

# Linux commands

## Tech Training Team

# Linux Commands – Course Contents

## 1) Introduction

- Linux operating system architecture
- Boot Menu – Grub Menu
- How to log in
- Desktop Snapshot
- Runlevels in Linux
- How to change your password
- How to log out

# Linux Commands – Course Contents

## 2) The file system

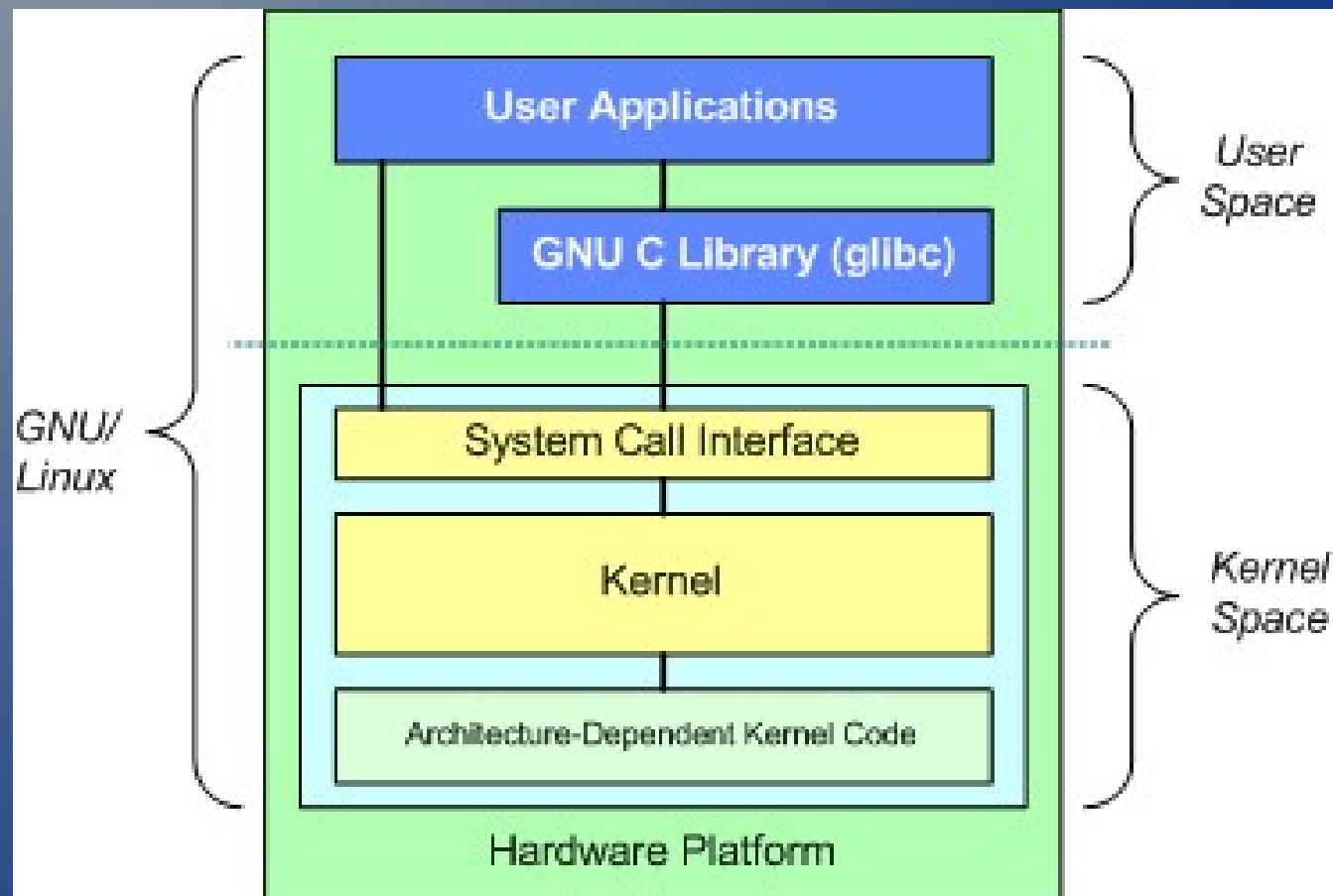
- The role of the file system
- Various rules for naming files
- Absolute and relative pathnames
- Working directory and home directory
- File system hierarchy - major directories
- File system commands and major options: pwd, cd, ls, cat, cp, mv,
- rm, mkdir, more, head, tail



# Linux Commands – Course Contents

- The . and .. and ~ abbreviations
- Hard and symbolic links

# GNU/Linux Operating System Architecture



# Boot Menu – Grub Menu

GNU GRUB version 0.97 (639K lower / 823232K upper memory)

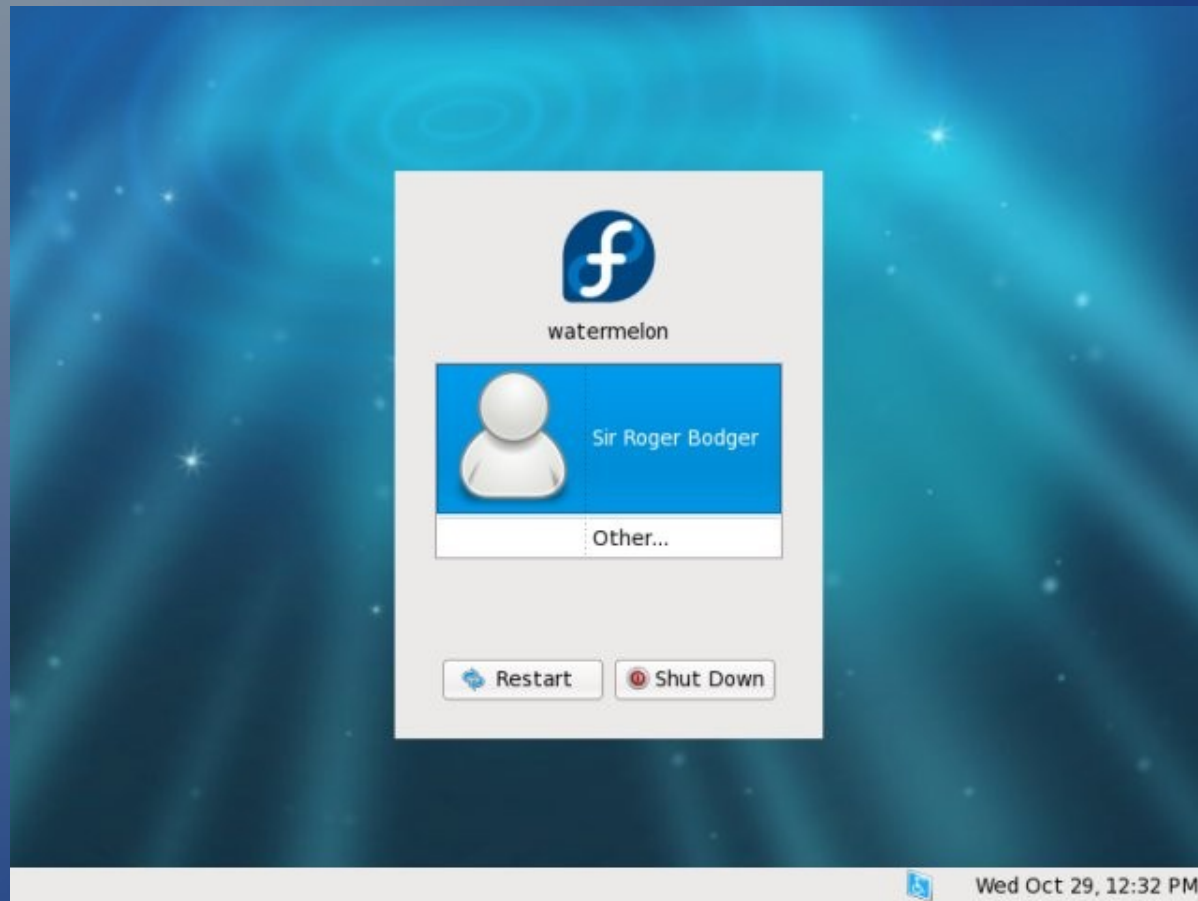
Fedora (2.6.29.5-191.fc11.i586)  
Fedora (2.6.29.4-167.fc11.i586)

Use the ↑ and ↓ keys to select which entry is highlighted.  
Press enter to boot the selected OS, 'e' to edit the  
commands before booting, 'a' to modify the kernel arguments  
before booting, or 'c' for a command-line.

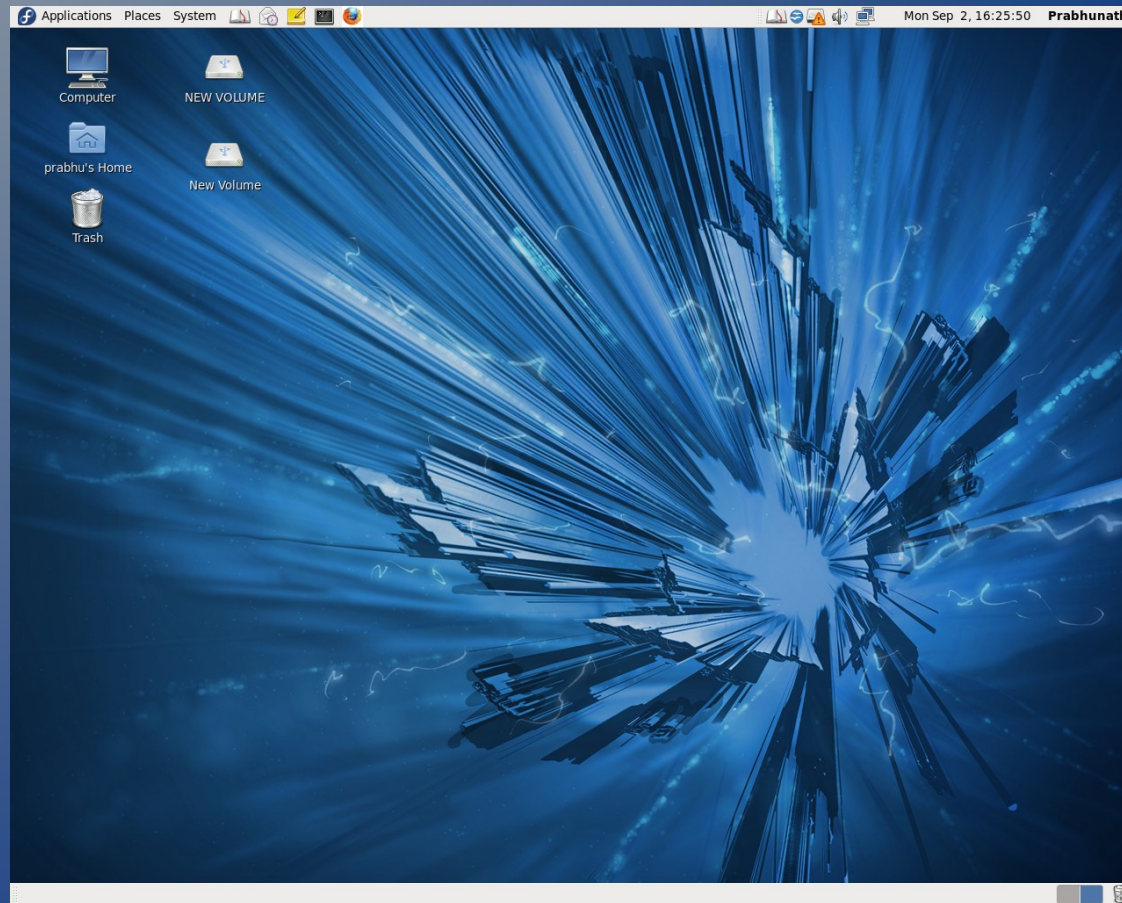
The highlighted entry will be booted automatically in 7 seconds.

fedora™

# Logging IN



# Fedora 14 Desktop View

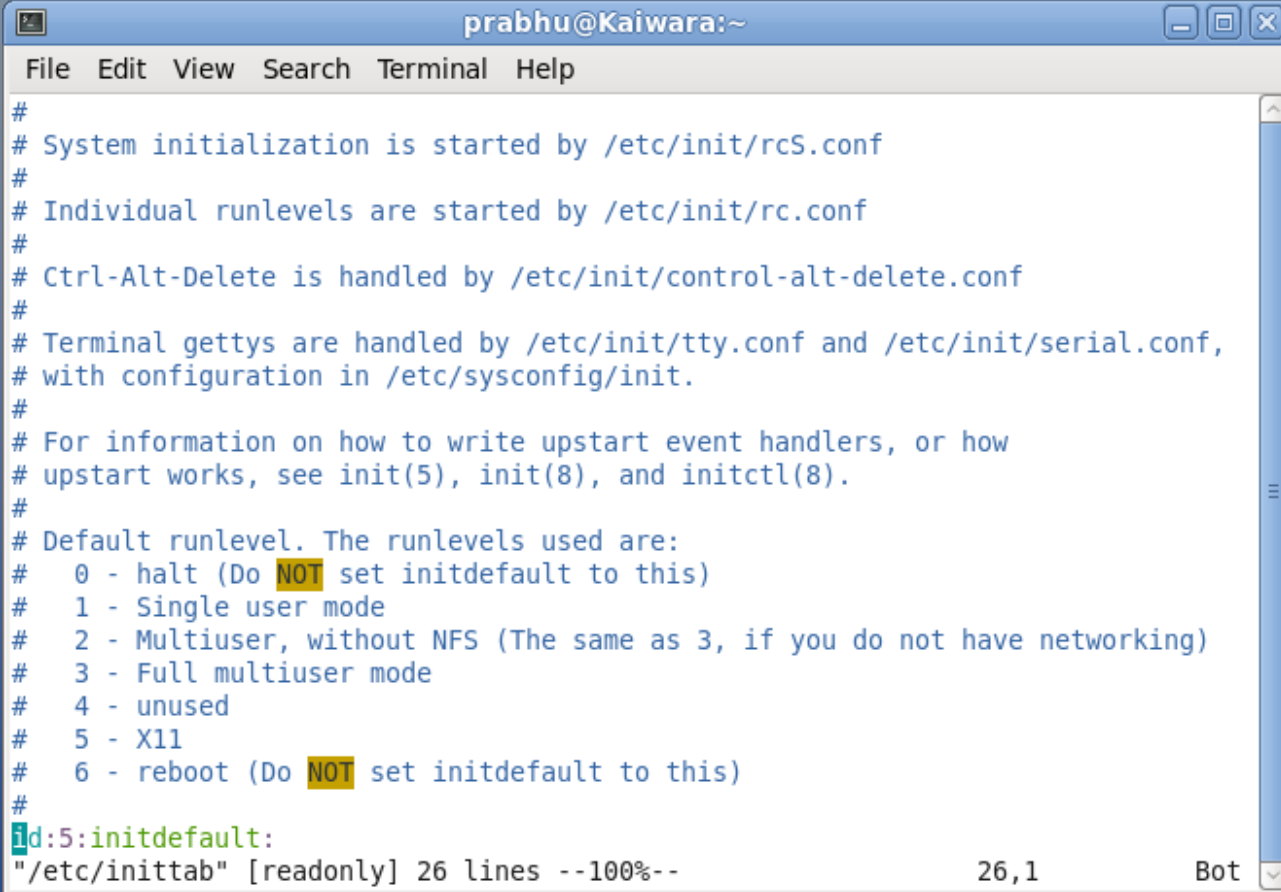




# Runlevels in GNU/Linux

Run Level	Name	Description
<b>0</b>	<i>Halt</i>	Shuts down all services when the system will not be rebooted.
<b>1</b>	<i>Single User</i>	Used for system maintenance. No Networking capabilities.
<b>2</b>	<i>MultiUser</i> <i>No Network Support</i>	Used for maintenance and system testing.
<b>3</b>	<i>MultiUser</i> <i>Network Support</i>	Non-Graphical Text Mode operations for server systems.
<b>4</b>	-	Custom Mode, used by SysAdmin
<b>5</b>	<i>Graphical</i> <i>X11</i>	Graphical login with same usability of Run Level 3.
<b>6</b>	<i>Reboot</i>	Shuts down all services when the system is being rebooted.

# Runlevels in GNU/Linux

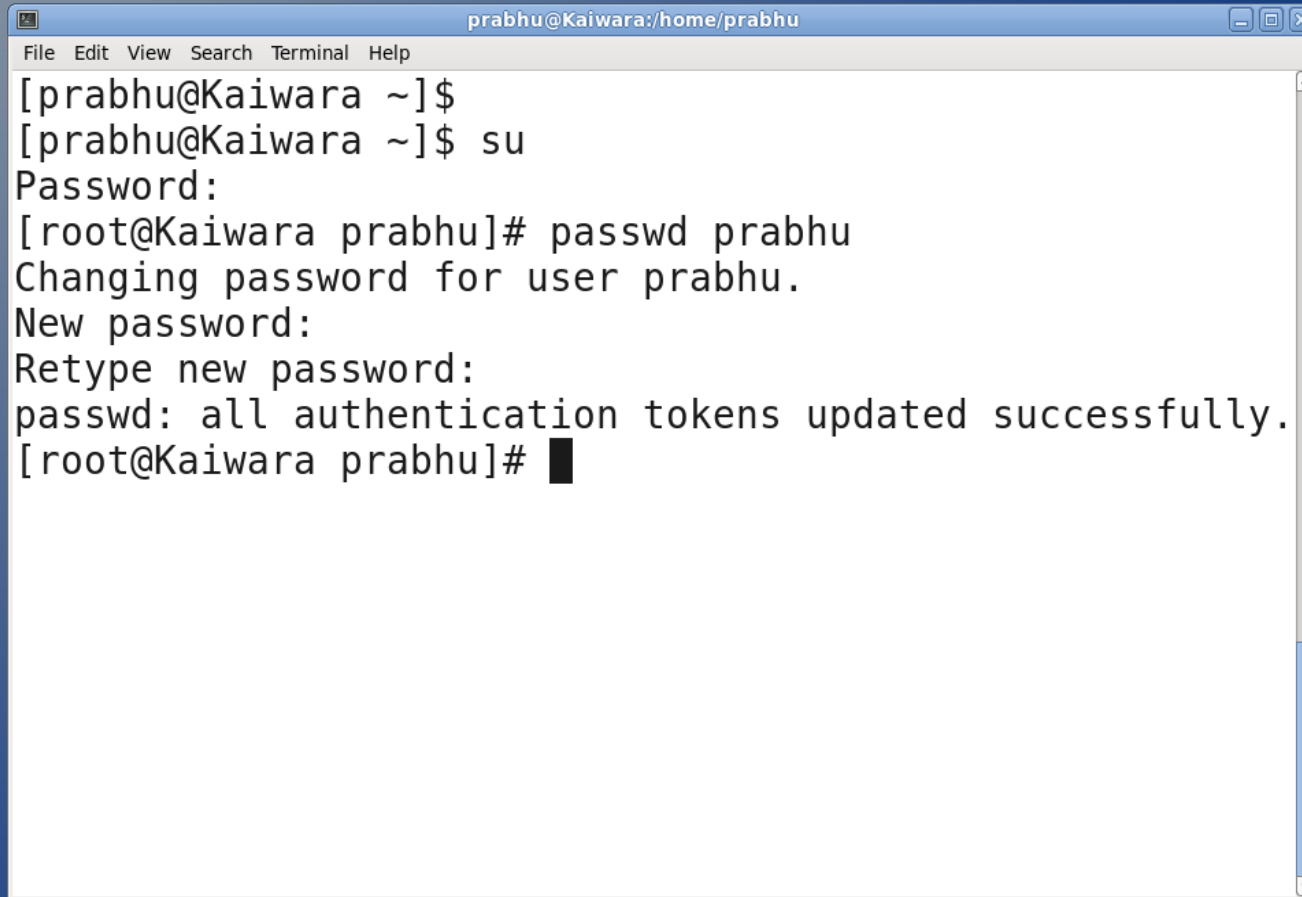


A terminal window titled 'prabhu@Kaiwara:~' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal displays the contents of the /etc/inittab file. The text is as follows:

```
#
# System initialization is started by /etc/init/rcS.conf
#
# Individual runlevels are started by /etc/init/rc.conf
#
# Ctrl-Alt-Delete is handled by /etc/init/control-alt-delete.conf
#
# Terminal gettys are handled by /etc/init/tty.conf and /etc/init/serial.conf,
# with configuration in /etc/sysconfig/init.
#
# For information on how to write upstart event handlers, or how
# upstart works, see init(5), init(8), and initctl(8).
#
# Default runlevel. The runlevels used are:
# 0 - halt (Do NOT set initdefault to this)
# 1 - Single user mode
# 2 - Multiuser, without NFS (The same as 3, if you do not have networking)
# 3 - Full multiuser mode
# 4 - unused
# 5 - X11
# 6 - reboot (Do NOT set initdefault to this)
#
id:5:initdefault:
"/etc/inittab" [readonly] 26 lines --100%--
```

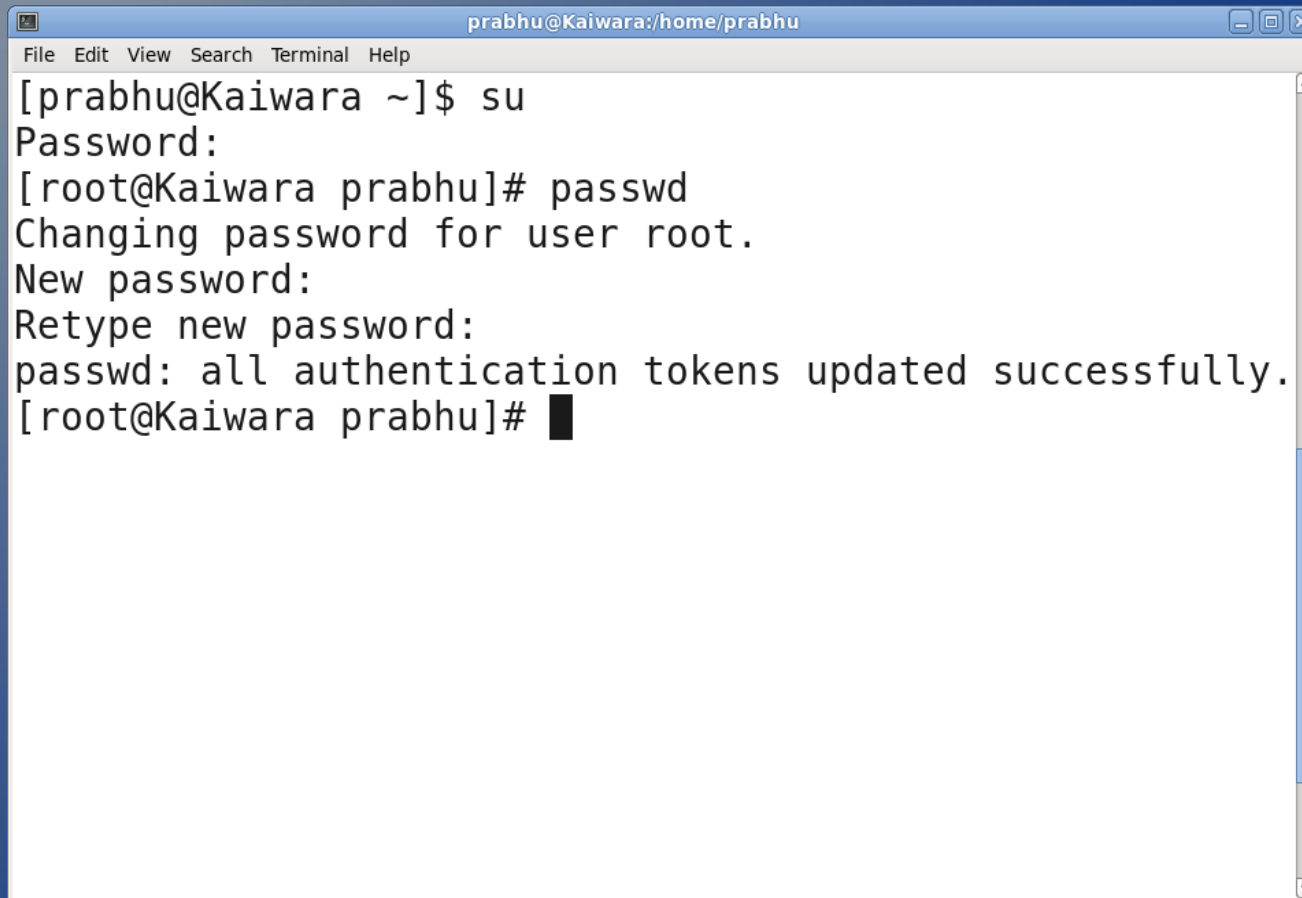
The status bar at the bottom right shows '26,1' and 'Bot'.

# Change user password

A terminal window titled 'prabhu@Kaiwara:/home/prabhu' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows a user switching to root and using the 'passwd' command to change their own password. The process includes prompts for the new password and confirmation, followed by a success message from the 'passwd' utility.

```
prabhu@Kaiwara:/home/prabhu
File Edit View Search Terminal Help
[prabhu@Kaiwara ~]$
[prabhu@Kaiwara ~]$ su
Password:
[root@Kaiwara prabhu]# passwd prabhu
Changing password for user prabhu.
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
[root@Kaiwara prabhu]#
```

# Change root password

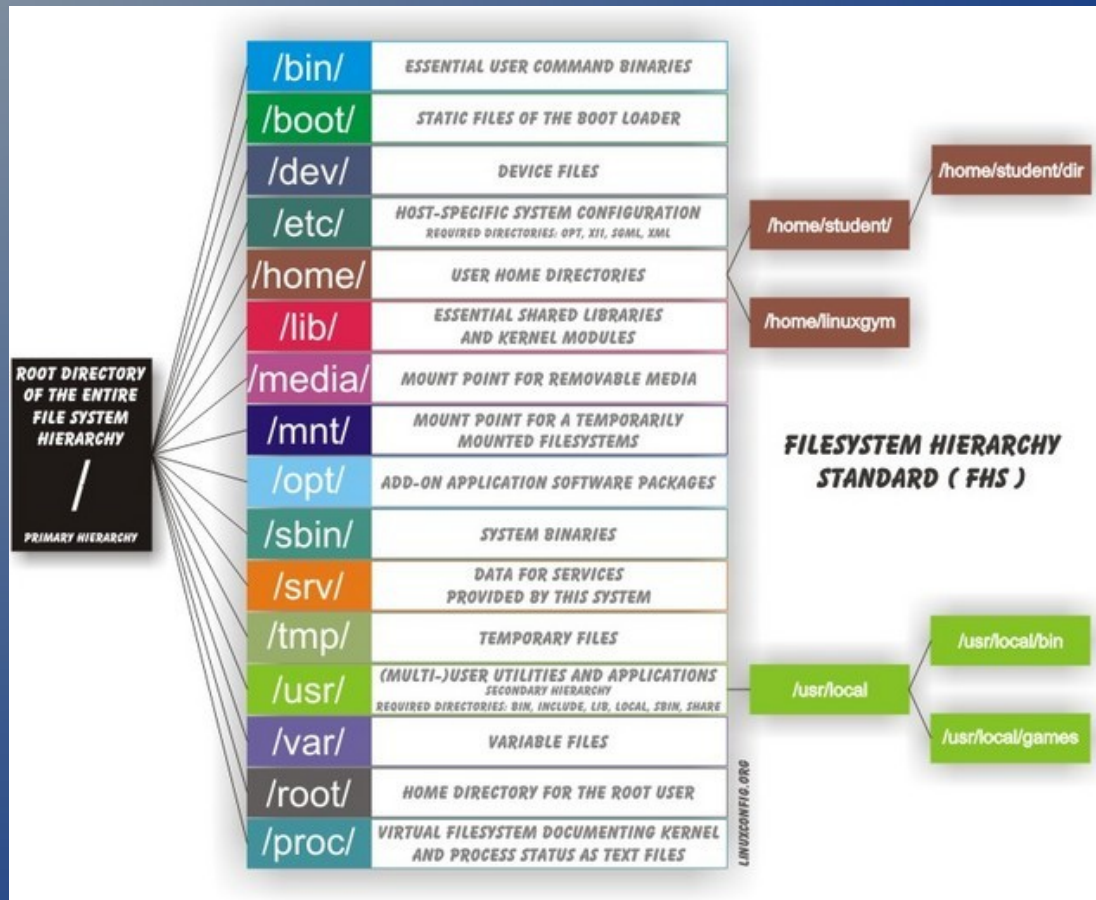
A terminal window titled 'prabhu@Kaiwara:/home/prabhu' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the following commands and output:

```
[prabhu@Kaiwara ~]$ su
Password:
[root@Kaiwara prabhu]# passwd
Changing password for user root.
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
[root@Kaiwara prabhu]#
```

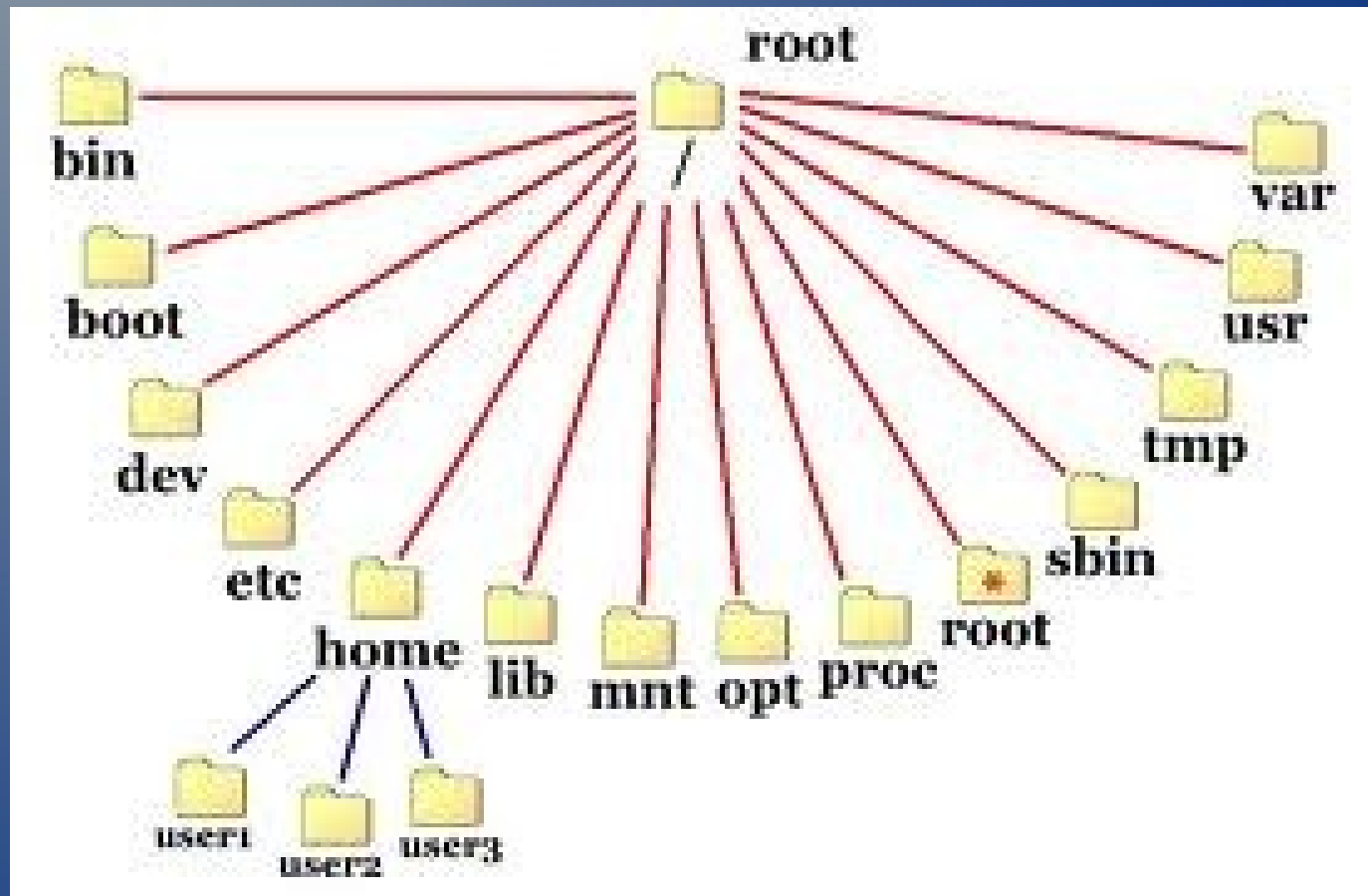
# Logging OUT



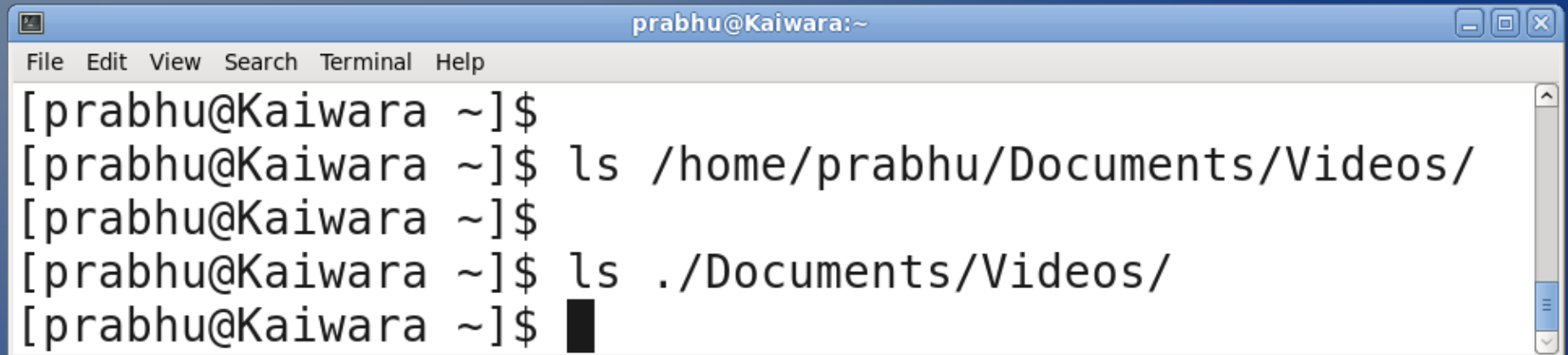
# File system Hierarchy



# File system Hierarchy



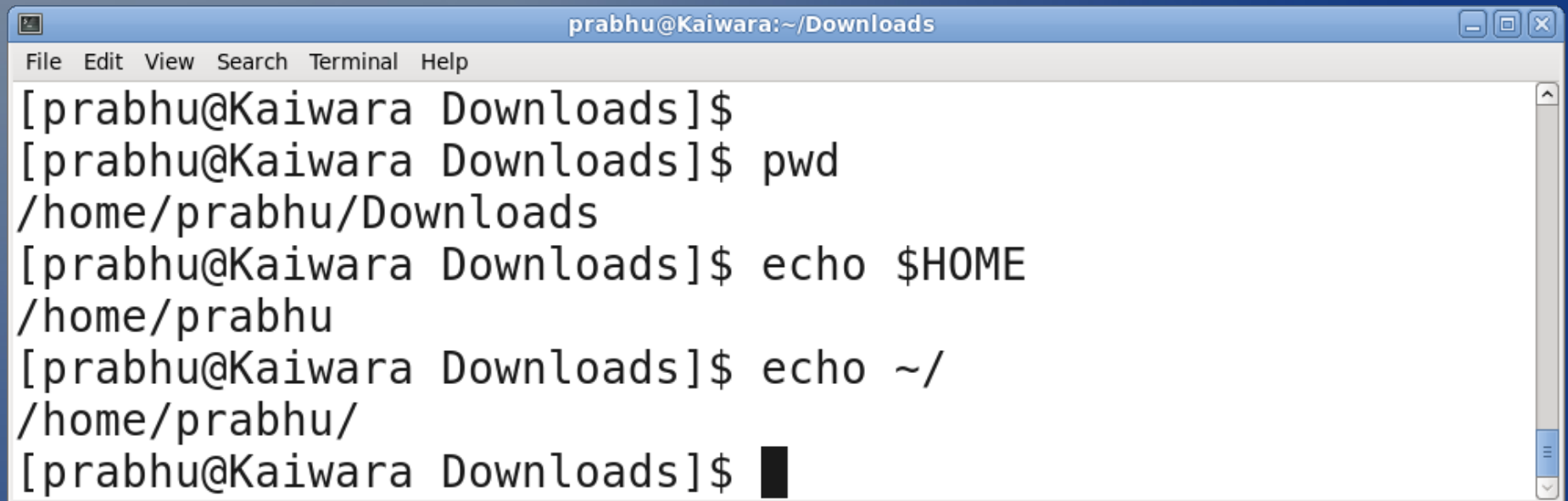
# Absolute and Relative paths

A terminal window titled 'prabhu@Kaiwara:~' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows a sequence of commands and prompts. The first prompt is '[prabhu@Kaiwara ~]\$'. The second line shows the command 'ls /home/prabhu/Documents/Videos/' followed by a new prompt. The third line shows another prompt '[prabhu@Kaiwara ~]\$'. The fourth line shows the command 'ls ./Documents/Videos/' followed by a new prompt. The fifth line shows a prompt '[prabhu@Kaiwara ~]\$' followed by a black cursor block.

```
prabhu@Kaiwara:~  
File Edit View Search Terminal Help  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$ ls /home/prabhu/Documents/Videos/  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$ ls ./Documents/Videos/  
[prabhu@Kaiwara ~]$
```

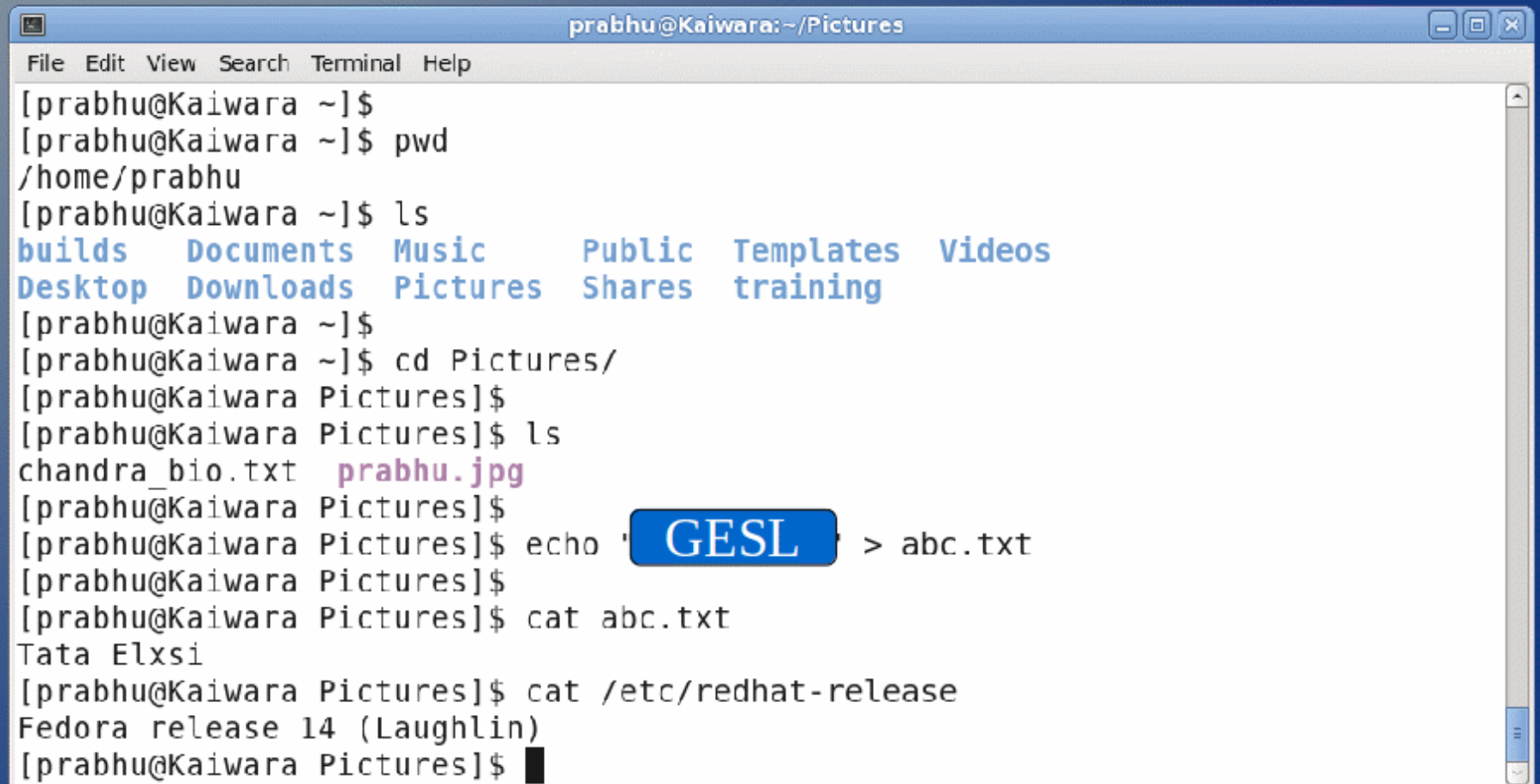


# PWD & HOME dirs



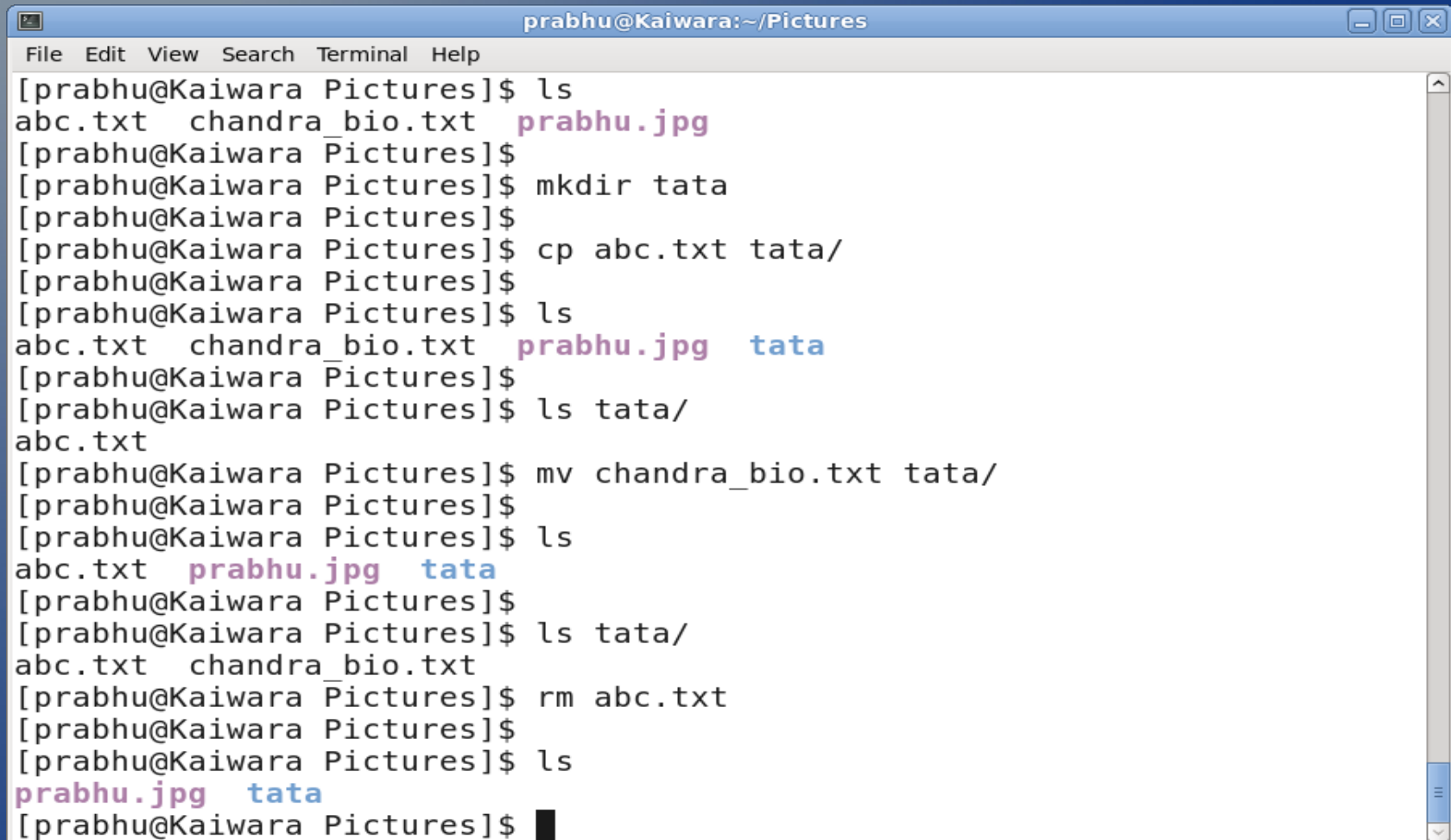
```
prabhu@Kaiwara:~/Downloads
File Edit View Search Terminal Help
[prabhu@Kaiwara Downloads]$
[prabhu@Kaiwara Downloads]$ pwd
/home/prabhu/Downloads
[prabhu@Kaiwara Downloads]$ echo $HOME
/home/prabhu
[prabhu@Kaiwara Downloads]$ echo ~/
/home/prabhu/
[prabhu@Kaiwara Downloads]$
```

# File System commands



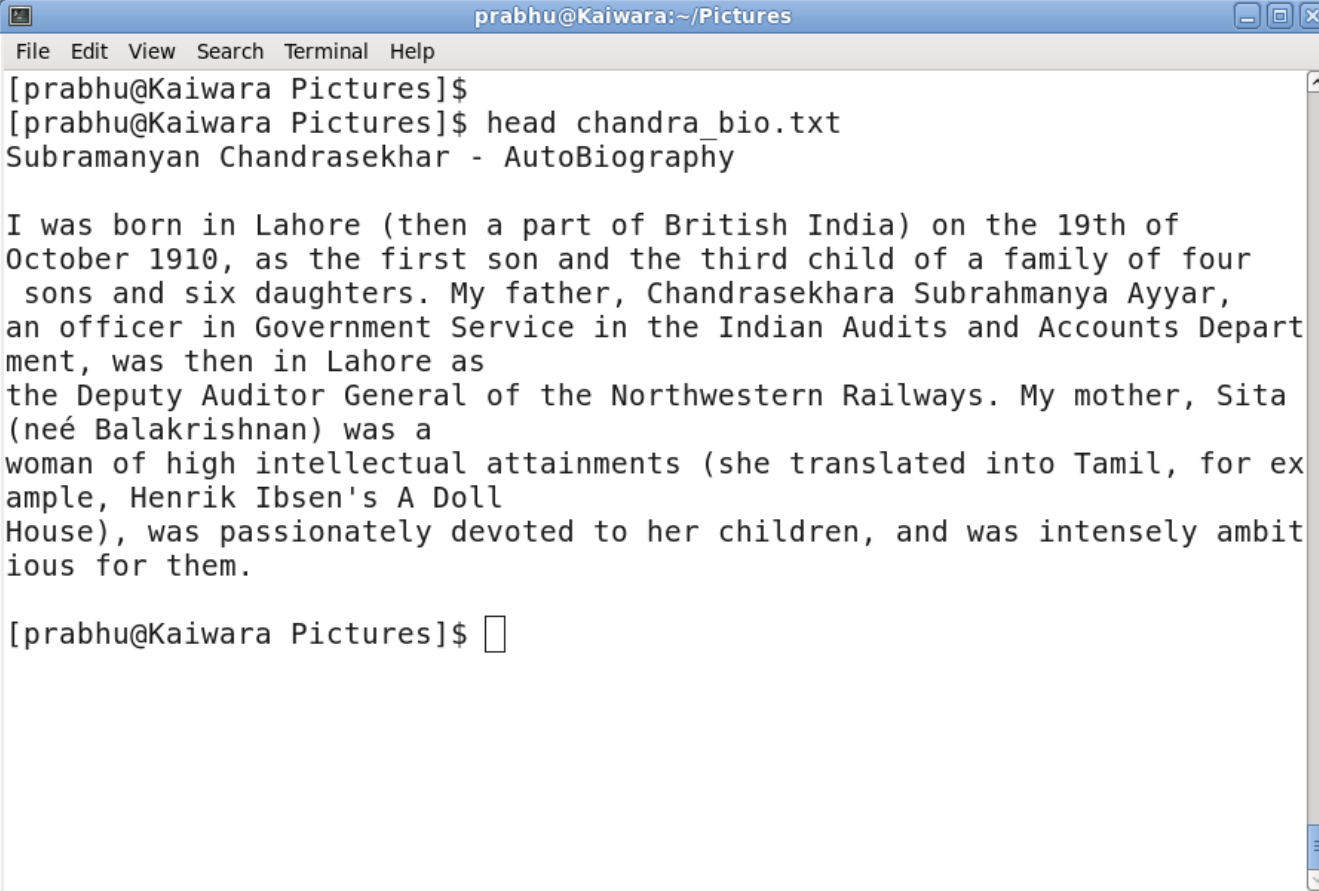
```
prabhu@Kaiwara: ~/Pictures
File Edit View Search Terminal Help
[prabhu@Kaiwara ~]$
[prabhu@Kaiwara ~]$ pwd
/home/prabhu
[prabhu@Kaiwara ~]$ ls
builds  Documents  Music      Public  Templates  Videos
Desktop Downloads  Pictures   Shares  training
[prabhu@Kaiwara ~]$
[prabhu@Kaiwara ~]$ cd Pictures/
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ ls
chandra_bio.txt  prabhu.jpg
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ echo 'GESL' > abc.txt
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ cat abc.txt
Tata Elxsi
[prabhu@Kaiwara Pictures]$ cat /etc/redhat-release
Fedora release 14 (Laughlin)
[prabhu@Kaiwara Pictures]$
```

# File System commands



```
prabhu@Kaiwara:~/Pictures
File Edit View Search Terminal Help
[prabhu@Kaiwara Pictures]$ ls
abc.txt  chandra_bio.txt  prabhu.jpg
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ mkdir tata
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ cp abc.txt tata/
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ ls
abc.txt  chandra_bio.txt  prabhu.jpg  tata
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ ls tata/
abc.txt
[prabhu@Kaiwara Pictures]$ mv chandra_bio.txt tata/
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ ls
abc.txt  prabhu.jpg  tata
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ ls tata/
abc.txt  chandra_bio.txt
[prabhu@Kaiwara Pictures]$ rm abc.txt
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ ls
prabhu.jpg  tata
[prabhu@Kaiwara Pictures]$
```

# File System commands

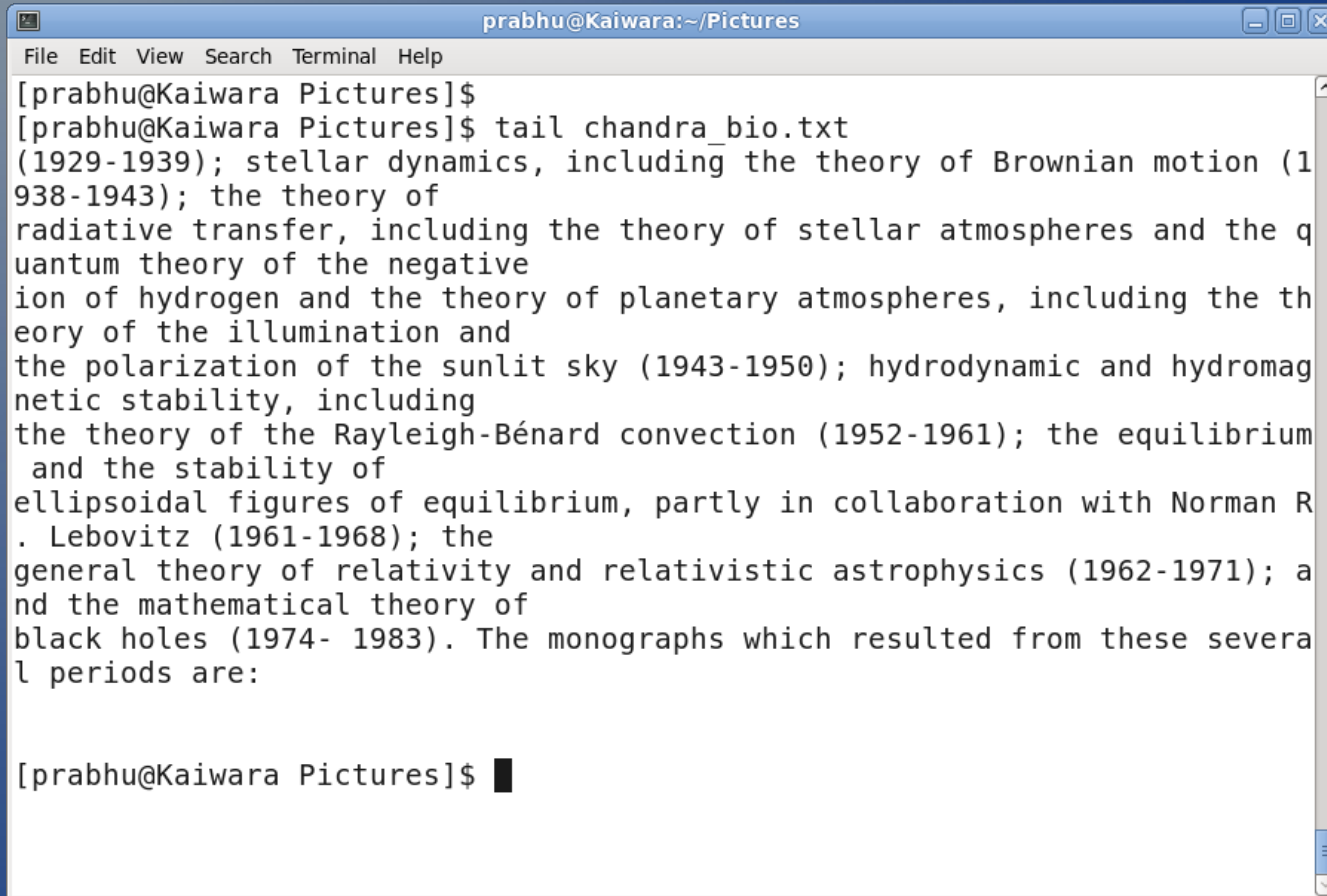
A terminal window titled 'prabhu@Kaiwara:~/Pictures' with a menu bar (File, Edit, View, Search, Terminal, Help). The prompt is '[prabhu@Kaiwara Pictures]\$'. The command 'head chandra\_bio.txt' is entered, and the output is displayed in two paragraphs. The first paragraph is the file's title, and the second is the first line of the biography. The prompt returns at the bottom.

```
prabhu@Kaiwara:~/Pictures
File Edit View Search Terminal Help
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ head chandra_bio.txt
Subramanyan Chandrasekhar - AutoBiography

I was born in Lahore (then a part of British India) on the 19th of
October 1910, as the first son and the third child of a family of four
  sons and six daughters. My father, Chandrasekhara Subrahmanya Ayyar,
an officer in Government Service in the Indian Audits and Accounts Depart
ment, was then in Lahore as
the Deputy Auditor General of the Northwestern Railways. My mother, Sita
(neé Balakrishnan) was a
woman of high intellectual attainments (she translated into Tamil, for ex
ample, Henrik Ibsen's A Doll
House), was passionately devoted to her children, and was intensely ambit
ious for them.

[prabhu@Kaiwara Pictures]$
```

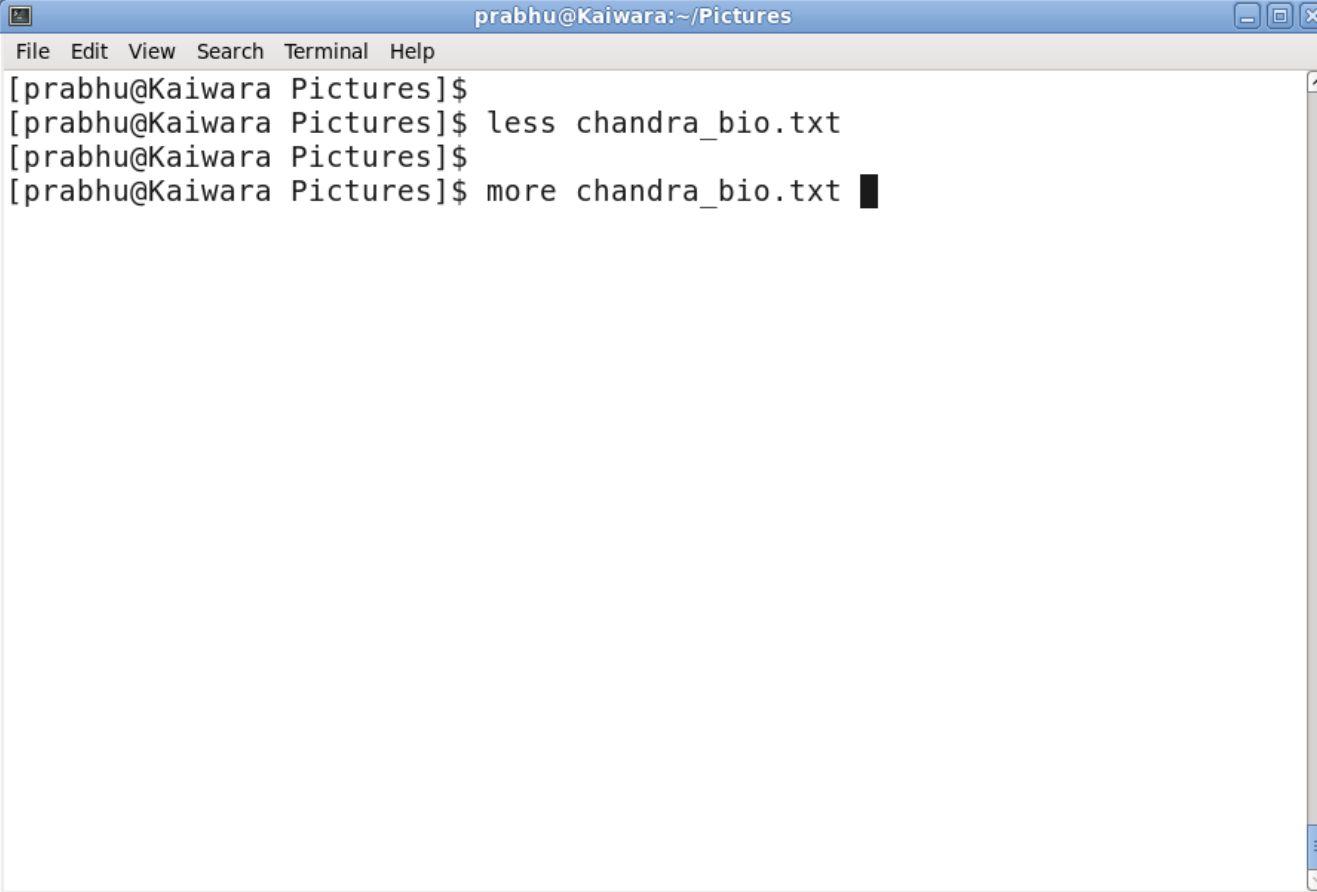
# File System commands

A terminal window titled 'prabhu@Kaiwara:~/Pictures' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the command 'tail chandra\_bio.txt' being executed, which displays a long paragraph of text about stellar dynamics and astrophysics. The text is wrapped across multiple lines. At the bottom, the prompt '[prabhu@Kaiwara Pictures]\$' is followed by a cursor.

```
prabhu@Kaiwara:~/Pictures
File Edit View Search Terminal Help
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ tail chandra_bio.txt
(1929-1939); stellar dynamics, including the theory of Brownian motion (1
938-1943); the theory of
radiative transfer, including the theory of stellar atmospheres and the q
uantum theory of the negative
ion of hydrogen and the theory of planetary atmospheres, including the th
eory of the illumination and
the polarization of the sunlit sky (1943-1950); hydrodynamic and hydromag
netic stability, including
the theory of the Rayleigh-Bénard convection (1952-1961); the equilibrium
and the stability of
ellipsoidal figures of equilibrium, partly in collaboration with Norman R
. Lebovitz (1961-1968); the
general theory of relativity and relativistic astrophysics (1962-1971); a
nd the mathematical theory of
black holes (1974- 1983). The monographs which resulted from these severa
l periods are:

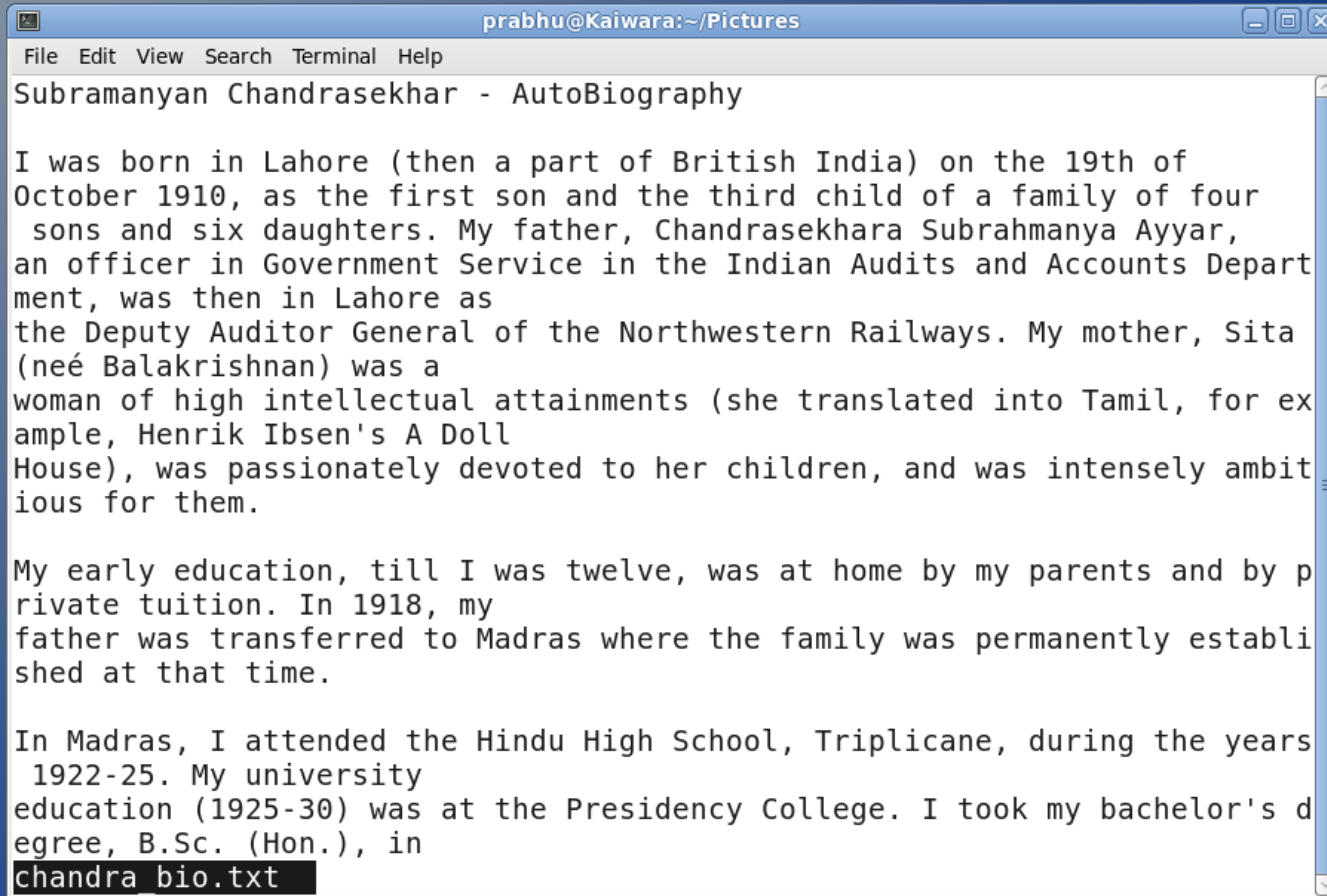
[prabhu@Kaiwara Pictures]$ █
```

# File System commands

A terminal window titled 'prabhu@Kaiwara:~/Pictures' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows four lines of text: '[prabhu@Kaiwara Pictures]\$', '[prabhu@Kaiwara Pictures]\$ less chandra\_bio.txt', '[prabhu@Kaiwara Pictures]\$', and '[prabhu@Kaiwara Pictures]\$ more chandra\_bio.txt' followed by a black cursor block.

```
prabhu@Kaiwara:~/Pictures
File Edit View Search Terminal Help
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ less chandra_bio.txt
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ more chandra_bio.txt
```

# File System commands



The image shows a terminal window with a blue title bar. The title bar text is 'prabhu@Kaiwara:~/Pictures'. Below the title bar is a menu bar with 'File Edit View Search Terminal Help'. The main content area displays the text of a file named 'chandra\_bio.txt'. The text is as follows:

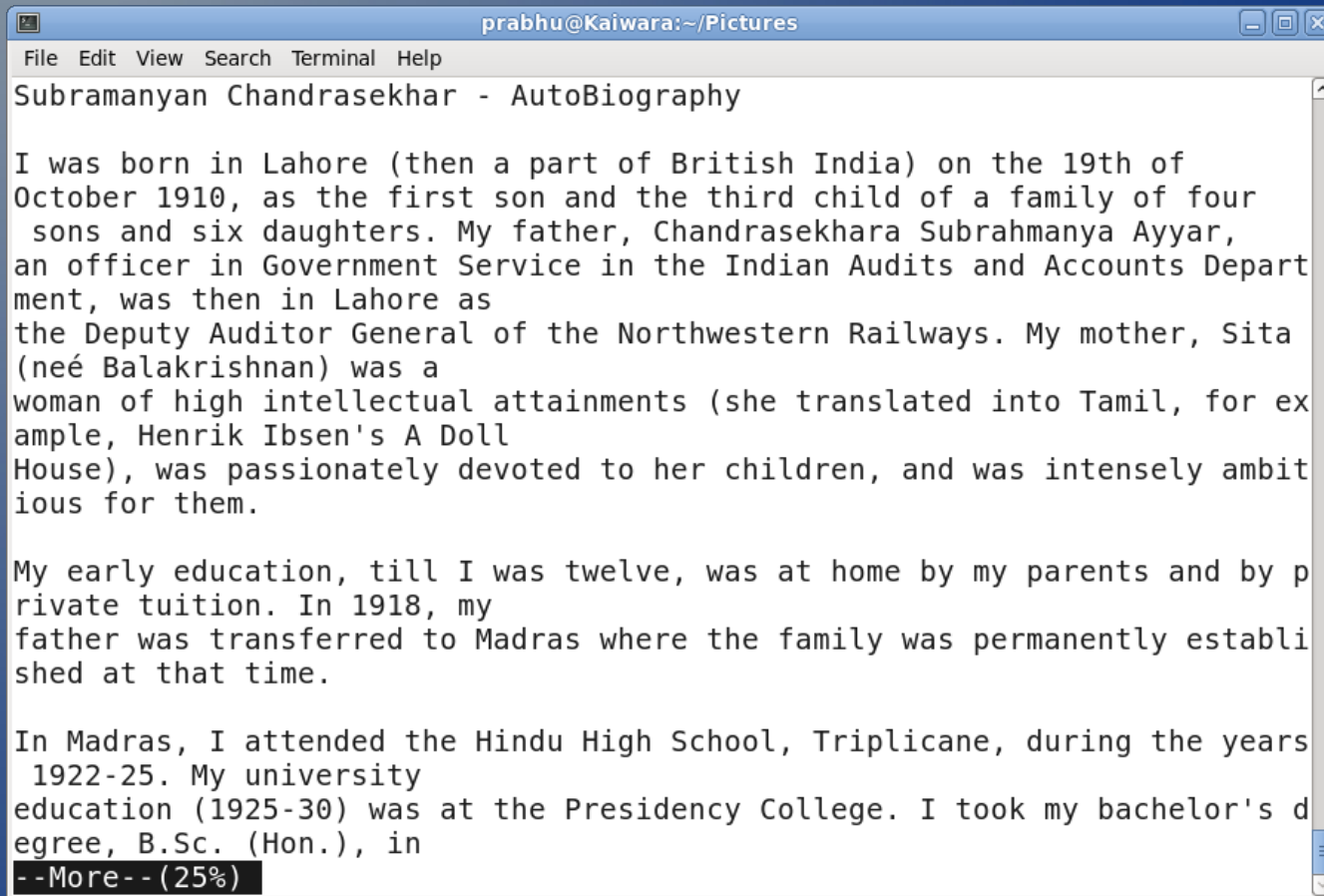
```
Subramanyan Chandrasekhar - AutoBiography

I was born in Lahore (then a part of British India) on the 19th of
October 1910, as the first son and the third child of a family of four
  sons and six daughters. My father, Chandrasekhara Subrahmanya Ayyar,
an officer in Government Service in the Indian Audits and Accounts Depart
ment, was then in Lahore as
the Deputy Auditor General of the Northwestern Railways. My mother, Sita
(neé Balakrishnan) was a
woman of high intellectual attainments (she translated into Tamil, for ex
ample, Henrik Ibsen's A Doll
House), was passionately devoted to her children, and was intensely ambit
ious for them.

My early education, till I was twelve, was at home by my parents and by p
rivate tuition. In 1918, my
father was transferred to Madras where the family was permanently establi
shed at that time.

In Madras, I attended the Hindu High School, Triplicane, during the years
  1922-25. My university
education (1925-30) was at the Presidency College. I took my bachelor's d
egree, B.Sc. (Hon.), in
chandra_bio.txt
```

# File System commands



```
prabhu@Kaiwara:~/Pictures
File Edit View Search Terminal Help
Subramanyan Chandrasekhar - AutoBiography

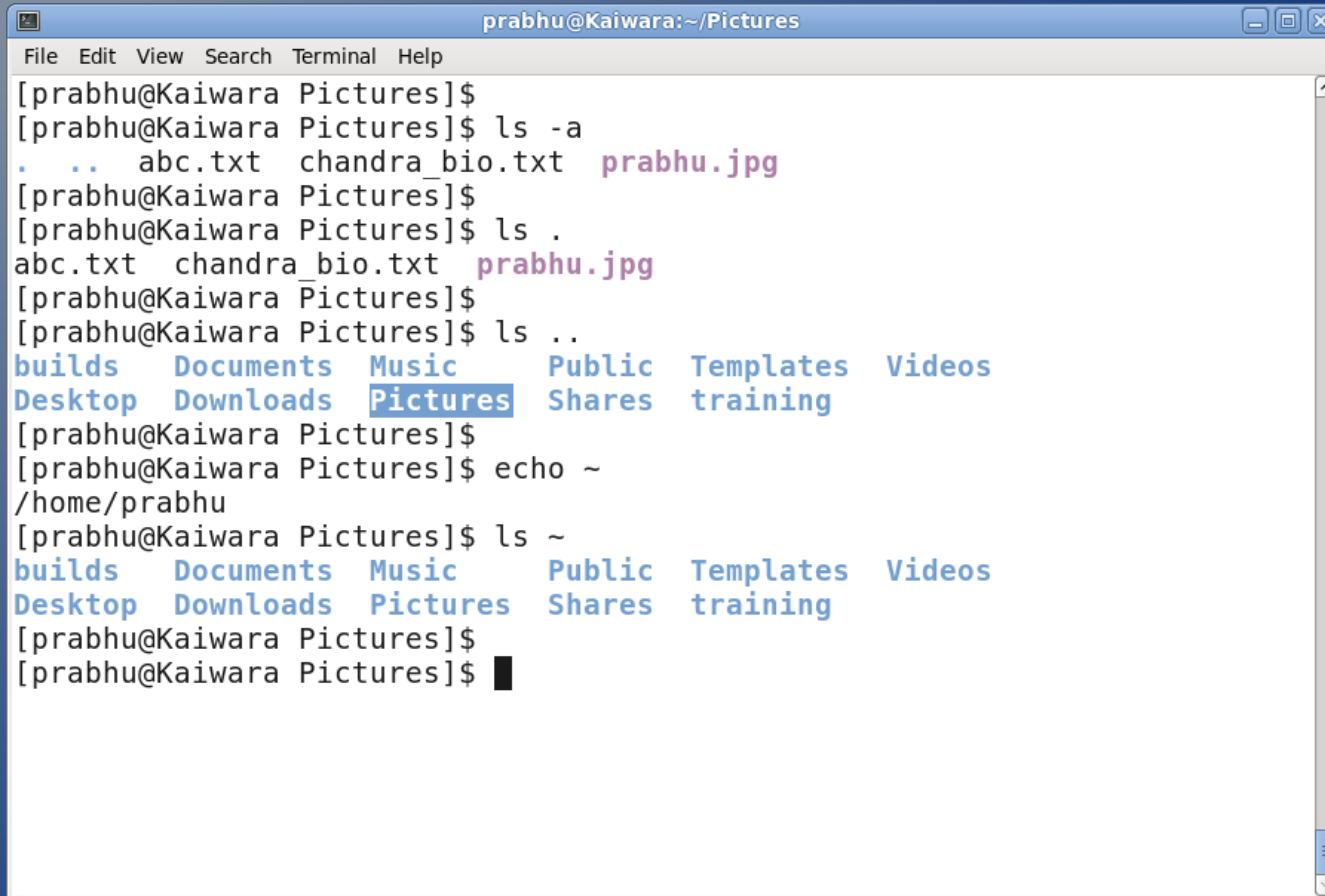
I was born in Lahore (then a part of British India) on the 19th of
October 1910, as the first son and the third child of a family of four
  sons and six daughters. My father, Chandrasekhara Subrahmanya Ayyar,
an officer in Government Service in the Indian Audits and Accounts Depart
ment, was then in Lahore as
the Deputy Auditor General of the Northwestern Railways. My mother, Sita
(neé Balakrishnan) was a
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In Madras, I attended the Hindu High School, Triplicane, during the years
  1922-25. My university
education (1925-30) was at the Presidency College. I took my bachelor's d
egree, B.Sc. (Hon.), in
--More-- (25%)
```



# File System commands

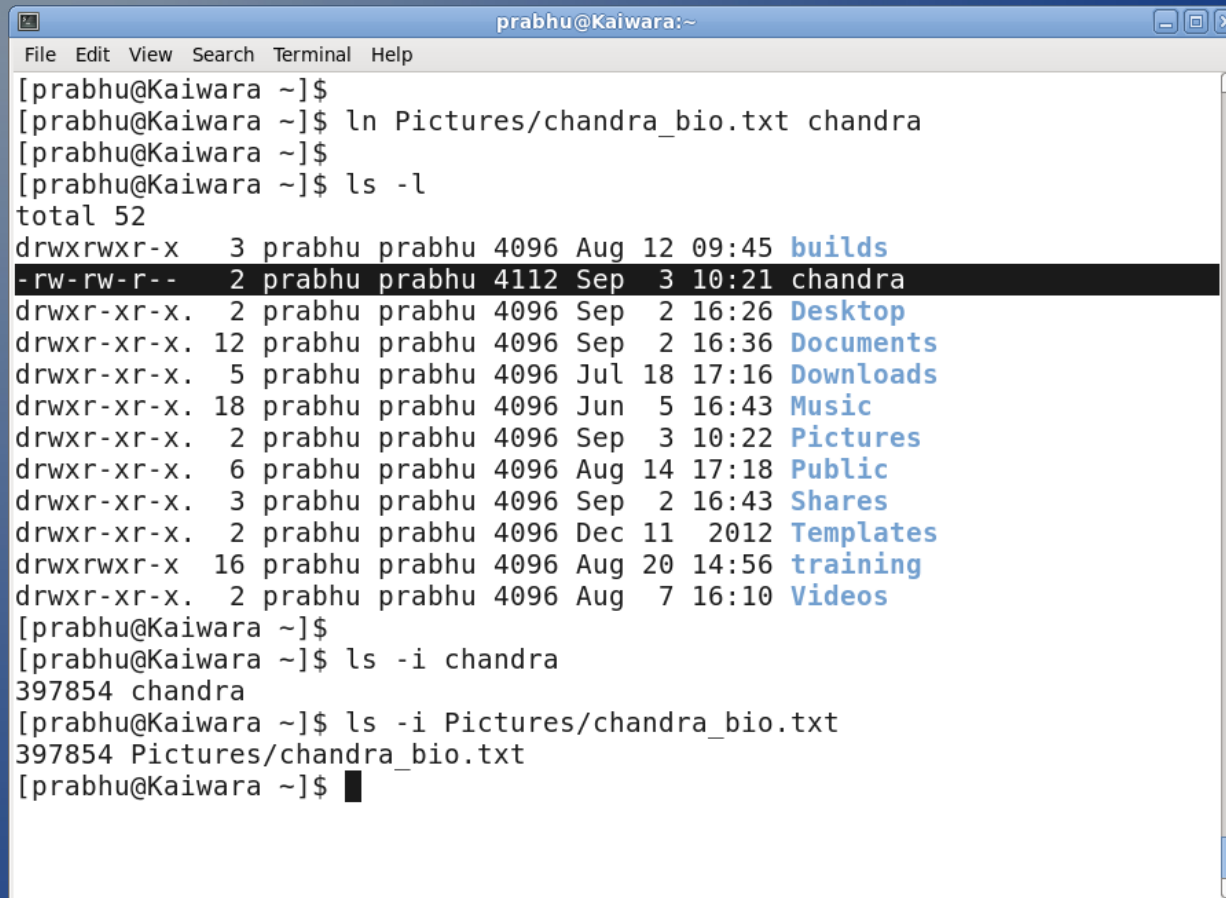
A terminal window titled 'prabhu@Kaiwara:~/Pictures' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows a series of commands and their outputs. The 'ls' command is used to list files in the current directory, its parent directory, and the home directory. The output for 'ls -a' shows hidden files like '.txt' and '.jpg'. The output for 'ls ..' shows a list of directories including 'builds', 'Documents', 'Music', 'Public', 'Templates', 'Videos', 'Desktop', 'Downloads', 'Pictures', 'Shares', and 'training'. The 'echo ~' command outputs the home directory path '/home/prabhu'. The terminal ends with a cursor on a new line.

```
prabhu@Kaiwara:~/Pictures
File Edit View Search Terminal Help
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ ls -a
.  ..  abc.txt  chandra_bio.txt  prabhu.jpg
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ ls .
abc.txt  chandra_bio.txt  prabhu.jpg
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ ls ..
builds  Documents  Music  Public  Templates  Videos
Desktop  Downloads  Pictures  Shares  training
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ echo ~
/home/prabhu
[prabhu@Kaiwara Pictures]$ ls ~
builds  Documents  Music  Public  Templates  Videos
Desktop  Downloads  Pictures  Shares  training
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$
```

# File System commands

```
prabhu@Kaiwara:~  
File Edit View Search Terminal Help  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$ ln -s Pictures/chandra_bio.txt chandra  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$ ls -l  
total 44  
drwxrwxr-x  3 prabhu prabhu 4096 Aug 12 09:45 builds  
lrwxrwxrwx  1 prabhu prabhu   24 Sep  3 10:56 chandra -> Pictures/chandra_bio.txt  
drwxr-xr-x.  2 prabhu prabhu 4096 Sep  2 16:26 Desktop  
drwxr-xr-x. 12 prabhu prabhu 4096 Sep  2 16:36 Documents  
drwxr-xr-x.  5 prabhu prabhu 4096 Jul 18 17:16 Downloads  
drwxr-xr-x. 18 prabhu prabhu 4096 Jun  5 16:43 Music  
drwxr-xr-x.  2 prabhu prabhu 4096 Sep  3 10:22 Pictures  
drwxr-xr-x.  6 prabhu prabhu 4096 Aug 14 17:18 Public  
drwxr-xr-x.  3 prabhu prabhu 4096 Sep  2 16:43 Shares  
drwxr-xr-x.  2 prabhu prabhu 4096 Dec 11 2012 Templates  
drwxrwxr-x 16 prabhu prabhu 4096 Aug 20 14:56 training  
drwxr-xr-x.  2 prabhu prabhu 4096 Aug  7 16:10 Videos  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$ ls -i chandra  
397885 chandra  
[prabhu@Kaiwara ~]$ ls -i Pictures/chandra_bio.txt  
397854 Pictures/chandra_bio.txt  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$
```

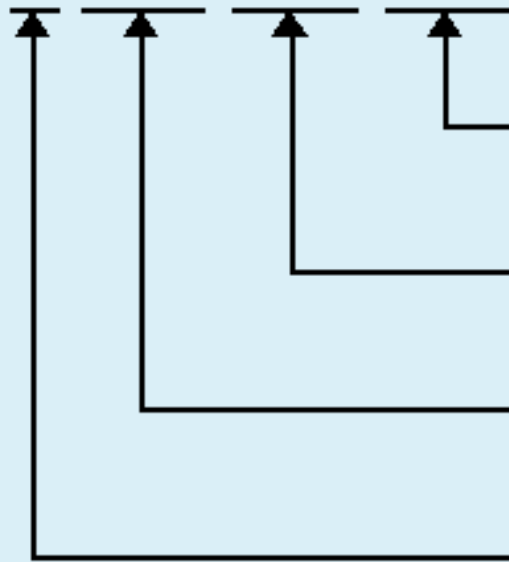
# File System commands



```
prabhu@Kaiwara:~  
File Edit View Search Terminal Help  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$ ln Pictures/chandra_bio.txt chandra  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$ ls -l  
total 52  
drwxrwxr-x  3 prabhu prabhu 4096 Aug 12 09:45 builds  
-rw-rw-r--  2 prabhu prabhu 4112 Sep  3 10:21 chandra  
drwxr-xr-x.  2 prabhu prabhu 4096 Sep  2 16:26 Desktop  
drwxr-xr-x. 12 prabhu prabhu 4096 Sep  2 16:36 Documents  
drwxr-xr-x.  5 prabhu prabhu 4096 Jul 18 17:16 Downloads  
drwxr-xr-x. 18 prabhu prabhu 4096 Jun  5 16:43 Music  
drwxr-xr-x.  2 prabhu prabhu 4096 Sep  3 10:22 Pictures  
drwxr-xr-x.  6 prabhu prabhu 4096 Aug 14 17:18 Public  
drwxr-xr-x.  3 prabhu prabhu 4096 Sep  2 16:43 Shares  
drwxr-xr-x.  2 prabhu prabhu 4096 Dec 11 2012 Templates  
drwxrwxr-x 16 prabhu prabhu 4096 Aug 20 14:56 training  
drwxr-xr-x.  2 prabhu prabhu 4096 Aug  7 16:10 Videos  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$ ls -li chandra  
397854 chandra  
[prabhu@Kaiwara ~]$ ls -li Pictures/chandra_bio.txt  
397854 Pictures/chandra_bio.txt  
[prabhu@Kaiwara ~]$
```

# File System Security

- rwxrw - r - -



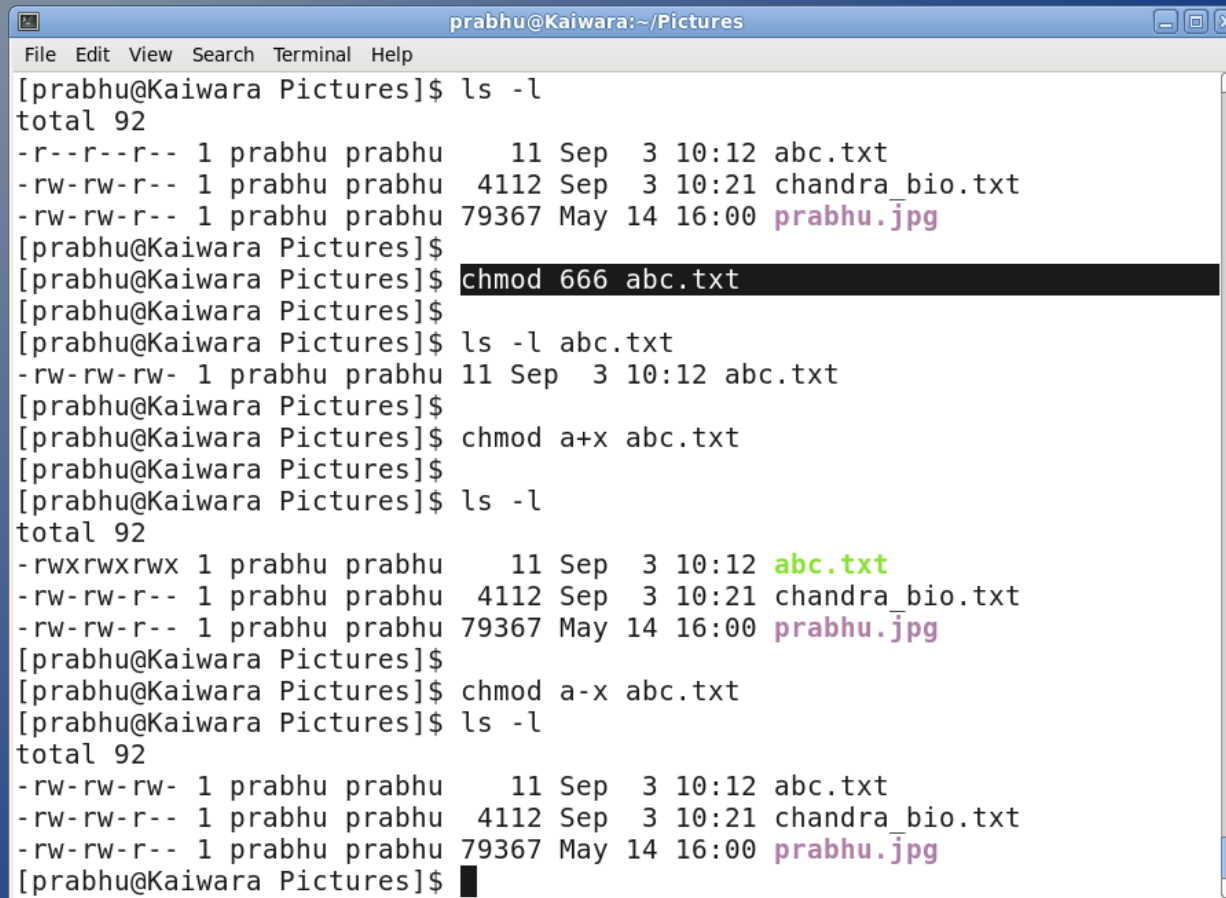
Read, write, and execute permissions  
for all other users

Read, write and execute permissions  
for members of the group owning the  
file.

Read, write and execute permissions  
for the owner of the file.

File type. "-" indicates a regular file. A  
"d" indicates a directory.

# File System security



A terminal window titled "prabhu@Kaiwara:~/Pictures" with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows a series of commands and their outputs to demonstrate file permissions. The initial state shows three files: abc.txt (permissions -r--r--r--), chandra\_bio.txt (permissions -rw-rw-r--), and prabhu.jpg (permissions -rw-rw-r--). The user runs "chmod 666 abc.txt", which changes the permissions to -rw-rw-rw-. Then, the user runs "chmod a+x abc.txt", which adds execute permission for all, resulting in -rwxrwxrwx. Finally, the user runs "chmod a-x abc.txt", which removes execute permission, resulting in -rw-rw-rw-. The terminal output is as follows:

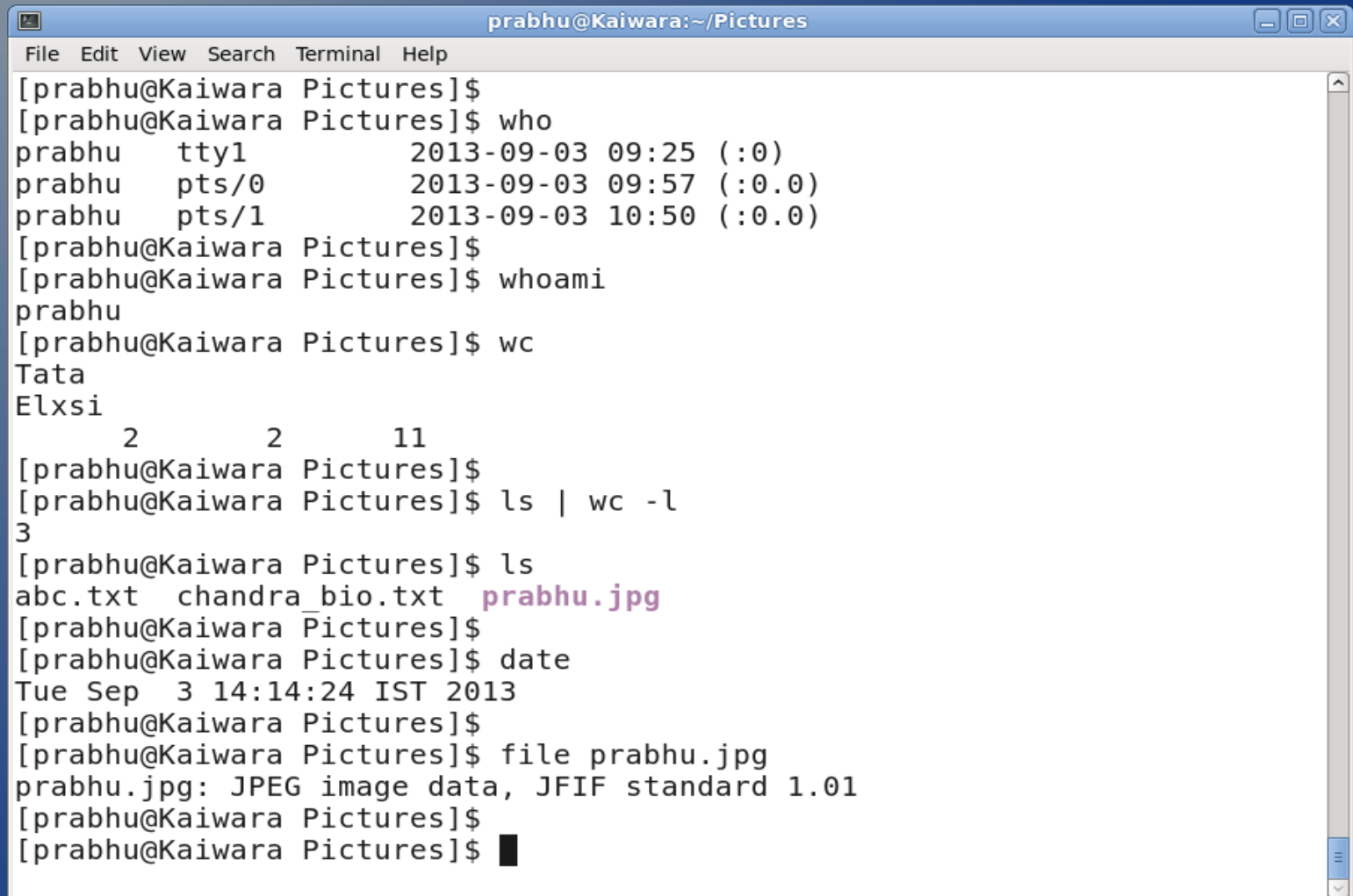
```
prabhu@Kaiwara:~/Pictures
File Edit View Search Terminal Help
[prabhu@Kaiwara Pictures]$ ls -l
total 92
-r--r--r-- 1 prabhu prabhu      11 Sep  3 10:12 abc.txt
-rw-rw-r-- 1 prabhu prabhu    4112 Sep  3 10:21 chandra_bio.txt
-rw-rw-r-- 1 prabhu prabhu  79367 May 14 16:00 prabhu.jpg
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ chmod 666 abc.txt
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ ls -l abc.txt
-rw-rw-rw- 1 prabhu prabhu    11 Sep  3 10:12 abc.txt
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ chmod a+x abc.txt
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ ls -l
total 92
-rwxrwxrwx 1 prabhu prabhu      11 Sep  3 10:12 abc.txt
-rw-rw-r-- 1 prabhu prabhu    4112 Sep  3 10:21 chandra_bio.txt
-rw-rw-r-- 1 prabhu prabhu  79367 May 14 16:00 prabhu.jpg
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ chmod a-x abc.txt
[prabhu@Kaiwara Pictures]$ ls -l
total 92
-rw-rw-rw- 1 prabhu prabhu      11 Sep  3 10:12 abc.txt
-rw-rw-r-- 1 prabhu prabhu    4112 Sep  3 10:21 chandra_bio.txt
-rw-rw-r-- 1 prabhu prabhu  79367 May 14 16:00 prabhu.jpg
[prabhu@Kaiwara Pictures]$
```

# Linux Generic Commands

A terminal window titled 'prabhu@Kaiwara:~/Pictures' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows a series of commands and their outputs. The commands are: 'man man', 'man 1 write', 'man 2 open', 'man 3 strcpy', 'man 4 zero', 'man 5 passwd', 'man 7 socket', and 'man 8 ifconfig'. The output for each command is a multi-line block of text, which is truncated in the image. The terminal ends with a prompt '[prabhu@Kaiwara Pictures]\$' and a cursor.

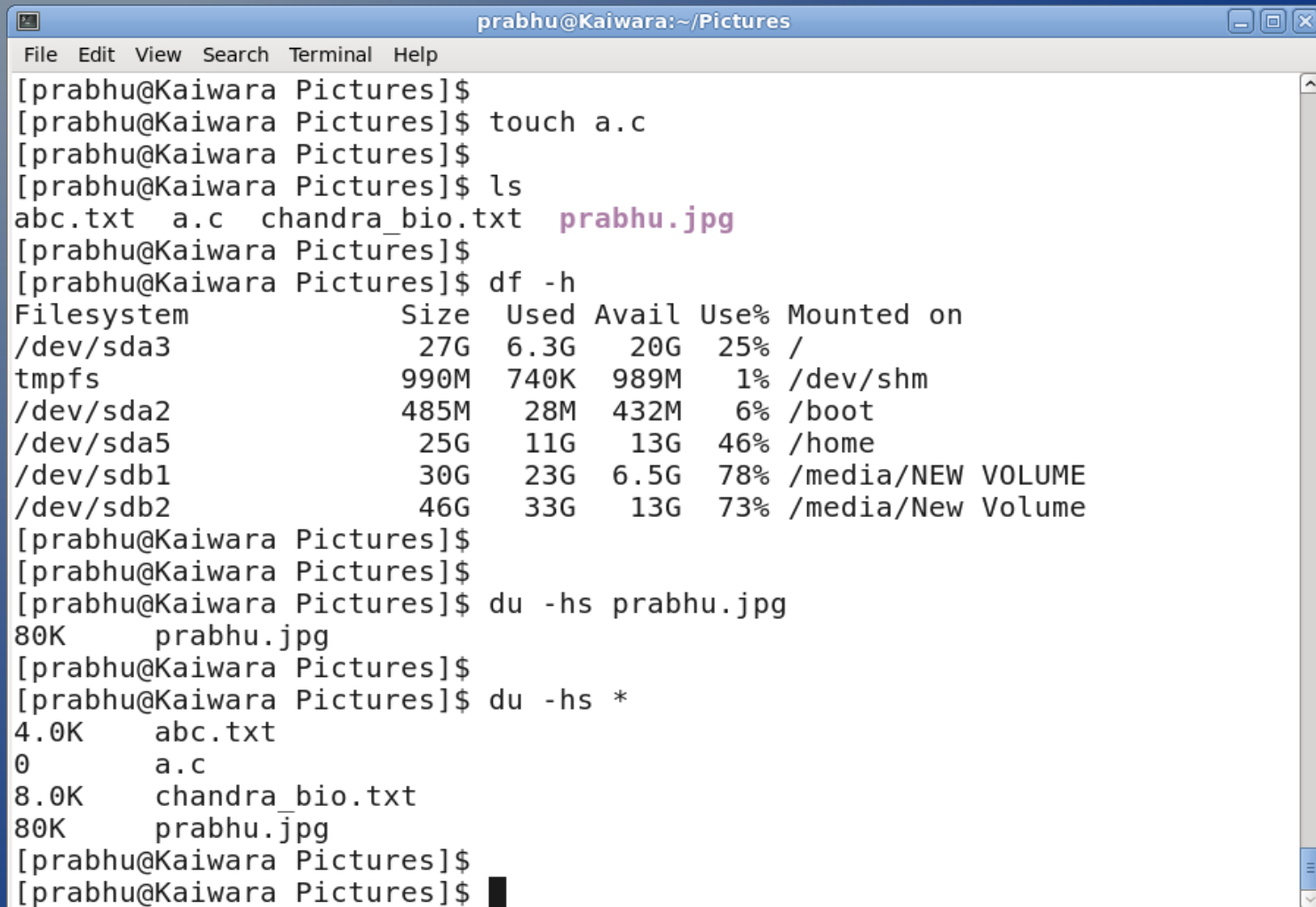
```
[prabhu@Kaiwara Pictures]$  
[prabhu@Kaiwara Pictures]$  
[prabhu@Kaiwara Pictures]$ man man  
[prabhu@Kaiwara Pictures]$  
[prabhu@Kaiwara Pictures]$ man 1 write  
[prabhu@Kaiwara Pictures]$  
[prabhu@Kaiwara Pictures]$ man 2 open  
[prabhu@Kaiwara Pictures]$  
[prabhu@Kaiwara Pictures]$ man 3 strcpy  
[prabhu@Kaiwara Pictures]$  
[prabhu@Kaiwara Pictures]$ man 4 zero  
[prabhu@Kaiwara Pictures]$  
[prabhu@Kaiwara Pictures]$ man 5 passwd  
[prabhu@Kaiwara Pictures]$  
[prabhu@Kaiwara Pictures]$ man 7 socket  
[prabhu@Kaiwara Pictures]$  
[prabhu@Kaiwara Pictures]$  
[prabhu@Kaiwara Pictures]$ man 8 ifconfig  
[prabhu@Kaiwara Pictures]$  
[prabhu@Kaiwara Pictures]$
```

# Linux Generic Commands



```
prabhu@Kaiwara:~/Pictures
File Edit View Search Terminal Help
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ who
prabhu    tty1          2013-09-03 09:25 (:0)
prabhu    pts/0          2013-09-03 09:57 (:0.0)
prabhu    pts/1          2013-09-03 10:50 (:0.0)
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ whoami
prabhu
[prabhu@Kaiwara Pictures]$ wc
Tata
Elxsi
      2      2      11
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ ls | wc -l
3
[prabhu@Kaiwara Pictures]$ ls
abc.txt  chandra_bio.txt  prabhu.jpg
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ date
Tue Sep  3 14:14:24 IST 2013
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ file prabhu.jpg
prabhu.jpg: JPEG image data, JFIF standard 1.01
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$
```

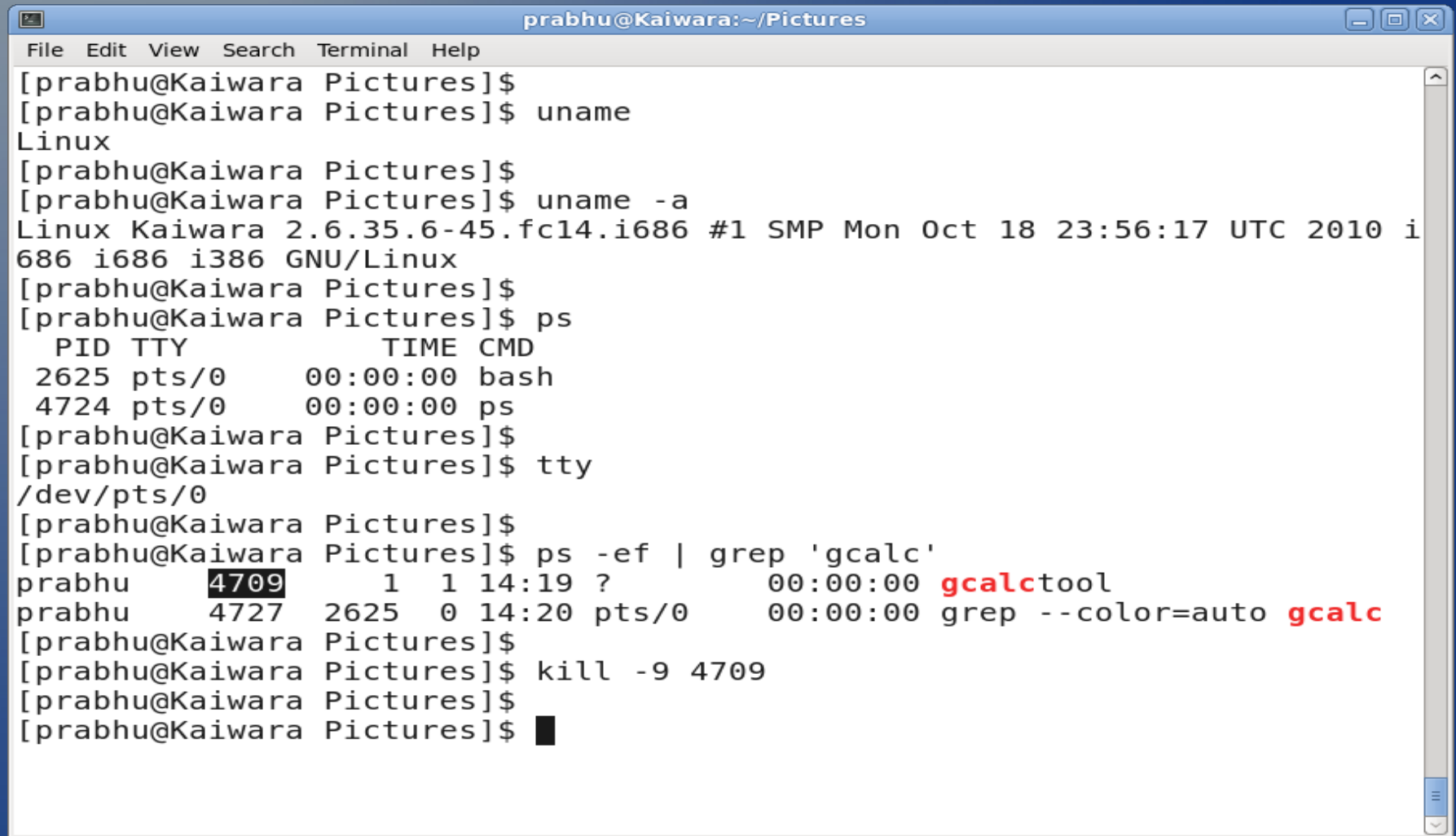
# Linux Generic Commands



```
prabhu@Kaiwara:~/Pictures
File Edit View Search Terminal Help
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ touch a.c
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ ls
abc.txt  a.c  chandra_bio.txt  prabhu.jpg
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/sda3        27G   6.3G   20G   25% /
tmpfs            990M   740K   989M    1% /dev/shm
/dev/sda2        485M    28M   432M    6% /boot
/dev/sda5        25G    11G    13G   46% /home
/dev/sdb1        30G    23G   6.5G   78% /media/NEW VOLUME
/dev/sdb2        46G    33G    13G   73% /media/New Volume
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ du -hs prabhu.jpg
80K    prabhu.jpg
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ du -hs *
4.0K    abc.txt
0       a.c
8.0K    chandra_bio.txt
80K     prabhu.jpg
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$
```

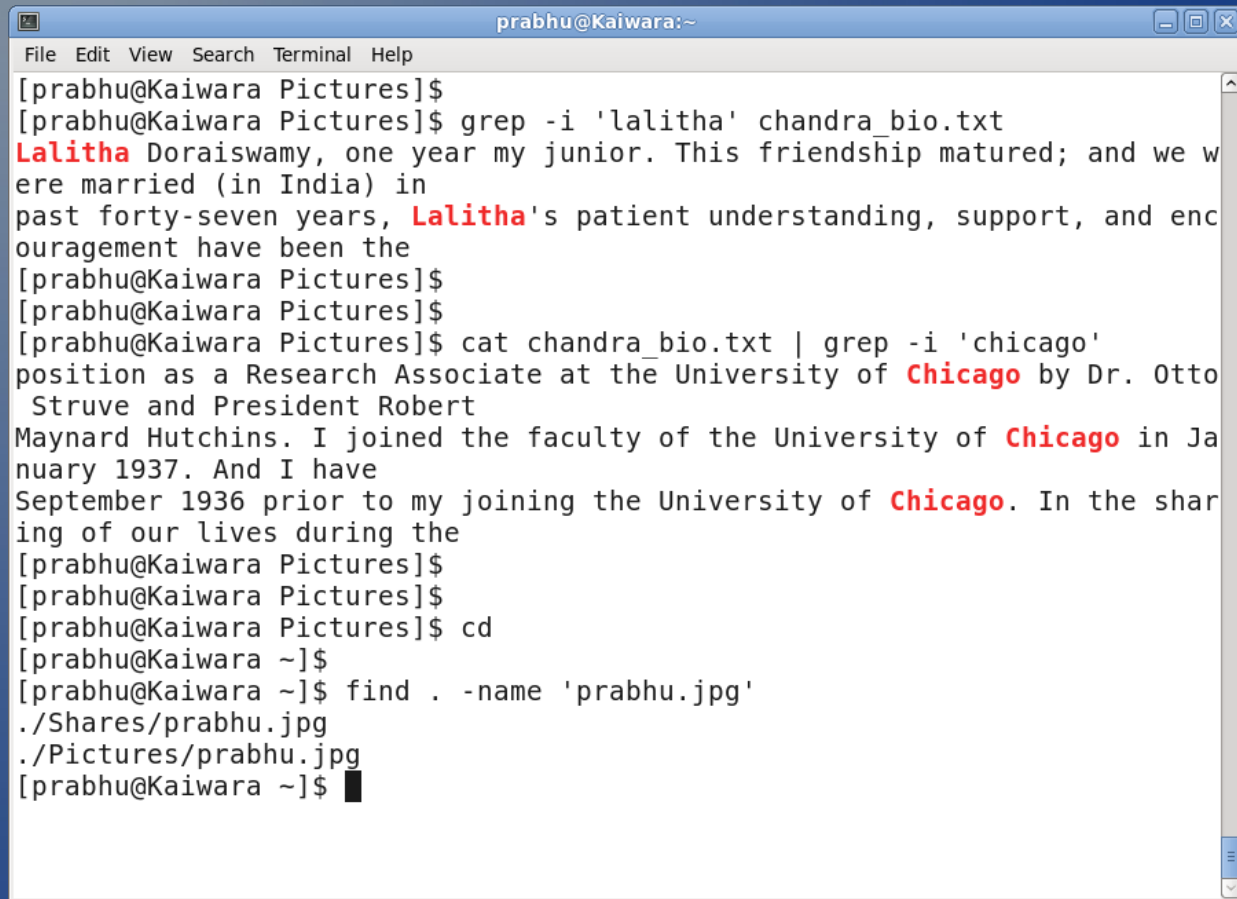


# Linux Generic Commands



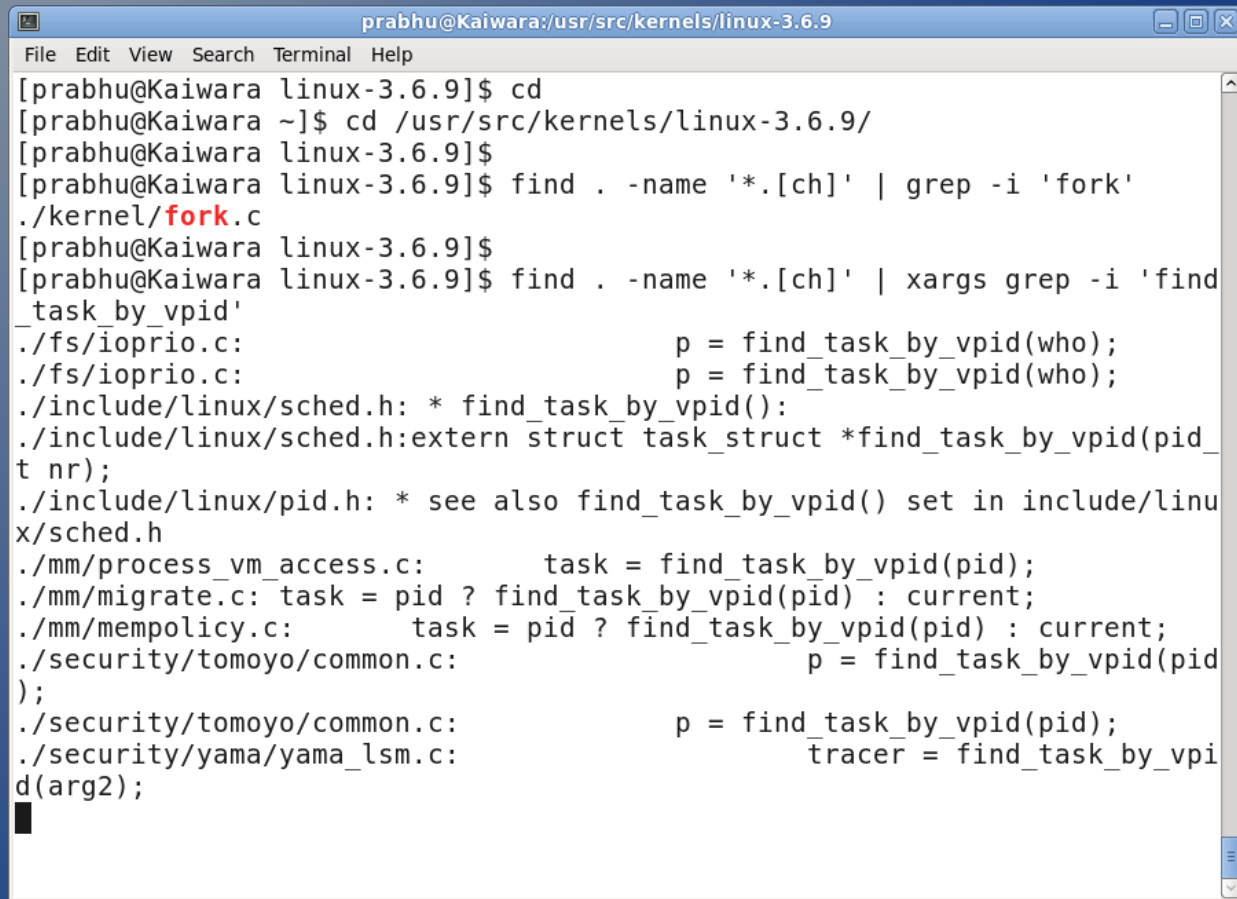
```
prabhu@Kaiwara:~/Pictures
File Edit View Search Terminal Help
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ uname
Linux
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ uname -a
Linux Kaiwara 2.6.35.6-45.fc14.i686 #1 SMP Mon Oct 18 23:56:17 UTC 2010 i
686 i686 i386 GNU/Linux
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ ps
  PID TTY          TIME CMD
 2625 pts/0        00:00:00 bash
 4724 pts/0        00:00:00 ps
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ tty
/dev/pts/0
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ ps -ef | grep 'gcalc'
prabhu      4709      1   1 14:19 ?           00:00:00 gcalctool
prabhu      4727  2625   0 14:20 pts/0      00:00:00 grep --color=auto gcalc
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$ kill -9 4709
[prabhu@Kaiwara Pictures]$
[prabhu@Kaiwara Pictures]$
```

# Linux Generic Commands



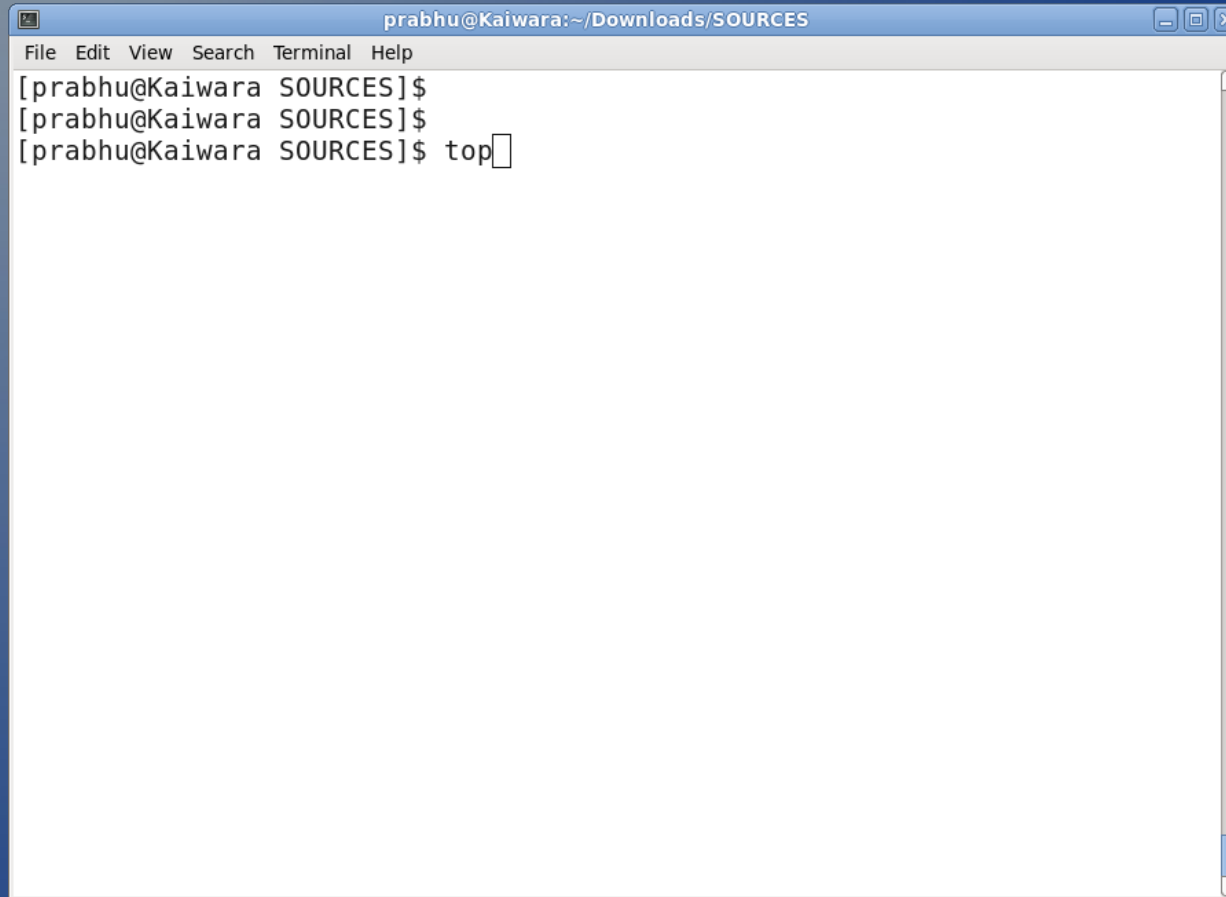
```
prabhu@Kaiwara:~  
File Edit View Search Terminal Help  
[prabhu@Kaiwara Pictures]$  
[prabhu@Kaiwara Pictures]$ grep -i 'lalitha' chandra_bio.txt  
Lalitha Doraiswamy, one year my junior. This friendship matured; and we were married (in India) in  
past forty-seven years, Lalitha's patient understanding, support, and encouragement have been the  
[prabhu@Kaiwara Pictures]$  
[prabhu@Kaiwara Pictures]$  
[prabhu@Kaiwara Pictures]$ cat chandra_bio.txt | grep -i 'chicago'  
position as a Research Associate at the University of Chicago by Dr. Otto Struve and President Robert  
Maynard Hutchins. I joined the faculty of the University of Chicago in January 1937. And I have  
September 1936 prior to my joining the University of Chicago. In the sharing of our lives during the  
[prabhu@Kaiwara Pictures]$  
[prabhu@Kaiwara Pictures]$  
[prabhu@Kaiwara Pictures]$ cd  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$ find . -name 'prabhu.jpg'  
./Shares/prabhu.jpg  
./Pictures/prabhu.jpg  
[prabhu@Kaiwara ~]$
```

# Linux Generic Commands

A terminal window titled 'prabhu@Kaiwara:/usr/src/kernels/linux-3.6.9' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows a series of commands and their outputs. The first command is 'cd', which changes the directory to '~'. The second command is 'cd /usr/src/kernels/linux-3.6.9/'. The third command is 'find . -name '\*.ch' | grep -i 'fork'', which finds files with extensions '.ch' containing the word 'fork'. The output is './kernel/fork.c'. The fourth command is 'find . -name '\*.ch' | xargs grep -i 'find\_task\_by\_vpid'', which finds files with extensions '.ch' containing the function 'find\_task\_by\_vpid'. The output lists several files and code snippets: './fs/ioprio.c' (two occurrences of 'p = find\_task\_by\_vpid(who);'), './include/linux/sched.h' (two occurrences of '\* find\_task\_by\_vpid():'), './include/linux/sched.h:extern struct task\_struct \*find\_task\_by\_vpid(pid\_t nr);', './include/linux/pid.h: \* see also find\_task\_by\_vpid() set in include/linux/sched.h', './mm/process\_vm\_access.c: task = find\_task\_by\_vpid(pid);', './mm/migrate.c: task = pid ? find\_task\_by\_vpid(pid) : current;', './mm/mempolicy.c: task = pid ? find\_task\_by\_vpid(pid) : current;', './security/tomoyo/common.c: p = find\_task\_by\_vpid(pid);', './security/tomoyo/common.c: p = find\_task\_by\_vpid(pid);', and './security/yama/yama\_lsm.c: tracer = find\_task\_by\_vpid(arg2);'.

```
prabhu@Kaiwara:/usr/src/kernels/linux-3.6.9
File Edit View Search Terminal Help
[prabhu@Kaiwara linux-3.6.9]$ cd
[prabhu@Kaiwara ~]$ cd /usr/src/kernels/linux-3.6.9/
[prabhu@Kaiwara linux-3.6.9]$
[prabhu@Kaiwara linux-3.6.9]$ find . -name '*.ch' | grep -i 'fork'
./kernel/fork.c
[prabhu@Kaiwara linux-3.6.9]$
[prabhu@Kaiwara linux-3.6.9]$ find . -name '*.ch' | xargs grep -i 'find
_task_by_vpid'
./fs/ioprio.c:                p = find_task_by_vpid(who);
./fs/ioprio.c:                p = find_task_by_vpid(who);
./include/linux/sched.h: * find_task_by_vpid():
./include/linux/sched.h:extern struct task_struct *find_task_by_vpid(pid
t nr);
./include/linux/pid.h: * see also find_task_by_vpid() set in include/linu
x/sched.h
./mm/process_vm_access.c:        task = find_task_by_vpid(pid);
./mm/migrate.c: task = pid ? find_task_by_vpid(pid) : current;
./mm/mempolicy.c:        task = pid ? find_task_by_vpid(pid) : current;
./security/tomoyo/common.c:                p = find_task_by_vpid(pid
);
./security/tomoyo/common.c:                p = find_task_by_vpid(pid);
./security/yama/yama_lsm.c:                tracer = find_task_by_vpi
d(arg2);
```

# Linux Generic Commands



A screenshot of a Linux terminal window. The window title bar reads "prabhu@Kaiwara:~/Downloads/SOURCES". Below the title bar is a menu bar with "File", "Edit", "View", "Search", "Terminal", and "Help". The terminal content shows three lines of text: "[prabhu@Kaiwara SOURCES]\$", "[prabhu@Kaiwara SOURCES]\$", and "[prabhu@Kaiwara SOURCES]\$ top". The cursor is at the end of the third line. The terminal has a scrollbar on the right side.

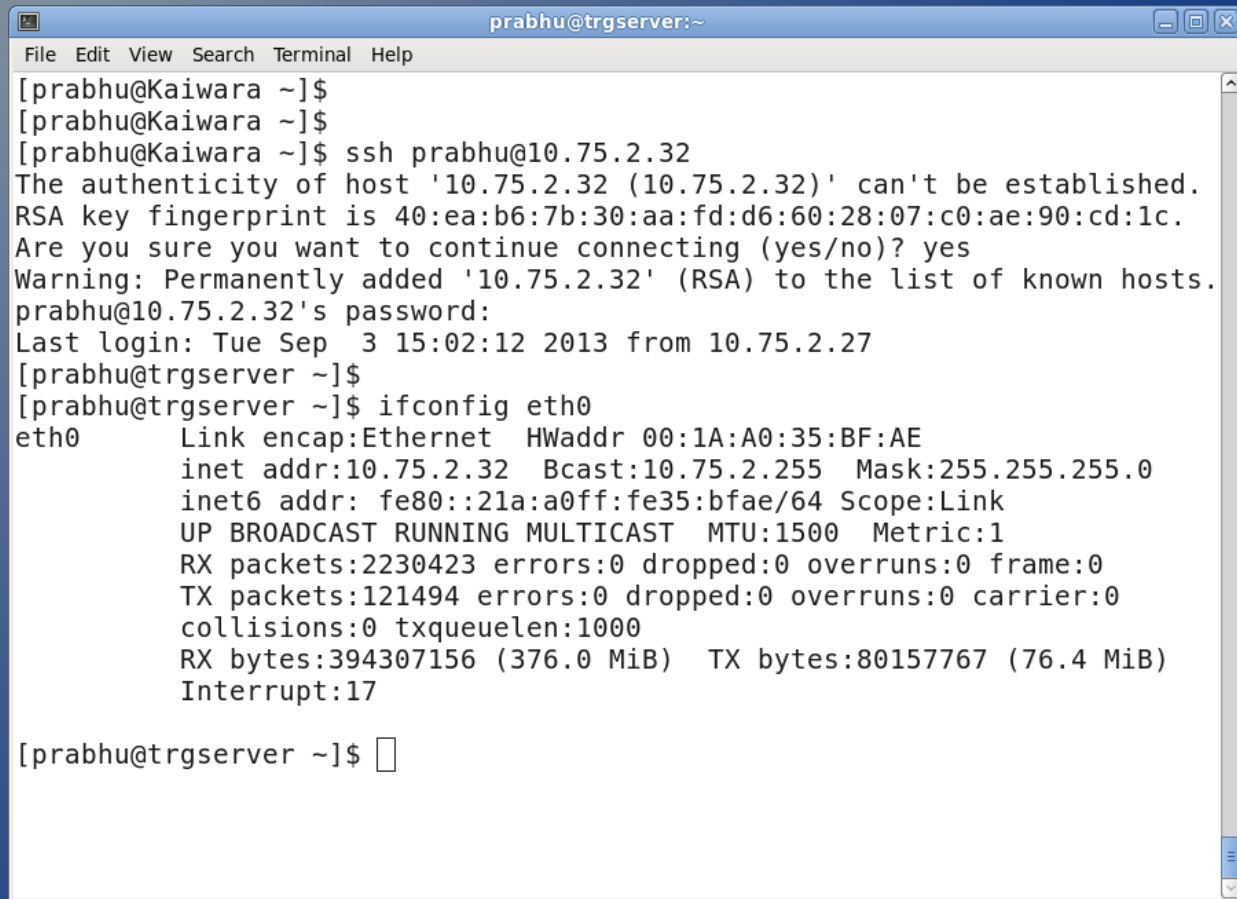
```
prabhu@Kaiwara:~/Downloads/SOURCES
File Edit View Search Terminal Help
[prabhu@Kaiwara SOURCES]$
[prabhu@Kaiwara SOURCES]$
[prabhu@Kaiwara SOURCES]$ top
```

# Linux Generic Commands

```
prabhu@Kaiwara:~/Downloads/SOURCES
File Edit View Search Terminal Help
top - 14:58:34 up 5:36, 3 users, load average: 1.01, 0.74, 0.79
Tasks: 173 total, 1 running, 172 sleeping, 0 stopped, 0 zombie
Cpu(s): 7.5%us, 2.2%sy, 0.1%ni, 88.9%id, 1.3%wa, 0.0%hi, 0.0%si, 0
Mem: 2026940k total, 1944360k used, 82580k free, 96084k buffers
Swap: 2047996k total, 8k used, 2047988k free, 999680k cached

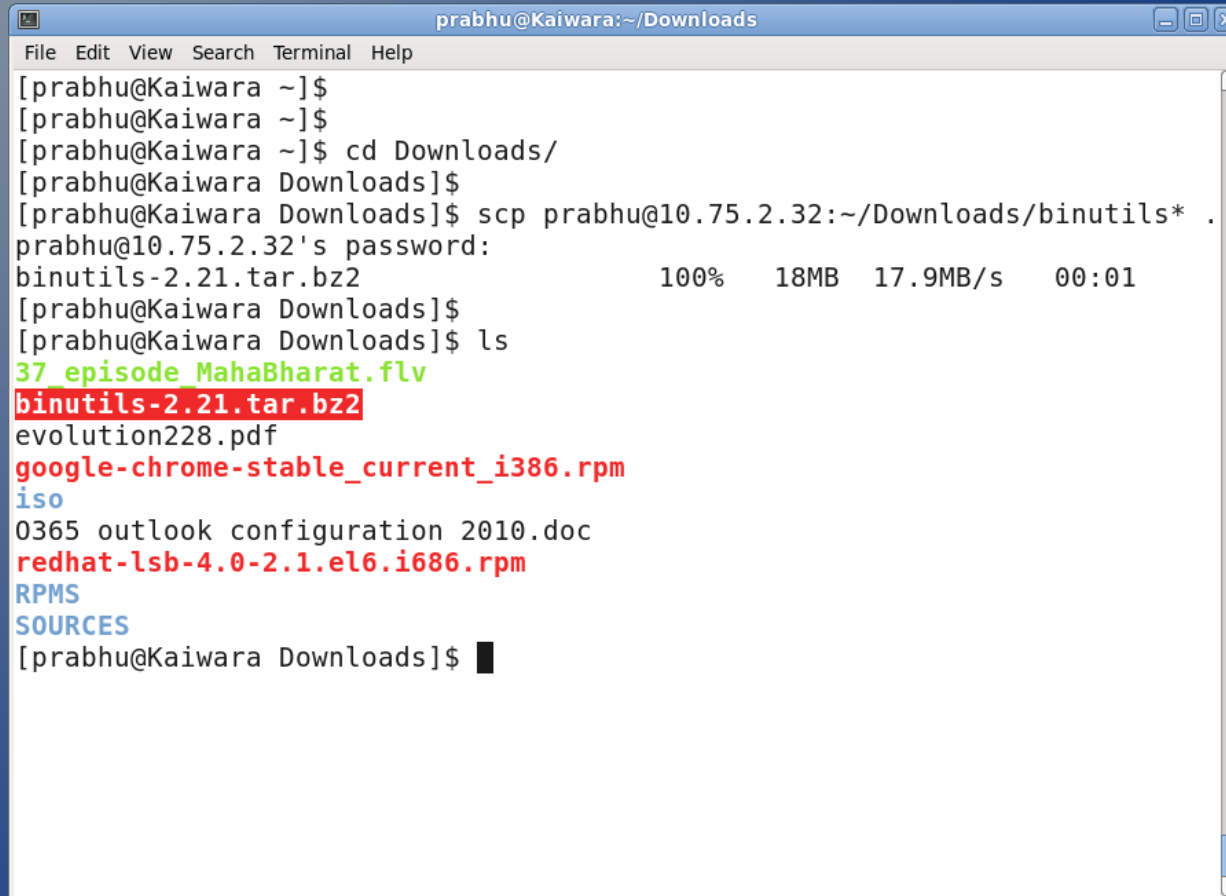
  PID USER      PR  NI  VIRT  RES  SHR  S  %CPU  %MEM    TIME+  COMMAND
 2089 prabhu    20   0   957m 269m  40m  S   2.0  13.6   24:08.96 firefox
     1 root       20   0   2932 1396 1188  S   0.0   0.1    0:02.74 init
     2 root       20   0     0     0     0  S   0.0   0.0    0:00.00 kthreadd
     3 root       20   0     0     0     0  S   0.0   0.0    0:00.99 ksoftirqd/0
     4 root       RT   0     0     0     0  S   0.0   0.0    0:00.02 migration/0
     5 root       RT   0     0     0     0  S   0.0   0.0    0:00.00 watchdog/0
     6 root       RT   0     0     0     0  S   0.0   0.0    0:00.05 migration/1
     7 root       20   0     0     0     0  S   0.0   0.0    0:00.55 ksoftirqd/1
     8 root       RT   0     0     0     0  S   0.0   0.0    0:00.00 watchdog/1
     9 root       20   0     0     0     0  S   0.0   0.0    0:02.48 events/0
    10 root       20   0     0     0     0  S   0.0   0.0    0:01.84 events/1
    11 root       20   0     0     0     0  S   0.0   0.0    0:00.00 cpuset
    12 root       20   0     0     0     0  S   0.0   0.0    0:00.00 khelper
    13 root       20   0     0     0     0  S   0.0   0.0    0:00.00 netns
    14 root       20   0     0     0     0  S   0.0   0.0    0:00.00 async/mgr
    15 root       20   0     0     0     0  S   0.0   0.0    0:00.00 pm
    16 root       20   0     0     0     0  S   0.0   0.0    0:00.04 sync_supers
    17 root       20   0     0     0     0  S   0.0   0.0    0:00.05 bdi-default
    18 root       20   0     0     0     0  S   0.0   0.0    0:00.00 kintegrityd/
```

# Linux Generic Commands



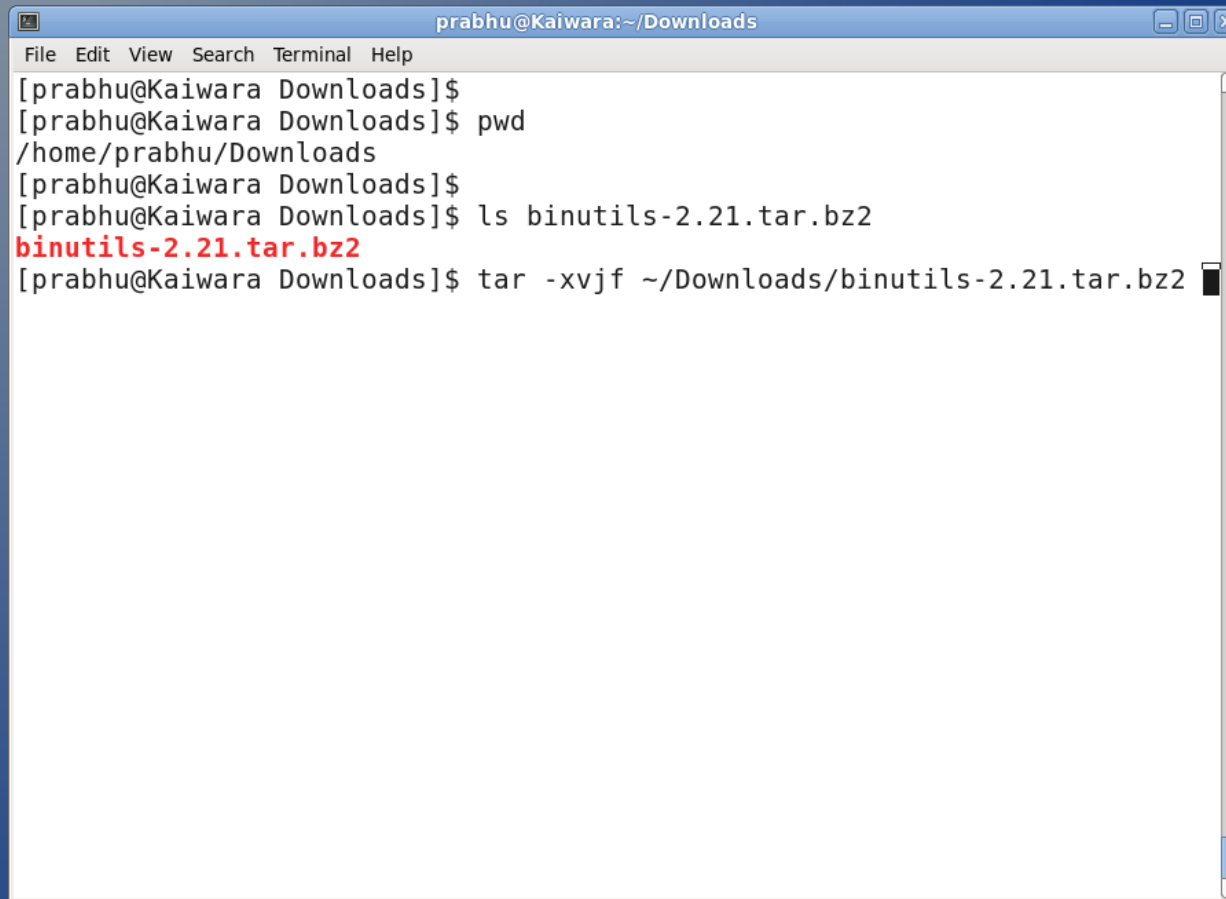
```
prabhu@trgserver:~  
File Edit View Search Terminal Help  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$ ssh prabhu@10.75.2.32  
The authenticity of host '10.75.2.32 (10.75.2.32)' can't be established.  
RSA key fingerprint is 40:ea:b6:7b:30:aa:fd:d6:60:28:07:c0:ae:90:cd:1c.  
Are you sure you want to continue connecting (yes/no)? yes  
Warning: Permanently added '10.75.2.32' (RSA) to the list of known hosts.  
prabhu@10.75.2.32's password:  
Last login: Tue Sep  3 15:02:12 2013 from 10.75.2.27  
[prabhu@trgserver ~]$  
[prabhu@trgserver ~]$ ifconfig eth0  
eth0      Link encap:Ethernet  HWaddr 00:1A:A0:35:BF:AE  
          inet addr:10.75.2.32  Bcast:10.75.2.255  Mask:255.255.255.0  
          inet6 addr: fe80::21a:a0ff:fe35:bfae/64 Scope:Link  
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1  
          RX packets:2230423 errors:0 dropped:0 overruns:0 frame:0  
          TX packets:121494 errors:0 dropped:0 overruns:0 carrier:0  
          collisions:0 txqueuelen:1000  
          RX bytes:394307156 (376.0 MiB)  TX bytes:80157767 (76.4 MiB)  
          Interrupt:17  
  
[prabhu@trgserver ~]$
```

# Linux Generic Commands

A terminal window titled 'prabhu@Kaiwara:~/Downloads' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows a series of commands and their outputs. The 'ls' command output is color-coded: green for files, red for executables, blue for directories, and black for regular files. The file 'binutils-2.21.tar.bz2' is highlighted with a red background.

```
prabhu@Kaiwara ~]$  
prabhu@Kaiwara ~]$  
prabhu@Kaiwara ~]$ cd Downloads/  
prabhu@Kaiwara Downloads]$  
prabhu@Kaiwara Downloads]$ scp prabhu@10.75.2.32:~/Downloads/binutils* .  
prabhu@10.75.2.32's password:  
binutils-2.21.tar.bz2          100%  18MB  17.9MB/s   00:01  
prabhu@Kaiwara Downloads]$  
prabhu@Kaiwara Downloads]$ ls  
37_episode_MahaBharat.flv  
binutils-2.21.tar.bz2  
evolution228.pdf  
google-chrome-stable_current_i386.rpm  
iso  
0365 outlook configuration 2010.doc  
redhat-lsb-4.0-2.1.el6.i686.rpm  
RPMs  
SOURCES  
prabhu@Kaiwara Downloads]$
```

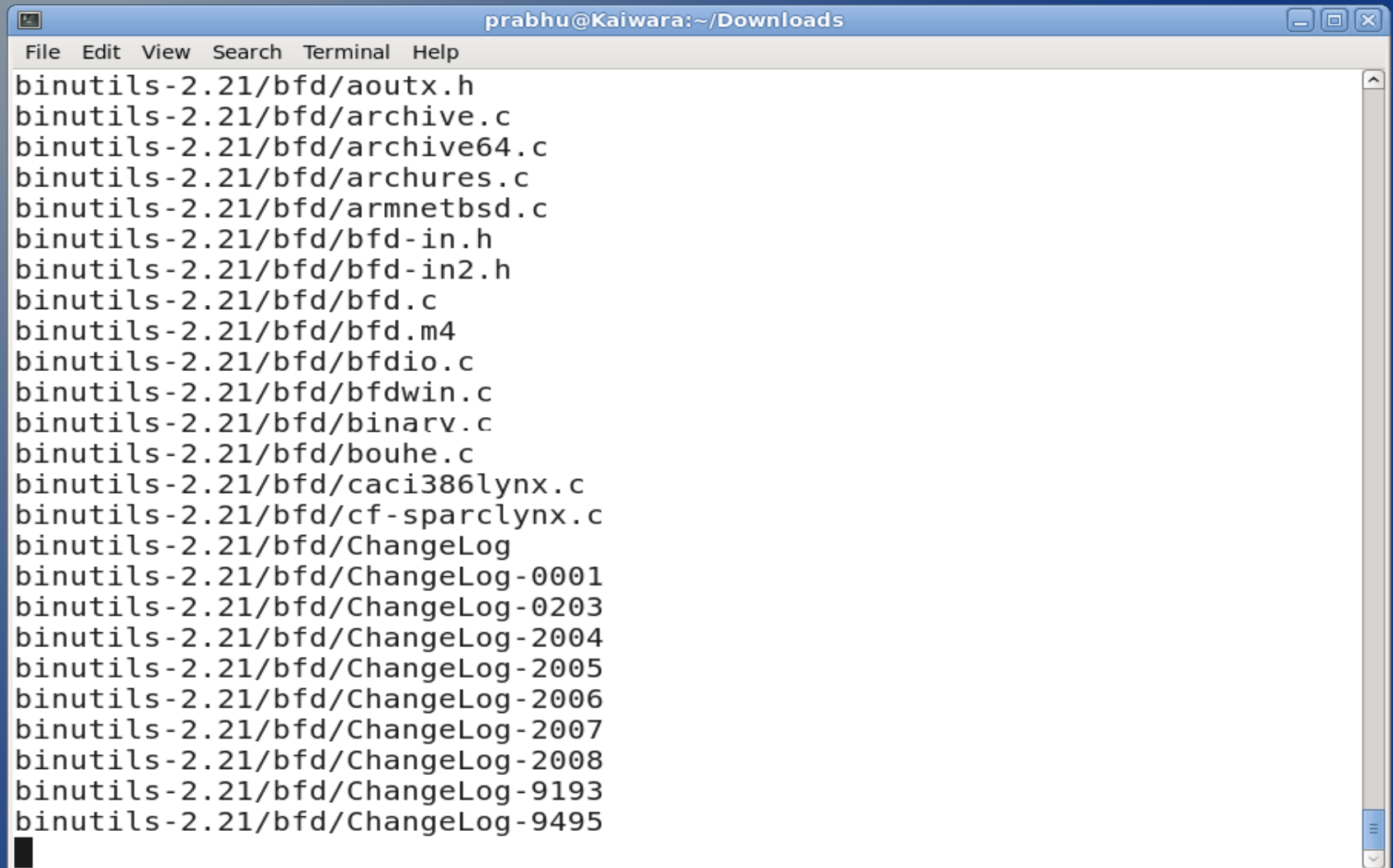
# Linux Generic Commands

A terminal window titled 'prabhu@Kaiwara:~/Downloads' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows a series of commands and their outputs: a blank prompt, 'pwd' returning '/home/prabhu/Downloads', another blank prompt, 'ls binutils-2.21.tar.bz2' returning 'binutils-2.21.tar.bz2' in red, and 'tar -xvjf ~/Downloads/binutils-2.21.tar.bz2' which is partially visible.

```
prabhu@Kaiwara:~/Downloads
File Edit View Search Terminal Help
[prabhu@Kaiwara Downloads]$
[prabhu@Kaiwara Downloads]$ pwd
/home/prabhu/Downloads
[prabhu@Kaiwara Downloads]$
[prabhu@Kaiwara Downloads]$ ls binutils-2.21.tar.bz2
binutils-2.21.tar.bz2
[prabhu@Kaiwara Downloads]$ tar -xvjf ~/Downloads/binutils-2.21.tar.bz2
```



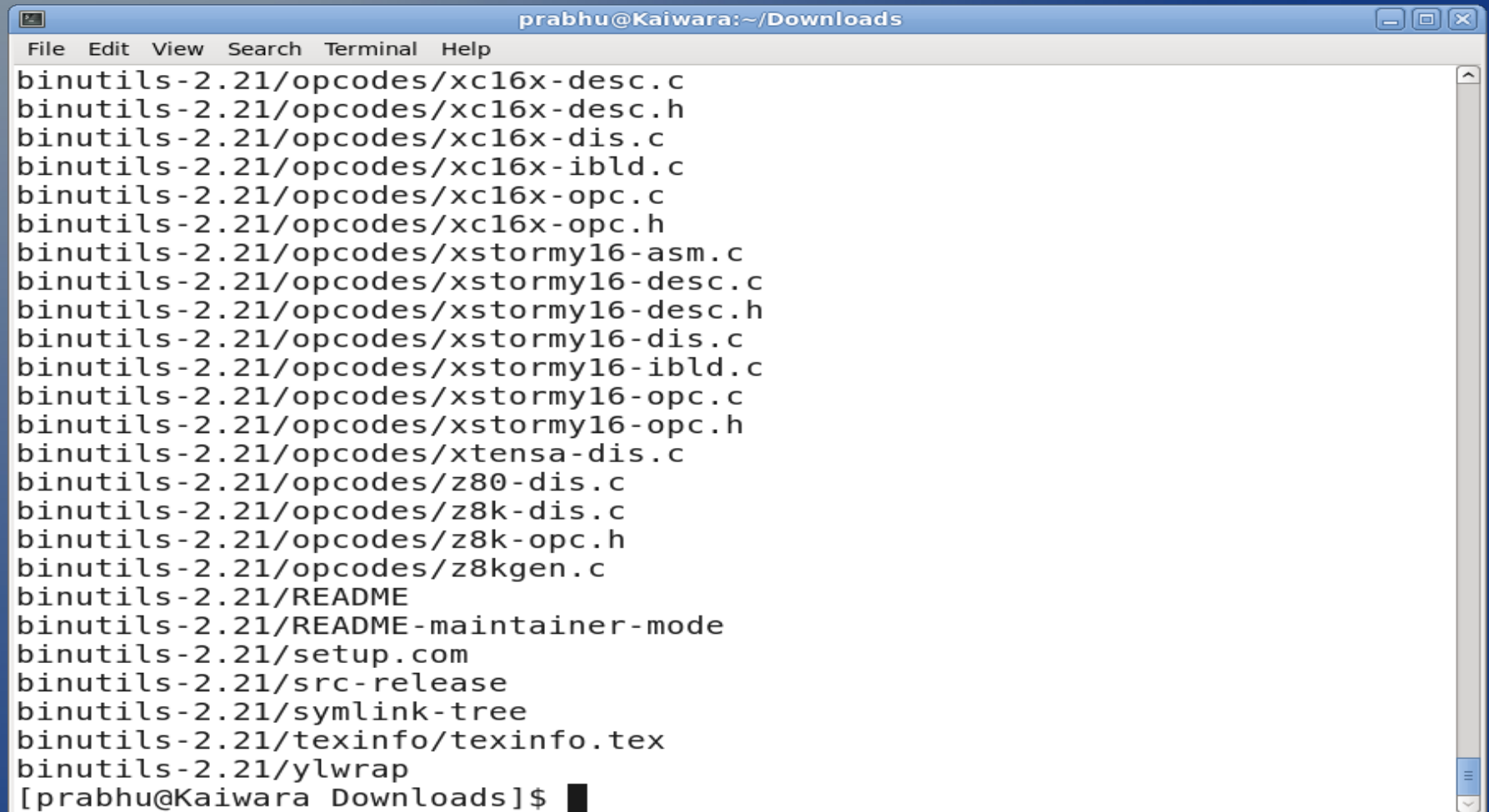
# Linux Generic Commands



A terminal window titled "prabhu@Kaiwara:~/Downloads" with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal displays a list of files in the directory "binutils-2.21/bfd".

```
binutils-2.21/bfd/aoutx.h
binutils-2.21/bfd/archive.c
binutils-2.21/bfd/archive64.c
binutils-2.21/bfd/archures.c
binutils-2.21/bfd/armnetbsd.c
binutils-2.21/bfd/bfd-in.h
binutils-2.21/bfd/bfd-in2.h
binutils-2.21/bfd/bfd.c
binutils-2.21/bfd/bfd.m4
binutils-2.21/bfd/bfdio.c
binutils-2.21/bfd/bfdwin.c
binutils-2.21/bfd/binarv.c
binutils-2.21/bfd/bouhe.c
binutils-2.21/bfd/caci386lynx.c
binutils-2.21/bfd/cf-sparclynx.c
binutils-2.21/bfd/ChangeLog
binutils-2.21/bfd/ChangeLog-0001
binutils-2.21/bfd/ChangeLog-0203
binutils-2.21/bfd/ChangeLog-2004
binutils-2.21/bfd/ChangeLog-2005
binutils-2.21/bfd/ChangeLog-2006
binutils-2.21/bfd/ChangeLog-2007
binutils-2.21/bfd/ChangeLog-2008
binutils-2.21/bfd/ChangeLog-9193
binutils-2.21/bfd/ChangeLog-9495
```

# Linux Generic Commands

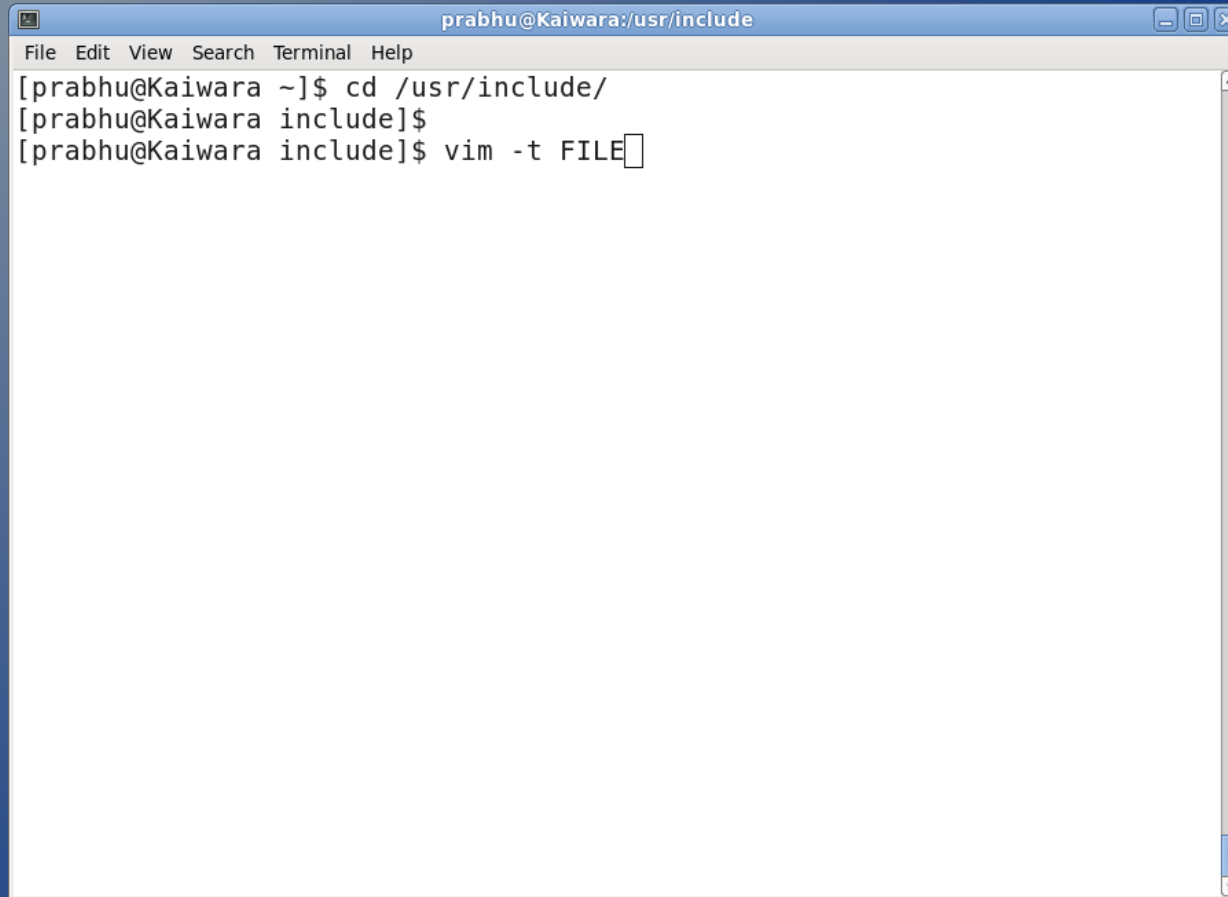


```
prabhu@Kaiwara:~/Downloads
File Edit View Search Terminal Help
binutils-2.21/opcodes/xc16x-desc.c
binutils-2.21/opcodes/xc16x-desc.h
binutils-2.21/opcodes/xc16x-dis.c
binutils-2.21/opcodes/xc16x-ibld.c
binutils-2.21/opcodes/xc16x-opc.c
binutils-2.21/opcodes/xc16x-opc.h
binutils-2.21/opcodes/xstormy16-asm.c
binutils-2.21/opcodes/xstormy16-desc.c
binutils-2.21/opcodes/xstormy16-desc.h
binutils-2.21/opcodes/xstormy16-dis.c
binutils-2.21/opcodes/xstormy16-ibld.c
binutils-2.21/opcodes/xstormy16-opc.c
binutils-2.21/opcodes/xstormy16-opc.h
binutils-2.21/opcodes/xtensa-dis.c
binutils-2.21/opcodes/z80-dis.c
binutils-2.21/opcodes/z8k-dis.c
binutils-2.21/opcodes/z8k-opc.h
binutils-2.21/opcodes/z8kgen.c
binutils-2.21/README
binutils-2.21/README-maintainer-mode
binutils-2.21/setup.com
binutils-2.21/src-release
binutils-2.21/symlink-tree
binutils-2.21/texinfo/texinfo.tex
binutils-2.21/ylwrap
[prabhu@Kaiwara Downloads]$
```

# Linux Generic Commands

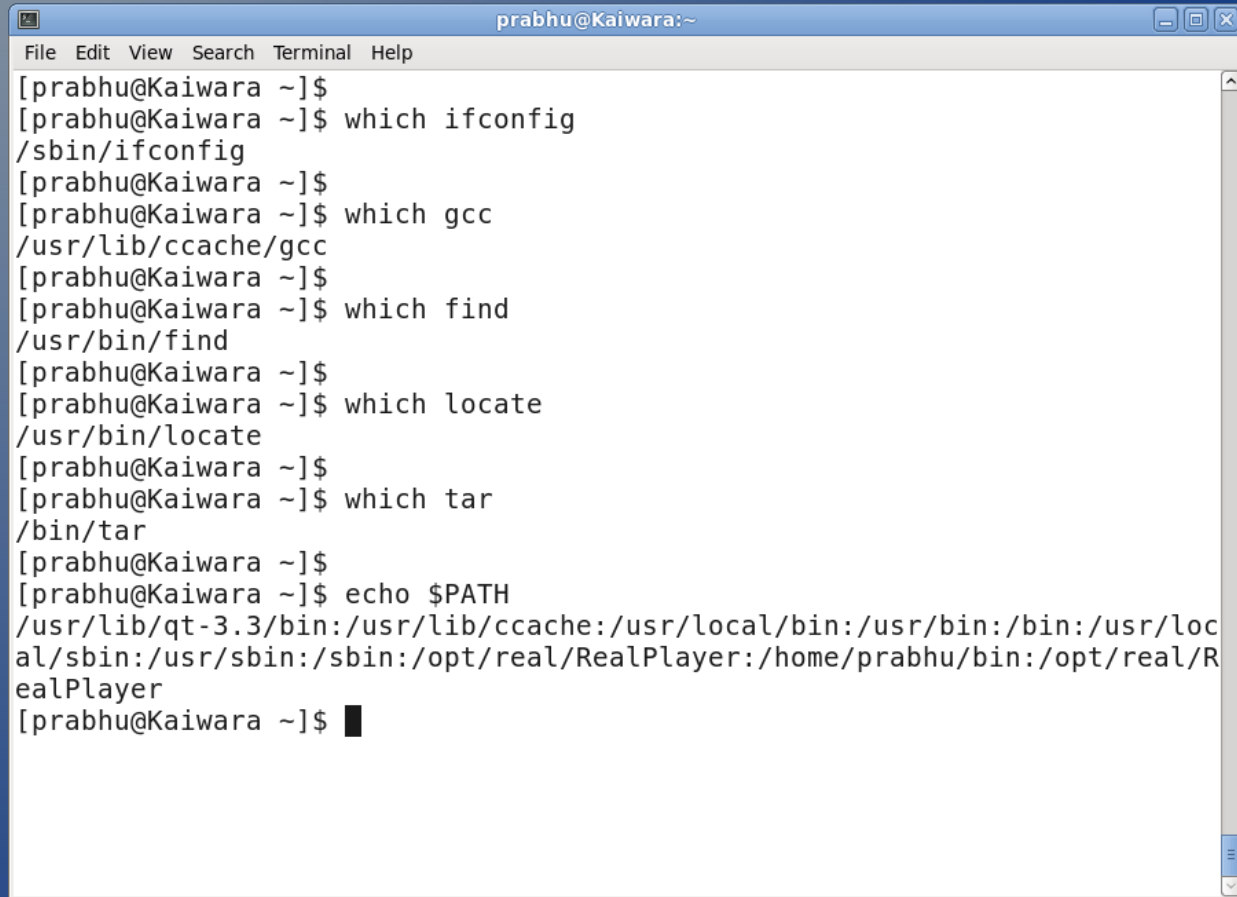
```
prabhu@Kaiwara:~/builds/binutils-2.21
File Edit View Search Terminal Help
[prabhu@Kaiwara builds]$
[prabhu@Kaiwara builds]$ ls
binutils-2.21  firefox
[prabhu@Kaiwara builds]$ cd binutils-2.21/
[prabhu@Kaiwara binutils-2.21]$ ls
bfd          COPYING3.LIB  libiberty    md5.sum
binutils     COPYING.LIB   libtool.m4   missing
ChangeLog    cpu           ltgcc.m4     mkdep
compile      depcomp       ltmain.sh    mkinstalldirs
config       elfcpp        lt~obsolete.m4  move-if-change
config.guess etc            ltoptions.m4  opcodes
config-m1.in gas            ltsugar.m4    README
config.rpath gold           ltversion.m4  README-maintainer-mode
config.sub   gprof         MAINTAINERS   setup.com
configure    include       Makefile.def  src-release
configure.ac install-sh     Makefile.in   symlink-tree
COPYING      intl          Makefile.tpl  texinfo
COPYING3     ld            makefile.vms  ylwrap
[prabhu@Kaiwara binutils-2.21]$
[prabhu@Kaiwara binutils-2.21]$ ctags -R *
[prabhu@Kaiwara binutils-2.21]$ ls tags
tags
[prabhu@Kaiwara binutils-2.21]$ vim -t find_section_by_address
```

# Linux Generic Commands

A screenshot of a Linux terminal window. The window has a title bar with the text 'prabhu@Kaiwara:/usr/include' and standard window control buttons (minimize, maximize, close). Below the title bar is a menu bar with 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The terminal content shows three lines of commands and their prompts: '[prabhu@Kaiwara ~]\$ cd /usr/include/', '[prabhu@Kaiwara include]\$', and '[prabhu@Kaiwara include]\$ vim -t FILE'. The cursor is at the end of the third line. The terminal has a vertical scrollbar on the right side.

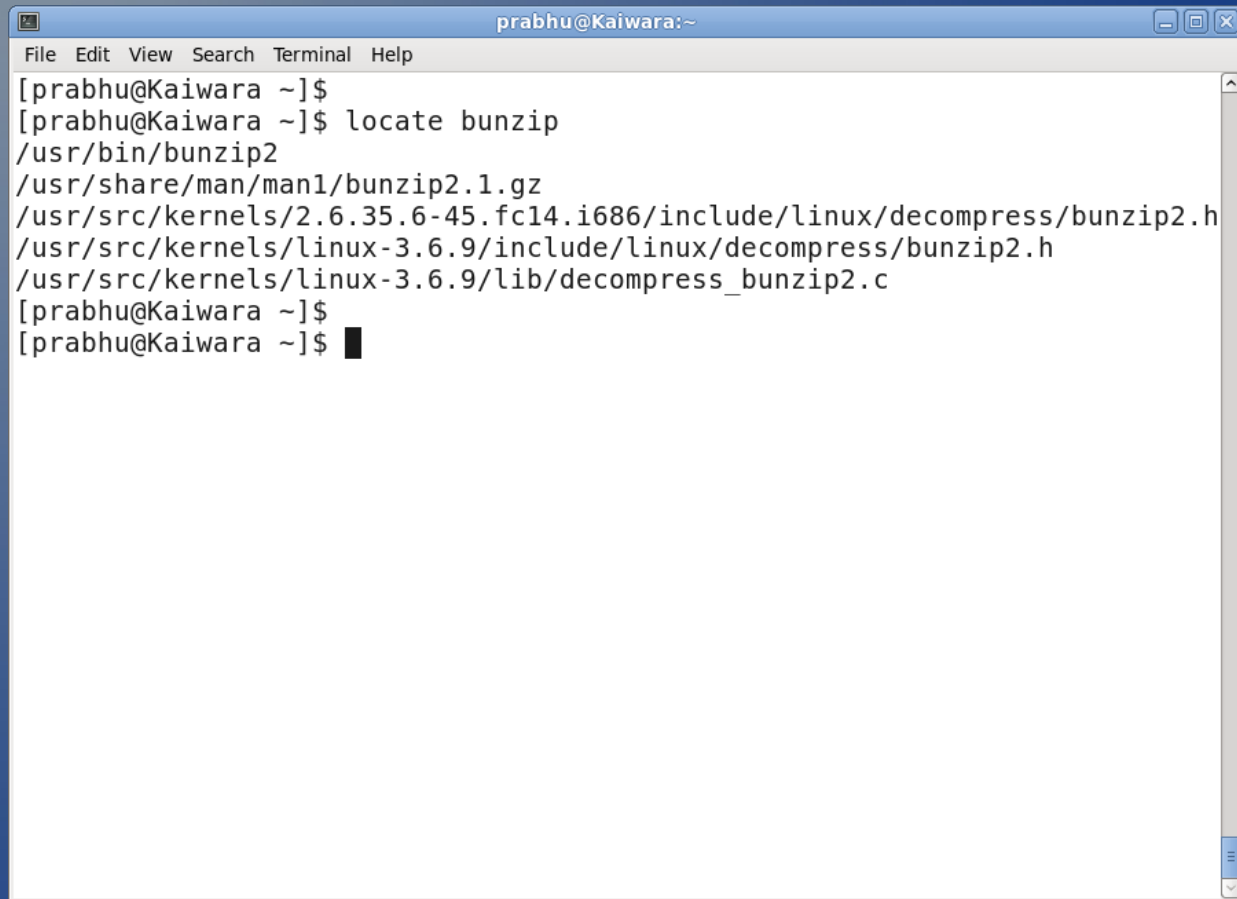
```
prabhu@Kaiwara:/usr/include
File Edit View Search Terminal Help
[prabhu@Kaiwara ~]$ cd /usr/include/
[prabhu@Kaiwara include]$
[prabhu@Kaiwara include]$ vim -t FILE
```

# Linux Generic Commands



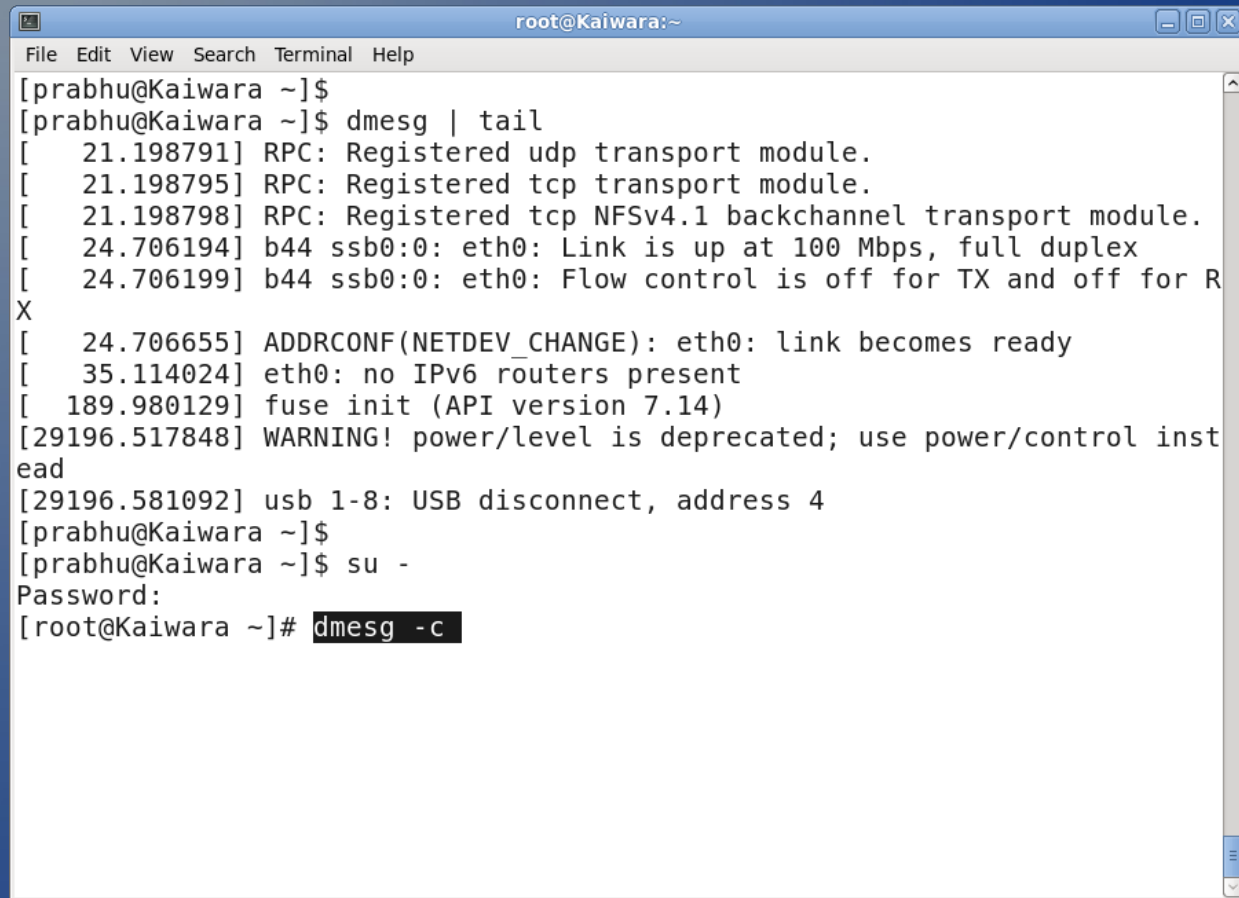
```
prabhu@Kaiwara:~  
File Edit View Search Terminal Help  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$ which ifconfig  
/sbin/ifconfig  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$ which gcc  
/usr/lib/ccache/gcc  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$ which find  
/usr/bin/find  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$ which locate  
/usr/bin/locate  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$ which tar  
/bin/tar  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$ echo $PATH  
/usr/lib/qt-3.3/bin:/usr/lib/ccache:/usr/local/bin:/usr/bin:/bin:/usr/local/sbin:/usr/sbin:/sbin:/opt/real/RealPlayer:/home/prabhu/bin:/opt/real/RealPlayer  
[prabhu@Kaiwara ~]$
```

# Linux Generic Commands



```
prabhu@Kaiwara:~  
File Edit View Search Terminal Help  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$ locate bunzip  
/usr/bin/bunzip2  
/usr/share/man/man1/bunzip2.1.gz  
/usr/src/kernels/2.6.35.6-45.fc14.i686/include/linux/decompress/bunzip2.h  
/usr/src/kernels/linux-3.6.9/include/linux/decompress/bunzip2.h  
/usr/src/kernels/linux-3.6.9/lib/decompress_bunzip2.c  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$
```

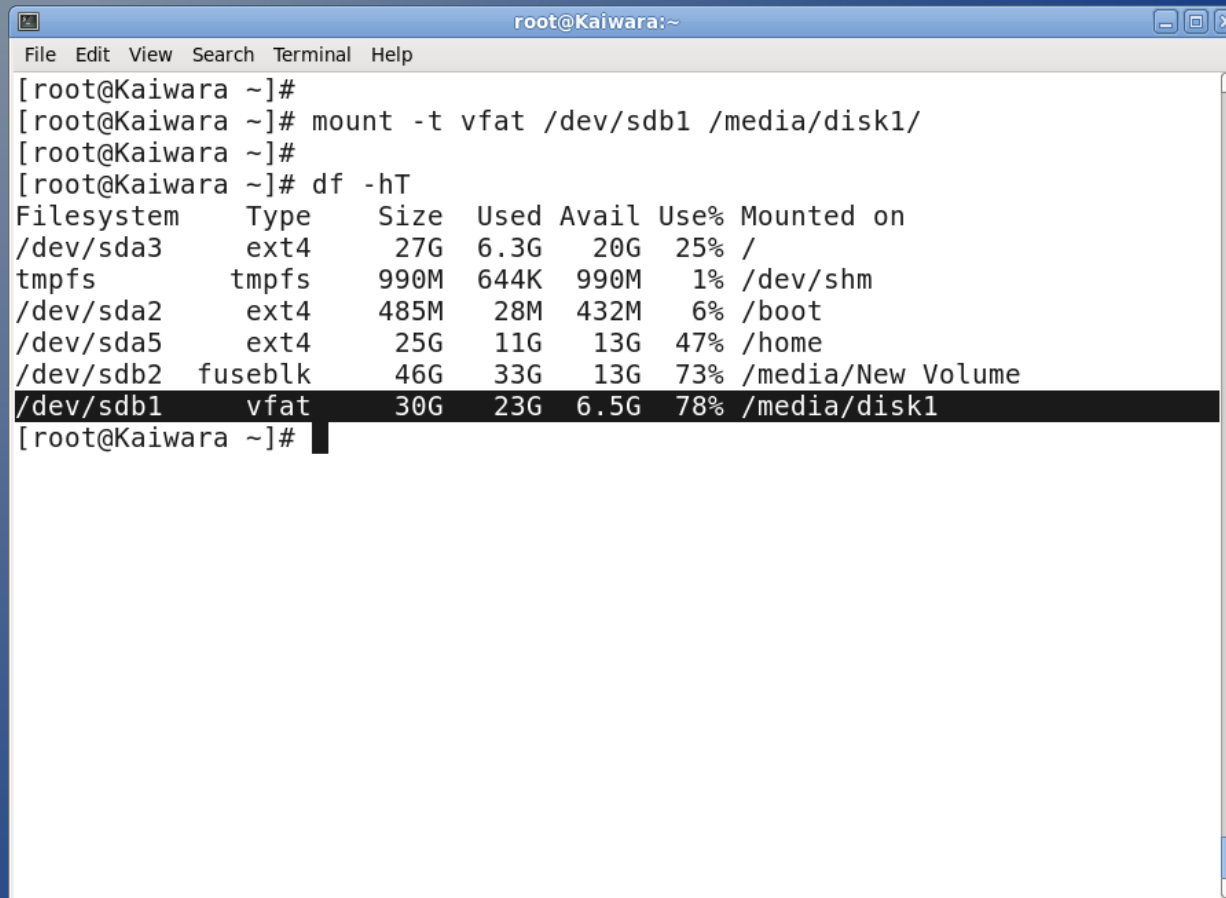
# Linux Generic Commands



A screenshot of a Linux terminal window titled "root@Kaiwara:~". The window has a menu bar with "File", "Edit", "View", "Search", "Terminal", and "Help". The terminal shows the following sequence of commands and output:

```
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$ dmesg | tail  
[ 21.198791] RPC: Registered udp transport module.  
[ 21.198795] RPC: Registered tcp transport module.  
[ 21.198798] RPC: Registered tcp NFSv4.1 backchannel transport module.  
[ 24.706194] b44 ssb0:0: eth0: Link is up at 100 Mbps, full duplex  
[ 24.706199] b44 ssb0:0: eth0: Flow control is off for TX and off for RX  
[ 24.706655] ADDRCONF(NETDEV_CHANGE): eth0: link becomes ready  
[ 35.114024] eth0: no IPv6 routers present  
[ 189.980129] fuse init (API version 7.14)  
[29196.517848] WARNING! power/level is deprecated; use power/control instead  
[29196.581092] usb 1-8: USB disconnect, address 4  
[prabhu@Kaiwara ~]$  
[prabhu@Kaiwara ~]$ su -  
Password:  
[root@Kaiwara ~]# dmesg -c
```

# Linux Generic Commands



A terminal window titled "root@Kaiwara:~" with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the following commands and output:

```
[root@Kaiwara ~]#  
[root@Kaiwara ~]# mount -t vfat /dev/sdb1 /media/disk1/  
[root@Kaiwara ~]#  
[root@Kaiwara ~]# df -hT
```

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda3	ext4	27G	6.3G	20G	25%	/
tmpfs	tmpfs	990M	644K	990M	1%	/dev/shm
/dev/sda2	ext4	485M	28M	432M	6%	/boot
/dev/sda5	ext4	25G	11G	13G	47%	/home
/dev/sdb2	fuseblk	46G	33G	13G	73%	/media/New Volume
/dev/sdb1	vfat	30G	23G	6.5G	78%	/media/disk1

```
[root@Kaiwara ~]#
```



# Vim Editor

- VIM - Text editor
- A text editor used to useful for editing programs like C, C++, Java,
- and scripting languages like shell, PERL, PYTHON, TCL.
- 
- 
- \* How to open a file
- \$ vim hello.c
-

# Vim Editor

- Vim operates in two modes.
  - insert mode
    - Data can be entered, edited...
  - Command mode
    - operate on the data like cut, copy, paste, navigate...
-

# Vim Commands

- Basics
- `:e filename` Open filename for edition
- `:w` Save file
- `:q` Exit Vim
- `:q!` Quit without saving
- `:x` Write file (if changes has been made) and exit
- `:sav filename` Saves file as filename
- `.` Repeats the last change made in normal mode
- `5.` Repeats 5 times the last change made in normal mode

# Vim Commands – Moving in the file

- `k` or Up Arrow      move the cursor up one line
- `j` or Down Arrow      move the cursor down one line
- `e`    move the cursor to the end of the word
- `b`    move the cursor to the beginning of the word
- `0`    move the cursor to the beginning of the line
- `G`    move the cursor to the end of the file
- `gg`    move the cursor to the beginning of the file

# Vim Commands – Moving in the file

- `L` move the cursor to the bottom of the screen
- `:59` move cursor to line 59. Replace 59 by the desired line number.
- `20|` move cursor to column 20.
- `%` Move cursor to matching parenthesis
- `[[` Jump to function start
- `[{` Jump to block start

# Vim commands – Cut, Copy, Paste

- y Copy the selected text to clipboard
- p Paste clipboard contents
- dd Cut current line
- yy Copy current line
- y\$ Copy to end of line
- D Cut to end of line

# Vim Commands - Search

- `/word` Search word from top to bottom
- `?word` Search word from bottom to top
- `*` Search the word under cursor
- `\cstring` Search STRING or string, case insensitive
- `/jo[ha]n` Search john or joan
- `\< the` Search the, theatre or then
- `/the\>` Search the or breathe

# Vim Commands - Search

- `^< the\>` Search the
- `^< !.\>` Search all words of 4 letters
- `/^` Search fred but not alfred or frederick
- `/fred\|joe` Search fred or joe
- `^<\d\d\d\d>` Search exactly 4 digits
- `/^\\n\{3}` Find 3 empty lines



# Vim commands - Search

- `:bufdo /searchstr/` Search in all open files
- `bufdo %s/something/somethingelse/g` Search something in all the open buffers and replace it with somethingelse

# Vim commands - Replace

- `:%s/old/new/g` Replace all occurrences of old by new in file
- `:%s/onward/forward/gi` Replace onward by forward, case insensitive
- `:%s/old/new/gc` Replace all occurrences with confirmation
- `:2,35s/old/new/g` Replace all occurrences between lines 2 and 35

# Vim commands - Replace

- `:5,$s/old/new/g` Replace all occurrences from line 5 to EOF
- `:%s/^/hello/g` Replace the beginning of each line by hello
- `:%s/$/Harry/g` Replace the end of each line by Harry
- `:%s/onward/forward/gi` Replace onward by forward, case insensitive

# Vim commands - Replace

- `:%s/ *$//g` Delete all white spaces
- `:g/string/d` Delete all lines containing string
- `:v/string/d` Delete all lines containing which didn't contain string
- `:s/Bill/Steve/` Replace the first occurrence of Bill by Steve in current line
- `:s/Bill/Steve/g` Replace Bill by Steve in current line
- `:%s/Bill/Steve/g` Replace Bill by Steve in all the file

Thank You

Tech Training Team