sender_shared  1596049 test.c      1596052 test4.c

┌──(kali㊉kali)-[~]
└─$ find . -inum 1573723
./winter.txt
./hlwinter.txt

┌──(kali㊉kali)-[~]
└─$ find . -inum 1573723

┌──(kali㊉kali)-[~]
└─$ find . -inum 1573724
./summer.txt

┌──(kali㊉kali)-[~]
└─$ ▮
```

Q5.)

Ans.) name of the file in directory and the contents is stored in the disk.

Q6.)

```
┌──(kali㊉kali)-[~]
└─$ find . -inum 1573724
./summer.txt

┌──(kali㊉kali)-[~]
└─$ ln -s summer.txt slsummer.txt

┌──(kali㊉kali)-[~]
└─$ ▮
```

Q7.)

```
┌──(kali㊉kali)-[~]
└─$ sudo find / -inum 2 2>/dev/null

[sudo] password for kali:
/
/root/.cache/doc/by-app
/run/initramfs
/run/lock/subsys
/run/user/1000/systemd
/tmp/VMwareDnD
/proc/sys/fs/binfmt_misc/status
/sys/kernel/security/lsm
/sys/fs
/sys/fs/cgroup/cgroup.procs
/dev/vga_arbiter
/dev/pts/ptmx

┌──(kali㊉kali)-[~]
└─$
```

Q8.)


```
┌──(kali㊉kali)-[~]
└─$ ls -l /etc/init.d
total 284
-rwxr-xr-x 1 root root 2489 Aug 25  2023 apache-htcacheclean
-rwxr-xr-x 1 root root 8139 Oct 19  2023 apache2
-rwxr-xr-x 1 root root 3740 Jul 16  2023 apparmor
-rwxr-xr-x 1 root root 1614 Feb 19  2023 atftpd
-rwxr-xr-x 1 root root 2948 Jan  8  2024 bluetooth
-rwxr-xr-x 1 root root 1897 Oct  8 10:06 chrony
-rwxr-xr-x 1 root root 1235 Sep 23  2023 console-setup.sh
-rwxr-xr-x 1 root root 3100 Nov 25  2023 cron
-rwxr-xr-x 1 root root  937 Dec  5  2023 cryptdisks
-rwxr-xr-x 1 root root  896 Dec  5  2023 cryptdisks-early
-rwxr-xr-x 1 root root 3152 Jan  8  2024 dbus
-rwxr-xr-x 1 root root 1408 Aug  4  2020 dns2tcp
-rwxr-xr-x 1 root root 4358 Jul 11 00:55 exim4
-rwxr-xr-x 1 root root 3029 Jan 31  2024 gdm3
-rwxr-xr-x 1 root root  974 Jul 30  2023 gdomap
-rwxr-xr-x 1 root root 3615 Feb  2  2021 inetsim
-rwxr-xr-x 1 root root 4113 Sep 26  2020 iodined
-rwxr-xr-x 1 root root 3566 Jan 21  2024 ipsec
-rwxr-xr-x 1 root root 1482 Jul 18  2022 keyboard-setup.sh
-rwxr-xr-x 1 root root 2043 Sep 22  2023 kmod
-rwxr-xr-x 1 root root 2610 Nov 28  2023 lightdm
-rwxr-xr-x 1 root root  883 May 17  2016 lm-sensors
-rwxr-xr-x 1 root root 8465 Aug 16 22:17 mariadb
-rwxr-xr-x 1 root root 2882 Jul 26  2019 miredo
-rwxr-xr-x 1 root root 4322 Oct 21 07:42 mosquitto
-rwxr-xr-x 1 root root 4531 Jan 23  2023 networking
-rwxr-xr-x 1 root root 5619 Dec  3  2023 nfs-common
-rwxr-xr-x 1 root root 4579 Oct 10  2023 nginx
-rwxr-xr-x 1 root root 1287 Jan 29  2024 nmbd
-rw-r--r-- 1 root root 1917 Mar 10  2024 ntpsec
-rwxr-xr-x 1 root root 1846 Dec  7  2023 open-vm-tools
-rwxr-xr-x 1 root root 9138 Nov 11  2023 openvpn
```

```
┌──(kali㉿kali)-[~]
└─$ ls -l /etc/rc2.d
total 0
lrwxrwxrwx 1 root root 29 Oct  7 13:17 K01apache-htcacheclean → ../init.d/apache-htcacheclean
lrwxrwxrwx 1 root root 17 Oct  7 13:17 K01apache2 → ../init.d/apache2
lrwxrwxrwx 1 root root 16 Oct  7 13:14 K01atftpd → ../init.d/atftpd
lrwxrwxrwx 1 root root 19 Oct  7 13:14 K01bluetooth → ../init.d/bluetooth
lrwxrwxrwx 1 root root 17 Oct  7 13:13 K01dns2tcp → ../init.d/dns2tcp
lrwxrwxrwx 1 root root 15 Oct  7 14:06 K01exim4 → ../init.d/exim4
lrwxrwxrwx 1 root root 16 Oct  7 13:17 K01gdomap → ../init.d/gdomap
lrwxrwxrwx 1 root root 17 Oct  7 13:17 K01inetsim → ../init.d/inetsim
lrwxrwxrwx 1 root root 17 Oct  7 13:13 K01iodined → ../init.d/iodined
lrwxrwxrwx 1 root root 15 Oct  7 13:13 K01ipsec → ../init.d/ipsec
lrwxrwxrwx 1 root root 17 Oct  7 13:16 K01mariadb → ../init.d/mariadb
lrwxrwxrwx 1 root root 16 Oct  7 13:13 K01miredo → ../init.d/miredo
lrwxrwxrwx 1 root root 15 Oct  7 13:18 K01nginx → ../init.d/nginx
lrwxrwxrwx 1 root root 14 Oct  7 13:17 K01nmbd → ../init.d/nmbd
lrwxrwxrwx 1 root root 17 Oct  7 13:14 K01openvpn → ../init.d/openvpn
lrwxrwxrwx 1 root root 20 Oct  7 13:16 K01postgresql → ../init.d/postgresql
lrwxrwxrwx 1 root root 17 Oct  7 13:14 K01ptunnel → ../init.d/ptunnel
lrwxrwxrwx 1 root root 18 Oct  7 13:13 K01redsocks → ../init.d/redsocks
lrwxrwxrwx 1 root root 15 Oct  7 13:13 K01rwhod → ../init.d/rwhod
lrwxrwxrwx 1 root root 21 Oct  7 13:17 K01samba-ad-dc → ../init.d/samba-ad-dc
lrwxrwxrwx 1 root root 14 Oct  7 13:17 K01smbd → ../init.d/smbd
lrwxrwxrwx 1 root root 15 Oct  7 13:16 K01snmpd → ../init.d/snmpd
lrwxrwxrwx 1 root root 27 Oct  7 13:16 K01speech-dispatcher → ../init.d/speech-dispatcher
lrwxrwxrwx 1 root root 13 Oct  7 13:14 K01ssh → ../init.d/ssh
lrwxrwxrwx 1 root root 14 Oct  7 13:16 K01sslh → ../init.d/sslh
lrwxrwxrwx 1 root root 18 Oct  7 13:15 K01stunnel4 → ../init.d/stunnel4
lrwxrwxrwx 1 root root 16 Jan  2 11:42 S01chrony → ../init.d/chrony
lrwxrwxrwx 1 root root 26 Oct  7 13:04 S01console-setup.sh → ../init.d/console-setup.sh
lrwxrwxrwx 1 root root 14 Oct  7 13:03 S01cron → ../init.d/cron
lrwxrwxrwx 1 root root 14 Oct  7 13:13 S01dbus → ../init.d/dbus
lrwxrwxrwx 1 root root 14 Oct  7 13:19 S01gdm3 → ../init.d/gdm3
lrwxrwxrwx 1 root root 17 Oct  7 13:13 S01haveged → ../init.d/haveged
lrwxrwxrwx 1 root root 17 Oct  7 13:17 S01lightdm → ../init.d/lightdm
lrwxrwxrwx 1 root root 19 Oct  7 13:14 S01mosquitto → ../init.d/mosquitto
lrwxrwxrwx 1 root root 16 Jan  2 11:18 S01ntpsec → ../init.d/ntpsec
lrwxrwxrwx 1 root root 23 Oct  7 13:20 S01open-vm-tools → ../init.d/open-vm-tools
lrwxrwxrwx 1 root root 15 Oct  7 13:13 S01pcscd → ../init.d/pcscd
lrwxrwxrwx 1 root root 18 Oct  7 13:14 S01plymouth → ../init.d/plymouth
lrwxrwxrwx 1 root root 22 Oct  7 13:14 S01redis-server → ../init.d/redis-server
lrwxrwxrwx 1 root root 15 Oct  7 13:13 S01rsync → ../init.d/rsync
lrwxrwxrwx 1 root root 15 Oct  7 13:18 S01saned → ../init.d/saned
lrwxrwxrwx 1 root root 14 Oct  7 13:18 S01sddm → ../init.d/sddm
lrwxrwxrwx 1 root root 23 Oct  7 13:13 S01smartmontools → ../init.d/smartmontools
lrwxrwxrwx 1 root root 14 Oct  7 13:13 S01sudo → ../init.d/sudo
lrwxrwxrwx 1 root root 17 Oct  7 13:13 S01sysstat → ../init.d/sysstat
```

```
┌──(kali㉿kali)-[~]
└─$ ls -l /etc/rc3.d
total 0
lrwxrwxrwx 1 root root 29 Oct  7 13:17 K01apache-htcacheclean → ../init.d/apache-htcacheclean
lrwxrwxrwx 1 root root 17 Oct  7 13:17 K01apache2 → ../init.d/apache2
lrwxrwxrwx 1 root root 16 Oct  7 13:14 K01atftpd → ../init.d/atftpd
lrwxrwxrwx 1 root root 19 Oct  7 13:14 K01bluetooth → ../init.d/bluetooth
lrwxrwxrwx 1 root root 17 Oct  7 13:13 K01dns2tcp → ../init.d/dns2tcp
lrwxrwxrwx 1 root root 15 Oct  7 14:06 K01exim4 → ../init.d/exim4
lrwxrwxrwx 1 root root 16 Oct  7 13:17 K01gdomap → ../init.d/gdomap
lrwxrwxrwx 1 root root 17 Oct  7 13:17 K01inetsim → ../init.d/inetsim
lrwxrwxrwx 1 root root 17 Oct  7 13:13 K01iodined → ../init.d/iodined
lrwxrwxrwx 1 root root 15 Oct  7 13:13 K01ipsec → ../init.d/ipsec
lrwxrwxrwx 1 root root 17 Oct  7 13:16 K01mariadb → ../init.d/mariadb
lrwxrwxrwx 1 root root 16 Oct  7 13:13 K01miredo → ../init.d/miredo
lrwxrwxrwx 1 root root 15 Oct  7 13:18 K01nginx → ../init.d/nginx
lrwxrwxrwx 1 root root 14 Oct  7 13:17 K01nmbd → ../init.d/nmbd
lrwxrwxrwx 1 root root 17 Oct  7 13:14 K01openvpn → ../init.d/openvpn
lrwxrwxrwx 1 root root 20 Oct  7 13:16 K01postgresql → ../init.d/postgresql
lrwxrwxrwx 1 root root 17 Oct  7 13:14 K01ptunnel → ../init.d/ptunnel
lrwxrwxrwx 1 root root 18 Oct  7 13:13 K01redsocks → ../init.d/redsocks
lrwxrwxrwx 1 root root 15 Oct  7 13:13 K01rwhod → ../init.d/rwhod
lrwxrwxrwx 1 root root 21 Oct  7 13:17 K01samba-ad-dc → ../init.d/samba-ad-dc
lrwxrwxrwx 1 root root 14 Oct  7 13:17 K01smbd → ../init.d/smbd
lrwxrwxrwx 1 root root 15 Oct  7 13:16 K01snmpd → ../init.d/snmpd
lrwxrwxrwx 1 root root 27 Oct  7 13:16 K01speech-dispatcher → ../init.d/speech-dispatcher
lrwxrwxrwx 1 root root 13 Oct  7 13:14 K01ssh → ../init.d/ssh
lrwxrwxrwx 1 root root 14 Oct  7 13:16 K01sslh → ../init.d/sslh
lrwxrwxrwx 1 root root 18 Oct  7 13:15 K01stunnel4 → ../init.d/stunnel4
lrwxrwxrwx 1 root root 16 Jan  2 11:42 S01chrony → ../init.d/chrony
lrwxrwxrwx 1 root root 26 Oct  7 13:04 S01console-setup.sh → ../init.d/console-setup.sh
lrwxrwxrwx 1 root root 14 Oct  7 13:03 S01cron → ../init.d/cron
lrwxrwxrwx 1 root root 14 Oct  7 13:13 S01dbus → ../init.d/dbus
lrwxrwxrwx 1 root root 14 Oct  7 13:19 S01gdm3 → ../init.d/gdm3
lrwxrwxrwx 1 root root 17 Oct  7 13:13 S01haveged → ../init.d/haveged
lrwxrwxrwx 1 root root 17 Oct  7 13:17 S01lightdm → ../init.d/lightdm
lrwxrwxrwx 1 root root 19 Oct  7 13:14 S01mosquitto → ../init.d/mosquitto
lrwxrwxrwx 1 root root 16 Jan  2 11:18 S01ntpsec → ../init.d/ntpsec
lrwxrwxrwx 1 root root 23 Oct  7 13:20 S01open-vm-tools → ../init.d/open-vm-tools
lrwxrwxrwx 1 root root 15 Oct  7 13:13 S01pcscd → ../init.d/pcscd
lrwxrwxrwx 1 root root 18 Oct  7 13:14 S01plymouth → ../init.d/plymouth
lrwxrwxrwx 1 root root 22 Oct  7 13:14 S01redis-server → ../init.d/redis-server
lrwxrwxrwx 1 root root 15 Oct  7 13:13 S01rsync → ../init.d/rsync
lrwxrwxrwx 1 root root 15 Oct  7 13:18 S01saned → ../init.d/saned
lrwxrwxrwx 1 root root 14 Oct  7 13:18 S01sddm → ../init.d/sddm
lrwxrwxrwx 1 root root 23 Oct  7 13:13 S01smartmontools → ../init.d/smartmontools
lrwxrwxrwx 1 root root 14 Oct  7 13:13 S01sudo → ../init.d/sudo
lrwxrwxrwx 1 root root 17 Oct  7 13:13 S01sysstat → ../init.d/sysstat

┌──(kali㉿kali)-[~]
└─$
```

Q9.)

```
┌──(kali㊉kali)-[~]
└─$ ls -l /lib
lrwxrwxrwx 1 root root 7 Oct  7 13:03 /lib → usr/lib

┌──(kali㊉kali)-[~]
```

Q10.)

```
┌──(kali㊉kali)-[~]
└─$ find ~ ! -links 1 -type f
/home/kali/winter.txt
/home/kali/hlwinter.txt

┌──(kali㊉kali)-[~]
└─$
```