Using UNIX Basic Commands:
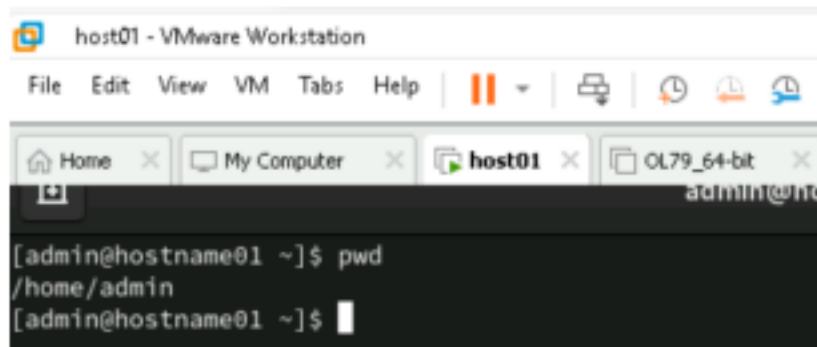
1. To display the current working directory, the command is:
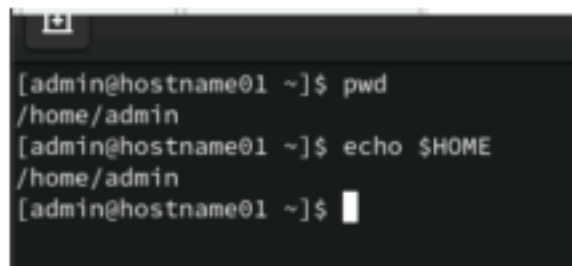
   pwd

   The output is as follows.
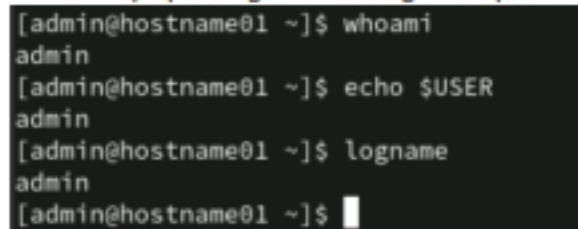
   /home/admin


```
[admin@hostname01 ~]$ pwd
/home/admin
[admin@hostname01 ~]$ █
```

2. Display the path to and name of your HOME directory.

```
[admin@hostname01 ~]$ pwd
/home/admin
[admin@hostname01 ~]$ echo $HOME
/home/admin
[admin@hostname01 ~]$ █
```

3. Display the login name using which you have logged into the system

```
[admin@hostname01 ~]$ whoami
admin
[admin@hostname01 ~]$ echo $USER
admin
[admin@hostname01 ~]$ logname
admin
[admin@hostname01 ~]$ █
```

4. Display the hidden files of your current directory.

```
[admin@hostname01 ~]$ ls -a
.    .bash_history  .bash_profile  .cache   Desktop    Downloads  .mozilla  Pictures  Templates
..   .bash_logout   .bashrc        .config  Documents  .local     Music     Public    Videos
[admin@hostname01 ~]$
```

5. List the names of all the files in your home directory.

```
[admin@hostname01 ~]$ ls -al
total 28
drwx------.  14 admin admin 4096 Aug 25  2022 .
drwxr-xr-x.   4 root  root    33 Jun 25  2024 ..
-rw-------.   1 admin admin  162 Jan  4 18:51 .bash_history
-rw-r--r--.   1 admin admin   18 Nov  5  2021 .bash_logout
-rw-r--r--.   1 admin admin  141 Nov  5  2021 .bash_profile
-rw-r--r--.   1 admin admin  492 Nov  5  2021 .bashrc
drwxr-xr-x.  15 admin admin 4096 Dec  9 17:14 .cache
drwxr-xr-x.  11 admin admin 4096 Dec 11 10:13 .config
drwxr-xr-x.   2 admin admin    6 Dec 24 19:53 Desktop
drwxr-xr-x.   2 admin admin    6 Aug 25  2022 Documents
drwxr-xr-x.   2 admin admin   50 Aug 25  2022 Downloads
drwx------.   4 admin admin   32 Aug 25  2022 .local
drwxr-xr-x.   6 admin admin   81 Aug 25  2022 .mozilla
drwxr-xr-x.   2 admin admin    6 Aug 25  2022 Music
drwxr-xr-x.   2 admin admin    6 Aug 25  2022 Pictures
drwxr-xr-x.   2 admin admin    6 Aug 25  2022 Public
drwxr-xr-x.   2 admin admin    6 Aug 25  2022 Templates
drwxr-xr-x.   2 admin admin    6 Aug 25  2022 Videos
[admin@hostname01 ~]$
```

6. Using the long listing format to display the files in your directory.

```
[admin@hostname01 ~]$ ls -al
total 28
drwx------.  14 admin admin 4096 Aug 25  2022 .
drwxr-xr-x.   4 root  root    33 Jun 25  2024 ..
-rw-------.   1 admin admin  162 Jan  4 18:51 .bash_history
-rw-r--r--.   1 admin admin   18 Nov  5  2021 .bash_logout
-rw-r--r--.   1 admin admin  141 Nov  5  2021 .bash_profile
-rw-r--r--.   1 admin admin  492 Nov  5  2021 .bashrc
drwxr-xr-x.  15 admin admin 4096 Dec  9 17:14 .cache
drwxr-xr-x.  11 admin admin 4096 Dec 11 10:13 .config
drwxr-xr-x.   2 admin admin    6 Dec 24 19:53 Desktop
drwxr-xr-x.   2 admin admin    6 Aug 25  2022 Documents
drwxr-xr-x.   2 admin admin   50 Aug 25  2022 Downloads
drwx------.   4 admin admin   32 Aug 25  2022 .local
drwxr-xr-x.   6 admin admin   81 Aug 25  2022 .mozilla
drwxr-xr-x.   2 admin admin    6 Aug 25  2022 Music
drwxr-xr-x.   2 admin admin    6 Aug 25  2022 Pictures
drwxr-xr-x.   2 admin admin    6 Aug 25  2022 Public
drwxr-xr-x.   2 admin admin    6 Aug 25  2022 Templates
drwxr-xr-x.   2 admin admin    6 Aug 25  2022 Videos
[admin@hostname01 ~]$
```

7. List the files beginning with chap followed by any number or any lower case alphabet. (Example , it should display all files whose names are like chap1, chap2, chap3 ...., chapa,ahapb,chapc,.........)

```
[root@hostname01 ~]# ls
abd              cad    chad    chap2  chapad    chaper    Documents  Music      Public     Videos
anaconda-ks.cfg  chab   chap1   chap3  chapad1   Desktop   Downloads  Pictures   Templates
[root@hostname01 ~]# ls | grep "chap"
chap1
chap2
chap3
chapad
chapad1
chaper
[root@hostname01 ~]#
```

8. Give appropriate command to create a directory called C_prog under your home directory. (Note: Check the directory using ls)

```
[root@hostname01 ~]# echo $HOME
/root
[root@hostname01 ~]# mkdir -p Cprog
[root@hostname01 ~]# ls -ld
dr-xr-x---. 15 root root 4096 Jan  9 23:20 .
[root@hostname01 ~]# ls
abd              cad    chad    chap2  chapad    chaper   Desktop    Downloads  Pictures  Templates
anaconda-ks.cfg  chab   chap1   chap3  chapad1   Cprog    Documents  Music      Public    Videos
```

9. Create the following directories under your home directory. (Note: Check using ls)

   newdir

   newdirectory

```
[root@hostname01 ~]# mkdir -p newdir newdirectory
[root@hostname01 ~]# ls
abd              chab   chap2  chapad1  Desktop    Music         Pictures   Videos
anaconda-ks.cfg  chad   chap3  chaper   Documents  newdir        Public
cad              chap1  chapad Cprog    Downloads  newdirectory  Templates
```

10. List the names of all the files, including the contents of the sub directories under your home directory.

```
[root@hostname01 ~]# tree
.
├── abd
├── anaconda-ks.cfg
├── cad
├── chab
├── chad
├── chap1
├── chap2
├── chap3
├── chapad
├── chapad1
├── chaper
├── Cprog
├── Desktop
├── Documents
├── Downloads
├── Music
├── newdir
├── newdirectory
├── Pictures
```

11. Remove the directory called newdirectory from your working directory.

```
[root@hostname01 ~]# rmdir  newdirectory
[root@hostname01 ~]# ls
abd              cad   chad   chap2  chapad   chaper  Desktop    Downloads  newdir    Public     Videos
anaconda-ks.cfg  chab  chap1  chap3  chapad1  Cprog   Documents  Music      Pictures  Templates
[root@hostname01 ~]#
```

12. Create a directory called temp under your home directory.

```
[root@hostname01 ~]# mkdir /root/temp
[root@hostname01 ~]# ls
abd              cad   chad   chap2  chapad   chaper  Desktop    Downloads  newdir    Public     Templates
anaconda-ks.cfg  chab  chap1  chap3  chapad1  Cprog   Documents  Music      Pictures  temp       Videos
[root@hostname01 ~]# tree /root
```

13. Remove the directory called newdir under your home directory and verify the above with the help of the directory listing command.

```
[root@hostname01 ~]# rmdir newdir
[root@hostname01 ~]# ls -ld
dr-xr-x---. 16 root root 4096 Jan  9 23:31
```

14. Create another directory directorynew under the temp directory.

```
[root@hostname01 ~]# mkdir /root/temp/directorynew
[root@hostname01 ~]# tree /root
/root
├── abd
├── anaconda-ks.cfg
├── cad
├── chab
├── chad
├── chap1
├── chap2
├── chap3
├── chapad
├── chapad1
├── chaper
├── Cprog
├── Desktop
├── Documents
├── Downloads
├── Music
├── Pictures
```

```
/root
├── abd
├── anaconda-ks.cfg
├── cad
├── chab
├── chad
├── chap1
├── chap2
├── chap3
├── chapad
├── chapad1
├── chaper
├── Cprog
├── Desktop
├── Documents
├── Downloads
├── Music
├── Pictures
├── Public
├── temp
│   └── directorynew
```

15. Change the directory to your home directory.

```
[root@hostname01 ~]# cd ~
[root@hostname01 ~]# cd $HOME
[root@hostname01 ~]# cd
[root@hostname01 ~]#
```

16. From your home directory, change the directory to directorynew using relative and

absolute path.

```
[root@hostname01 ~]# cd /root/temp/directorynew
[root@hostname01 directorynew]#
```

```
[root@hostname01 ~]# cd temp/directorynew
[root@hostname01 directorynew]#
```

```
[root@hostname01 ~]# cd ./temp/directorynew
[root@hostname01 directorynew]#
```

17. Remove the directory called c_prog, which is in your home directory.

```
[root@hostname01 ~]# rmdir cprog
[root@hostname01 ~]# ls
abd              cad    chad   chap2  chapad  chaper    Documents  Music     Public    Templates
anaconda-ks.cfg  chab   chap1  chap3  chapad1 Desktop   Downloads  Pictures  temp      Videos
[root@hostname01 ~]#
```

18. Change to the directory /etc and display the files present in it.

```
[root@hostname01 ~]# cd /etc
[root@hostname01 etc]# ls
accountsservice          dnf                keys             ostree          sos
adjtime                  dnsmasq.conf       keyutils         PackageKit      speech-dispatcher
aliases                  dnsmasq.d          krb5.conf        pam.d           ssh
alsa                     dracut.conf        krb5.conf.d      papersize       ssl
alternatives             dracut.conf.d      ld.so.cache      passwd          sssd
anacrontab               egl                ld.so.conf       passwd-         statetab.d
appstream.conf           enscript.cfg       ld.so.conf.d     pbm2ppa.conf    subgid
asound.conf              environment        libaudit.conf    pinforc         subgid-
at.deny                  ethertypes         libblockdev      pkcs11          subuid
audit                    exports            libibverbs.d     pkgconfig       subuid-
authselect               favicon.png        libnl            pki             sudo.conf
avahi                    filesystems        libpaper.d       plymouth        sudoers
bash_completion.d        firefox            libreport        pm              sudoers.d
bashrc                   firewalld          libssh           pnm2ppa.conf    sudo-ldap.conf
bindresvport.blacklist   flatpak            libuser.conf     polkit-1        sysconfig
binfmt.d                 fonts              locale.conf      popt.d          sysctl.conf
```

19. List the names of all the files that begin with a dot in the /usr/bin directory.

```
[root@hostname01 etc]# ls -a /usr/bin | grep "^\."
.
..
[root@hostname01 etc]#
```

20. Create a file first.unix with the following contents.

Hi! Good Morning everybody.

Welcome to the First exercise on UNIX.

Hope you enjoy doing the assignments.

```
[root@hostname01 etc]# echo "Hi! Good Morning everbody" > first.unix
[root@hostname01 etc]# cat first.unix
Hi! Good Morning everbody
```

21. Copy the file first.unix in your home directory to first.unics.

    (Note: checked using ls, first.unix file also should exist along with first.unics)

```
[root@hostname01 ~]# ls
abd              cad    chad   chap2  chapad   chaper    Documents  first.unics  Music     Public    Templates
anaconda-ks.cfg  chab   chap1  chap3  chapad1  Desktop   Downloads  first.unix   Pictures  temp      Videos
[root@hostname01 ~]#
```

22. List the contents of first.unix and first.unics with a single command.

```
[root@hostname01 ~]# ls
abd              cad    chad   chap2  chapad   chaper    Documents  first.unics  Music     Public    Templates
anaconda-ks.cfg  chab   chap1  chap3  chapad1  Desktop   Downloads  first.unix   Pictures  temp      Videos
[root@hostname01 ~]# cat first.unix first.unics
Hi! Good Morning everbody
Hi! Good Morning everbody
[root@hostname01 ~]#
```

23. Create a new directory under the temp directory.

Mkdir /root/temp/new1

```
      chad
  ├── chap1
  ├── chap2
  ├── chap3
  ├── chapad
  ├── chapad1
  ├── chaper
  ├── Desktop
  ├── Documents
  ├── Downloads
  ├── first.unics
  ├── first.unix
  ├── Music
  ├── Pictures
  ├── Public
  ├── temp
  │   ├── directorynew
  │   └── new1
  ├── Templates
  └── Videos
```

24. From your home directory, copy all the files to the directory created under the
    temp sub directory.

```
[root@hostname01 ~]# cp -rf /* /root/temp/new1
cp: error reading '/proc/1/task/1/mem': Input/output error
cp: error reading '/proc/1/task/1/clear_refs': Invalid argument
^L^C
[root@hostname01 ~]# ls /root/temp/new1
abd              bin   chab   chap2   chapad1   Downloads   home    media   opt        root
afs              boot  chad   chap3   chaper    etc         lib     mnt     Pictures   temp
anaconda-ks.cfg  cad   chap1  chapad  dev                 first.unix  lib64   Music   proc       Templates
[root@hostname01 ~]#
```

25. Move the file first.unix to the directory temp as second.unix

```
[root@hostname01 ~]# mv ~/first.unix /root/temp/second.unix
[root@hostname01 ~]# ls /root/temp/
directorynew  new1  second.unix
[root@hostname01 ~]#
```

26. Remove the file called first.unics from the home directory.

```
[root@hostname01 ~]# rm -rf first.unics
[root@hostname01 ~]# ls
abd              cad   chad   chap2   chapad    chaper    Documents  Music      Public    Templates
anaconda-ks.cfg  chab  chap1  chap3   chapad1   Desktop   Downloads  Pictures   temp      Videos
[root@hostname01 ~]#
```

27. Change your directory to temp and issue the command rm *.   What do you observe?

```
[root@hostname01 ~]# cd temp
[root@hostname01 temp]# rm *.
rm: cannot remove '*.': No such file or directory
[root@hostname01 temp]#
```

28. Move all files whose names end with a, c and o to the HOME directory.

mv *[a,c,o] ~/

29. Copy all files that end with a 'UNIX' to the temp directory.

Cp *UNIX /root/temp

30. Issuing a single command, remove all the files from the directory temp and the directory itself.

```
[root@hostname01 temp]# rm -rf /root/temp/* && rmdir /root/temp
[root@hostname01 temp]# ls
[root@hostname01 temp]# cd
[root@hostname01 ~]# ls
abd              cad   chad   chap2   chapad    chaper    Documents  Music      Public     Videos
anaconda-ks.cfg  chab  chap1  chap3   chapad1   Desktop   Downloads  Pictures   Templates
[root@hostname01 ~]#
```

31. Try commands cp and mv with invalid number of arguments and note the results.

```
[root@hostname01 ~]# cp /temp
cp: missing destination file operand after '/temp'
Try 'cp --help' for more information.
[root@hostname01 ~]# cp ./new1 /temp
cp: cannot stat './new1': No such file or directory
[root@hostname01 ~]# mv new1 new2
mv: cannot stat 'new1': No such file or directory
[root@hostname01 ~]#
```

32. Use the cat command to create a file friends, with the following data:

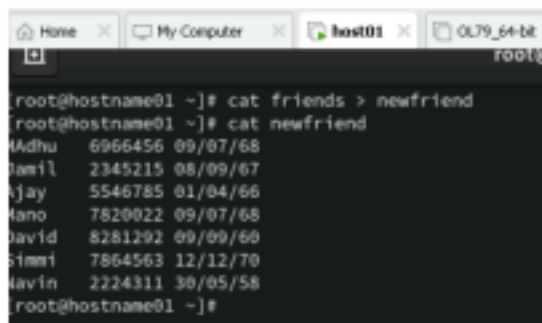| Madhu	6966456	09/07/68
Jamil	2345215	08/09/67
Ajay	5546785	01/04/66
Mano	7820022	09/07/68
David	8281292	09/09/60
Simmi	7864563	12/12/70
Navin	2224311	30/05/68

The fields should be separated by a tab.

```
[root@hostname01 ~]# cat >>friends
MAdhu   6966456 09/07/68
Jamil   2345215 08/09/67
Ajay    5546785 01/04/66
Mano   .7820022 09/07/68
David   8281292 09/09/60
Simmi   7864563 12/12/70
Navin   2224311 30/05/58
[root@hostname01 ~]#
```
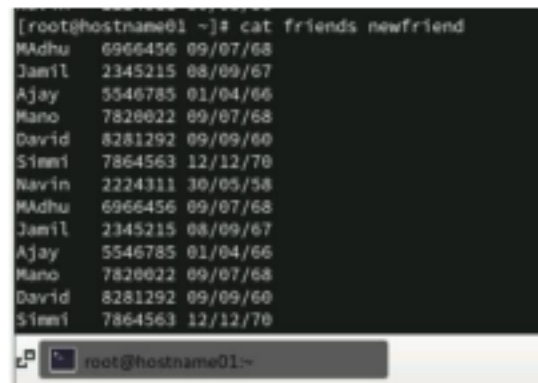
33. Display contents of the file friends.

```
[root@hostname01 ~]# cat friends
MAdhu   6966456 09/07/68
Jamil   2345215 08/09/67
Ajay    5546785 01/04/66
Mano    7820022 09/07/68
David   8281292 09/09/60
Simmi   7864563 12/12/70
```

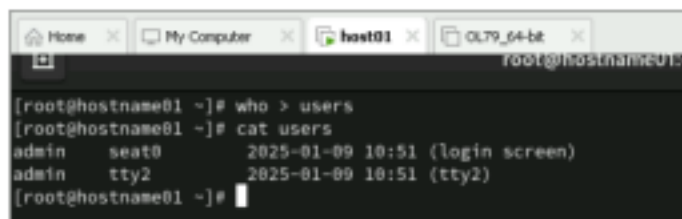**34. Copy contents of friends to newfriend without using the cp command.**

```
[root@hostname01 ~]# cat friends > newfriend
[root@hostname01 ~]# cat newfriend
MAdhu    6966456 09/07/68
Jamil    2345215 08/09/67
Ajay     5546785 01/04/66
Mano     7820022 09/07/68
David    8281292 09/09/60
Simmi    7864563 12/12/70
Navin    2224311 30/05/58
[root@hostname01 ~]#
```

35. Display contents of the file friends and newfriends in a single command.

```
[root@hostname01 ~]# cat friends newfriend
MAdhu    6966456 09/07/68
Jamil    2345215 08/09/67
Ajay     5546785 01/04/66
Mano     7820022 09/07/68
David    8281292 09/09/60
Simmi    7864563 12/12/70
Navin    2224311 30/05/58
MAdhu    6966456 09/07/68
Jamil    2345215 08/09/67
Ajay     5546785 01/04/66
Mano     7820022 09/07/68
David    8281292 09/09/60
Simmi    7864563 12/12/70
```
root@hostname01:~

36. Find all users currently working on the system and store the output in a file named as users.

```
[root@hostname01 ~]# who > users
[root@hostname01 ~]# cat users
admin    seat0        2025-01-09 10:51 (login screen)
admin    tty2         2025-01-09 10:51 (tty2)
[root@hostname01 ~]#
```

37. Append contents of friends file to the file, users.

```
[root@hostname01 ~]# cat friends >> users
[root@hostname01 ~]# cat users
admin    seat0        2025-01-09 10:51 (login screen)
admin    tty2         2025-01-09 10:51 (tty2)
MAdhu    6966456 09/07/68
Jamil    2345215 08/09/67
Ajay     5546785 01/04/66
Mano     7820022 09/07/68
David    8281292 09/09/68
Simmi    7864563 12/12/70
Navin    2224311 30/05/58
[root@hostname01 ~]#
```

38. Display current system date and time and record your observations. How is the time displayed?

```
[root@hostname01 ~]# date
Fri Jan 10 09:35:53 PM IST 2025
[root@hostname01 ~]#
```

root@hostname01:~

The date and time is displayed by day of week,month,date time and lastly year.

39. Display calendar for the month and year of your birth.

```
[root@hostname01 ~]# cal 5 2002
     May 2002
Su Mo Tu We Th Fr Sa
          1  2  3  4
 5  6  7  8  9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30 31
```

root@hostname01:~

40. Try following commands and record your observations.

date "+ %"

date "+%m"

date "+%D"

date "+%/%Training Activity"

date "+%Training Activity"

date "+%r"

```
[root@hostname01 ~]# date "+%"
%
[root@hostname01 ~]# date "+%m"
01
[root@hostname01 ~]# date "+%D"
01/10/25
[root@hostname01 ~]# date "+%/%Training Activity"
%/21:42:40raining Activity
[root@hostname01 ~]# date "+%Training Activity"
21:42:52raining Activity
[root@hostname01 ~]# date "+%r"
09:43:10 PM
[root@hostname01 ~]#
```

root@hostname01:~

Using Pipes and Filters:

    1: Redirect the content of the help document ls, into a file called as lsdoc.

```
[root@hostname01 ~]# ls --help > lsdoc
[root@hostname01 ~]#
```

    2: Display the content of the lsdoc page wise.

less lsdoc   #is command that can be used

```
Usage: ls [OPTION]... [FILE]...
List information about the FILEs (the current directory by default).
Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.

Mandatory arguments to long options are mandatory for short options too.
  -a, --all                  do not ignore entries starting with .
  -A, --almost-all           do not list implied . and ..
      --author               with -l, print the author of each file
  -b, --escape               print C-style escapes for nongraphic characters
      --block-size=SIZE      with -l, scale sizes by SIZE when printing them;
                               e.g., '--block-size=M'; see SIZE format below
  -B, --ignore-backups       do not list implied entries ending with ~
  -c                         with -lt: sort by, and show, ctime (time of last
                               modification of file status information);
                               with -l: show ctime and sort by name;
                               otherwise: sort by ctime, newest first
  -C                         list entries by columns
      --color[=WHEN]         colorize the output; WHEN can be 'always' (default
                               if omitted), 'auto', or 'never'; more info below
  -d, --directory            list directories themselves, not their contents
  -D, --dired                generate output designed for Emacs' dired mode
  -f                         do not sort, enable -aU, disable -ls --color
  -F, --classify             append indicator (one of */=>@|) to entries
      --file-type            likewise, except do not append '*'
      --format=WORD          across -x, commas -m, horizontal -x, long -l,
                               single-column -1, verbose -l, vertical -C
:
```

3: Create a file data.txt using input redirection.

```
[root@hostname01 ~]# less lsdoc
[root@hostname01 ~]# cat > data.txt
hi,i am practising here
[root@hostname01 ~]#
```

4: Display data.txt.

```
root@hostname01 ~]# cat > data.txt
i,i am practising here
root@hostname01 ~]# cat data.txt
i,i am practising here
root@hostname01 ~]#
```

5: Remove the file data.txt.

```
[root@hostname01 ~]# rm -rf data.txt
[root@hostname01 ~]#
```

6: Use error redirection to display data.txt, if any error stores it in errorlog.txt

7: Display errorlog file.

```
[root@hostname01 ~]# cat data.txt 2> errorlog.txt
[root@hostname01 ~]# cat eoorlog.txt
cat: eoorlog.txt: No such file or directory
[root@hostname01 ~]# cat errorlog.txt
cat: data.txt: No such file or directory
[root@hostname01 ~]#
```