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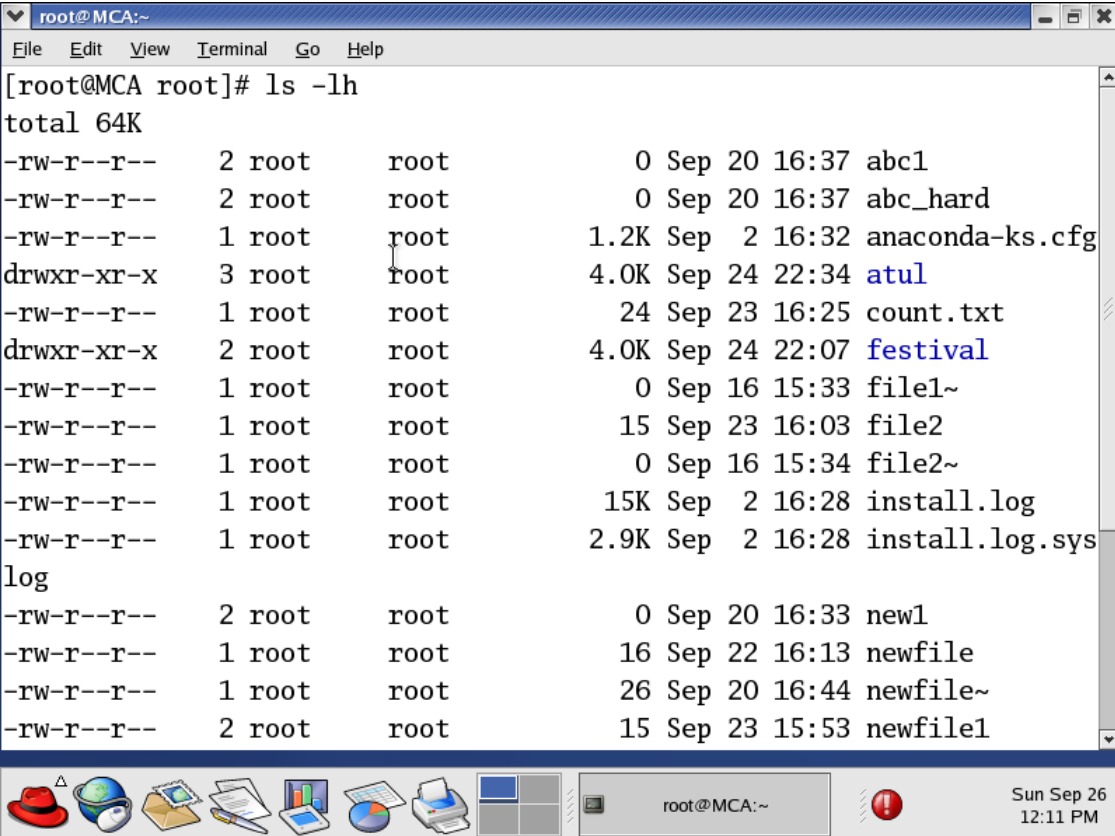
Section: **D2110** Roll No.: **RD2110B79**

Subject Code: **CAP454**

Assignment: **01**

1. Get a list of files in human readable format:-

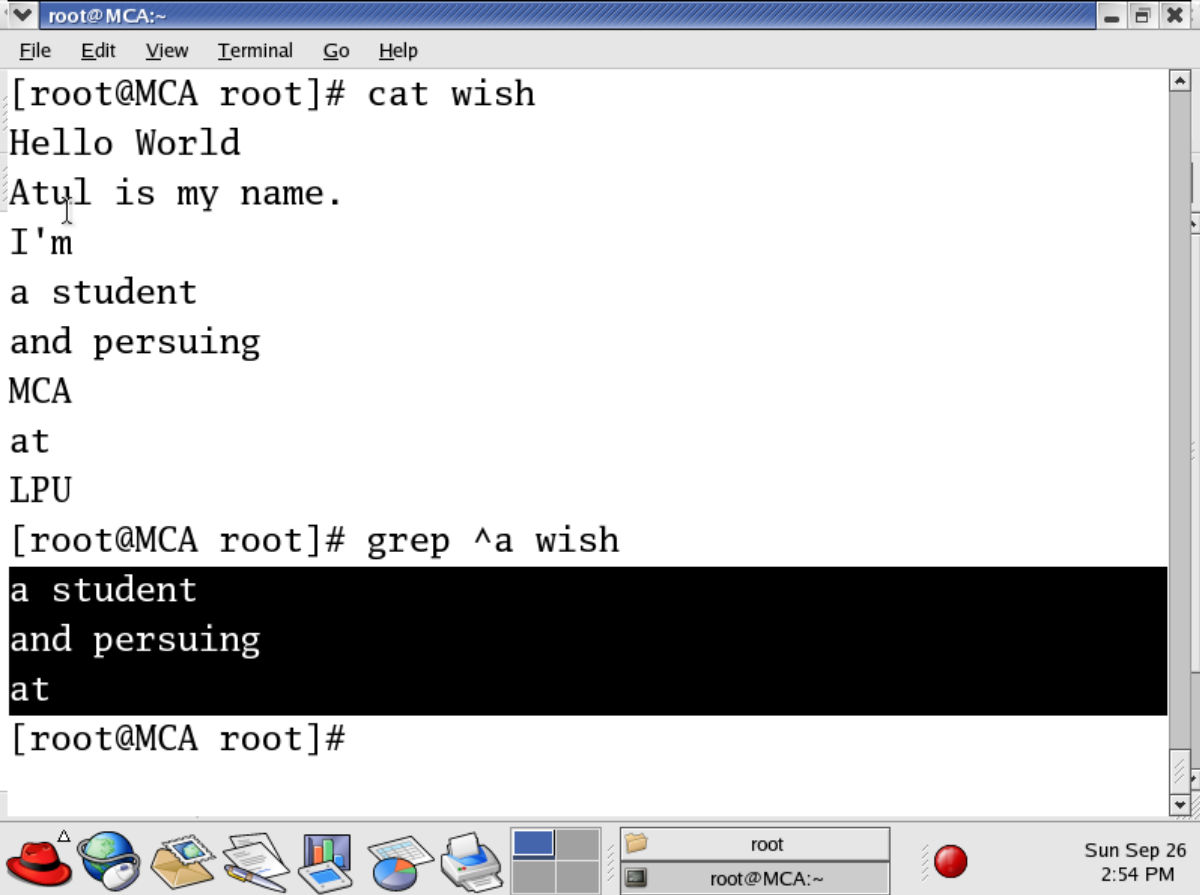
➤ We can use “ls -lh” command.



```
root@MCA:~  
File Edit View Terminal Go Help  
[root@MCA root]# ls -lh  
total 64K  
-rw-r--r-- 2 root root 0 Sep 20 16:37 abc1  
-rw-r--r-- 2 root root 0 Sep 20 16:37 abc_hard  
-rw-r--r-- 1 root root 1.2K Sep 2 16:32 anaconda-ks.cfg  
drwxr-xr-x 3 root root 4.0K Sep 24 22:34 atul  
-rw-r--r-- 1 root root 24 Sep 23 16:25 count.txt  
drwxr-xr-x 2 root root 4.0K Sep 24 22:07 festival  
-rw-r--r-- 1 root root 0 Sep 16 15:33 file1~  
-rw-r--r-- 1 root root 15 Sep 23 16:03 file2  
-rw-r--r-- 1 root root 0 Sep 16 15:34 file2~  
-rw-r--r-- 1 root root 15K Sep 2 16:28 install.log  
-rw-r--r-- 1 root root 2.9K Sep 2 16:28 install.log.syslog  
log  
-rw-r--r-- 2 root root 0 Sep 20 16:33 new1  
-rw-r--r-- 1 root root 16 Sep 22 16:13 newfile  
-rw-r--r-- 1 root root 26 Sep 20 16:44 newfile~  
-rw-r--r-- 2 root root 15 Sep 23 15:53 newfile1
```

2. Search in a file all words starts from letter 'a':-

➤ We can use “`grep ^a <filename>`”.



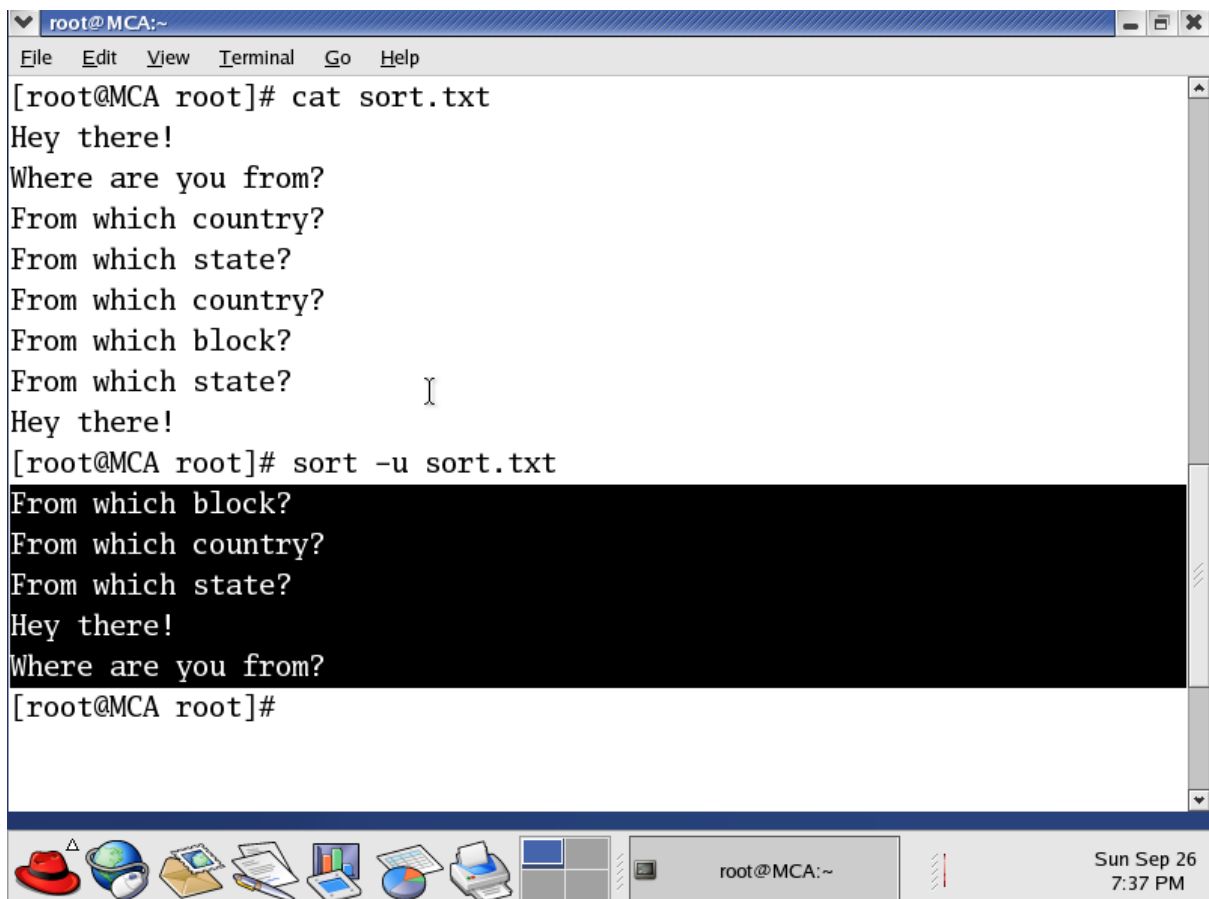
The screenshot shows a terminal window titled 'root@MCA:~'. The menu bar includes 'File', 'Edit', 'View', 'Terminal', 'Go', and 'Help'. The terminal content is as follows:

```
[root@MCA root]# cat wish
Hello World
Atul is my name.
I'm
a student
and persuing
MCA
at
LPU
[root@MCA root]# grep ^a wish
a student
and persuing
at
[root@MCA root]#
```

The output of the `grep` command is highlighted with a black background. The desktop environment at the bottom features a taskbar with various application icons (including a red hat, a globe, a folder, a document, a bar chart, a pie chart, and a printer) and a system tray on the right showing the user 'root', the terminal path 'root@MCA:~', and the date/time 'Sun Sep 26 2:54 PM'.

3. Omit all duplicate lines from a file :-

➤ We use “ **sort -u <filename>** ” .



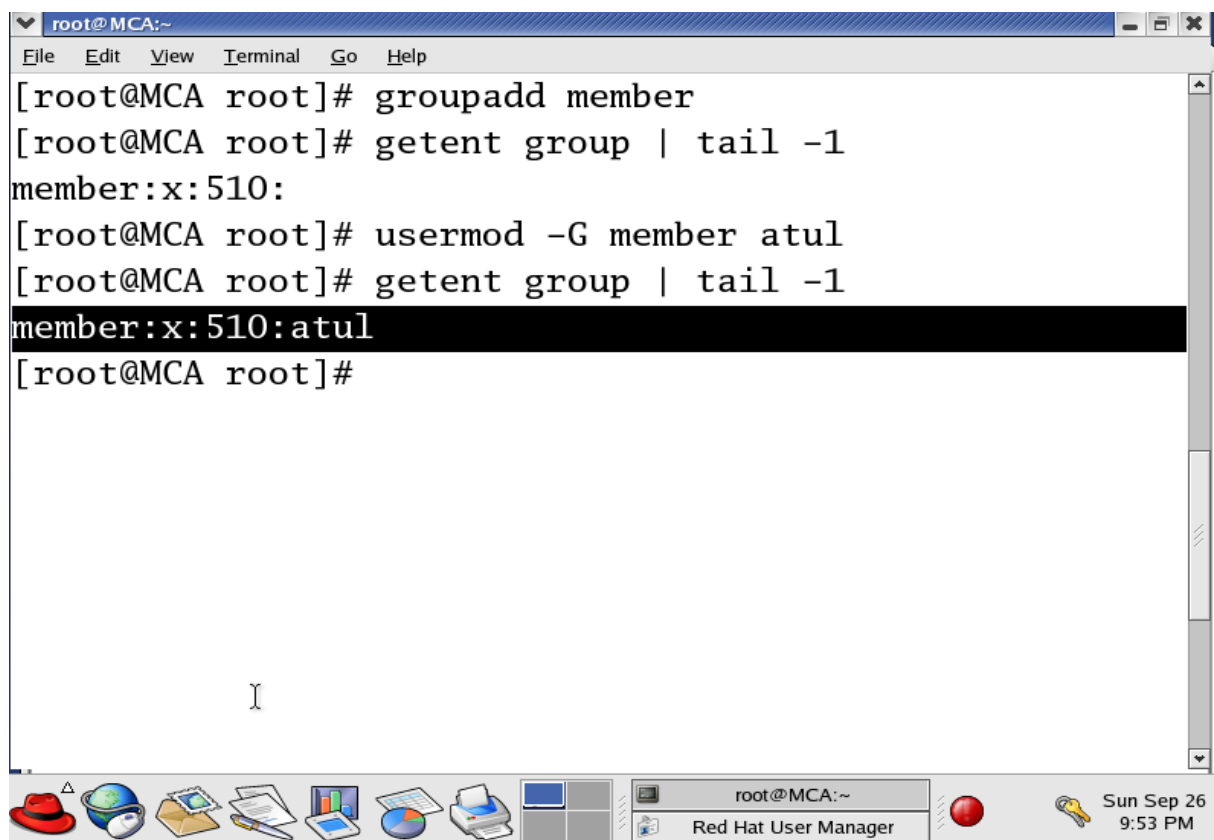
The screenshot shows a terminal window titled 'root@MCA:~'. The menu bar includes 'File', 'Edit', 'View', 'Terminal', 'Go', and 'Help'. The terminal content is as follows:

```
[root@MCA root]# cat sort.txt
Hey there!
Where are you from?
From which country?
From which state?
From which country?
From which block?
From which state?
Hey there!
[root@MCA root]# sort -u sort.txt
From which block?
From which country?
From which state?
Hey there!
Where are you from?
[root@MCA root]#
```

The output of the `sort -u` command is highlighted with a black background. The window's taskbar at the bottom contains various icons (a red hat, a globe, a folder, a notepad, a bar chart, a pie chart, a printer, and a window icon) and a system tray showing the user 'root@MCA:~' and the date/time 'Sun Sep 26 7:37 PM'.

4. Create one group and add one existing user in it:-

- For creating a group in linux:-
we have to use “**groupadd <groupname>**”.
- To add existing user in a group we have to
use:-
“ **usermod -G <groupname> <username>** ”

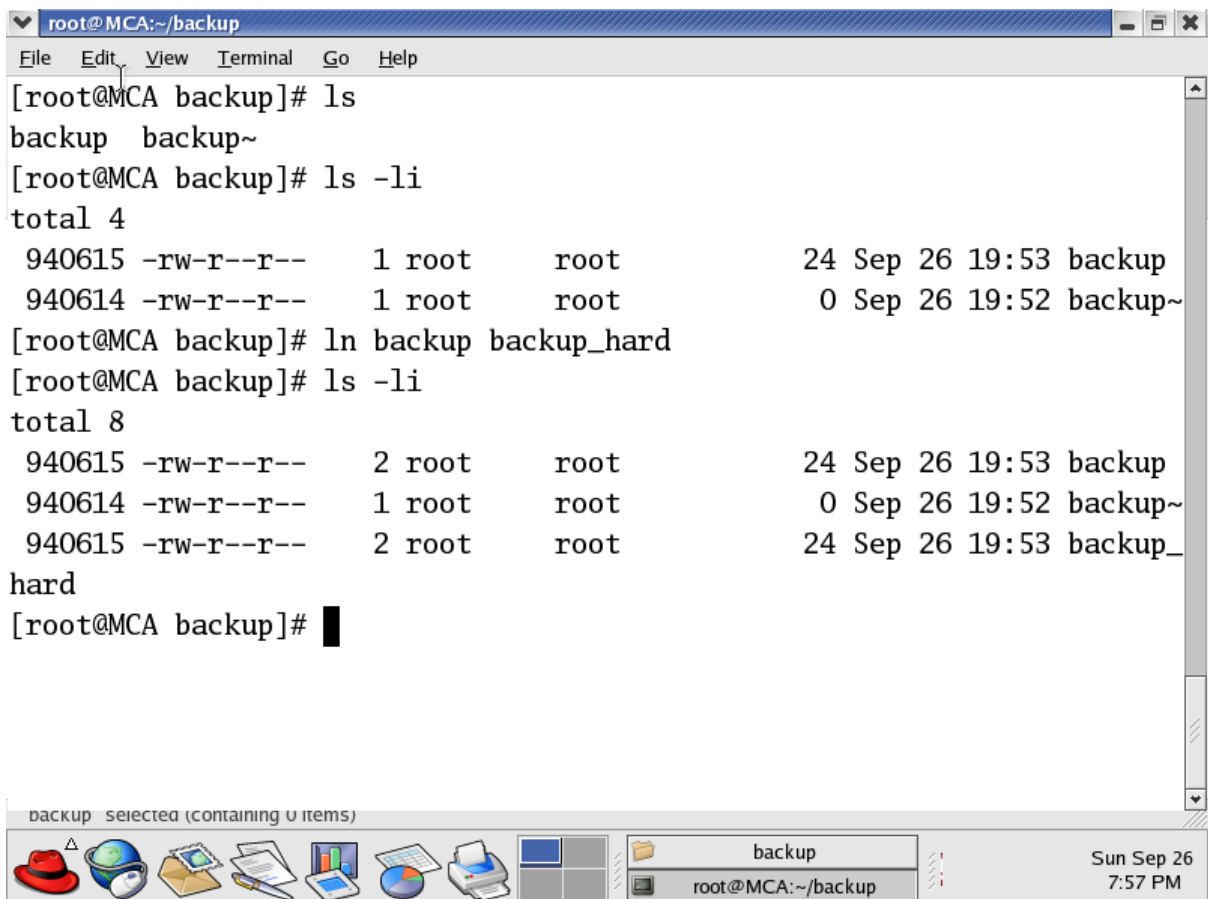


```
root@MCA:~  
File Edit View Terminal Go Help  
[root@MCA root]# groupadd member  
[root@MCA root]# getent group | tail -1  
member:x:510:  
[root@MCA root]# usermod -G member atul  
[root@MCA root]# getent group | tail -1  
member:x:510:atul  
[root@MCA root]#
```

The screenshot shows a terminal window titled 'root@MCA:~' with a menu bar (File, Edit, View, Terminal, Go, Help). The terminal output shows the execution of the following commands: 'groupadd member', 'getent group | tail -1' (output: 'member:x:510:'), 'usermod -G member atul', and 'getent group | tail -1' (output: 'member:x:510:atul'). The terminal window is part of a desktop environment with a taskbar at the bottom containing various application icons and a system tray showing the date and time as 'Sun Sep 26 9:53 PM'.

5. Create a backup of a file :-

- To create a backup of a file we can use :-
“ln <filename> <filename_hard>”



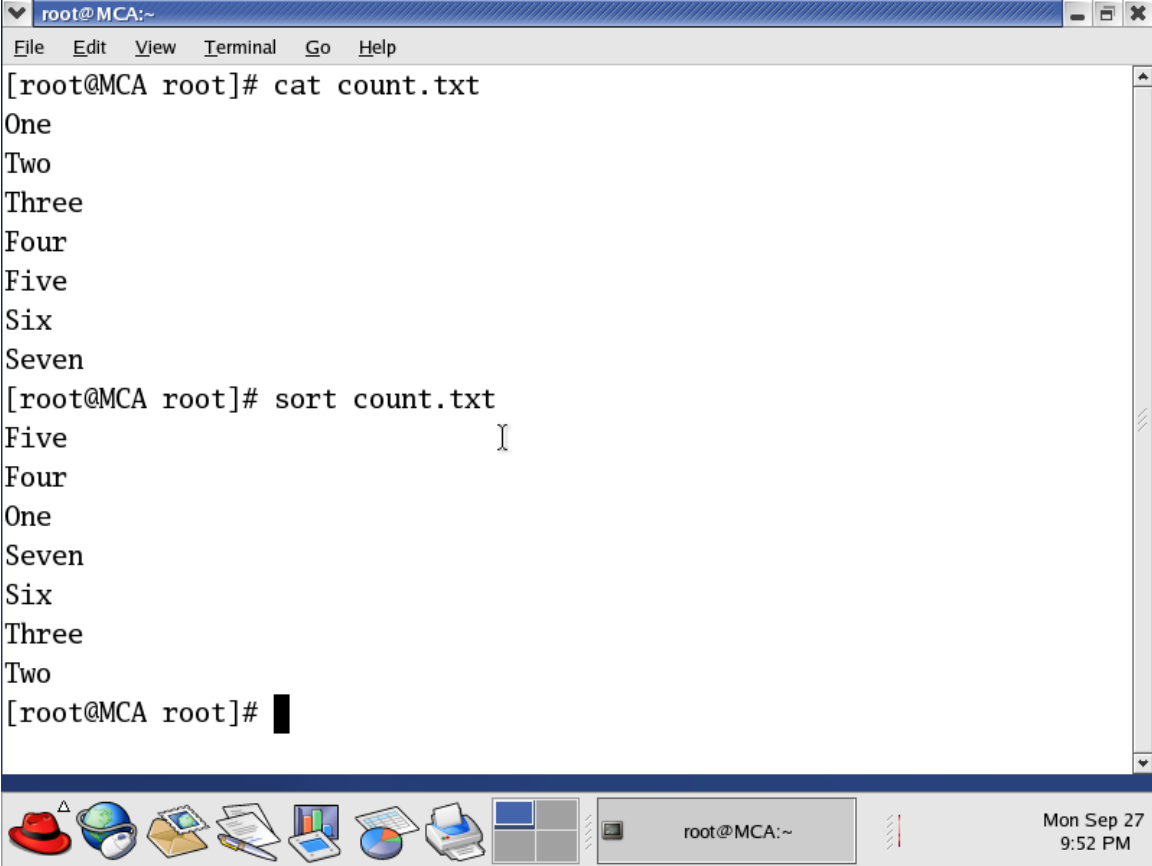
The screenshot shows a terminal window titled "root@MCA:~/backup". The user runs the command "ls", which shows two files: "backup" and "backup~". Then, the user runs "ls -li", showing the file details for "backup" and "backup~". Next, the user runs "ln backup backup_hard", creating a hard link. Finally, the user runs "ls -li" again, showing the details for "backup", "backup~", and the newly created "backup_hard". The terminal output is as follows:

```
root@MCA:~/backup
File Edit View Terminal Go Help
[root@MCA backup]# ls
backup  backup~
[root@MCA backup]# ls -li
total 4
940615 -rw-r--r-- 1 root root 24 Sep 26 19:53 backup
940614 -rw-r--r-- 1 root root 0 Sep 26 19:52 backup~
[root@MCA backup]# ln backup backup_hard
[root@MCA backup]# ls -li
total 8
940615 -rw-r--r-- 2 root root 24 Sep 26 19:53 backup
940614 -rw-r--r-- 1 root root 0 Sep 26 19:52 backup~
940615 -rw-r--r-- 2 root root 24 Sep 26 19:53 backup_
hard
[root@MCA backup]#
```

The desktop environment at the bottom shows a taskbar with various icons, a panel indicating "backup selected (containing 0 items)", and a system tray showing the date and time: "Sun Sep 26 7:57 PM".

6. Sort a content of the file and store it's first 5 lines in file2 :-

➤ We can use “ **sort <filename>** ” for sorting

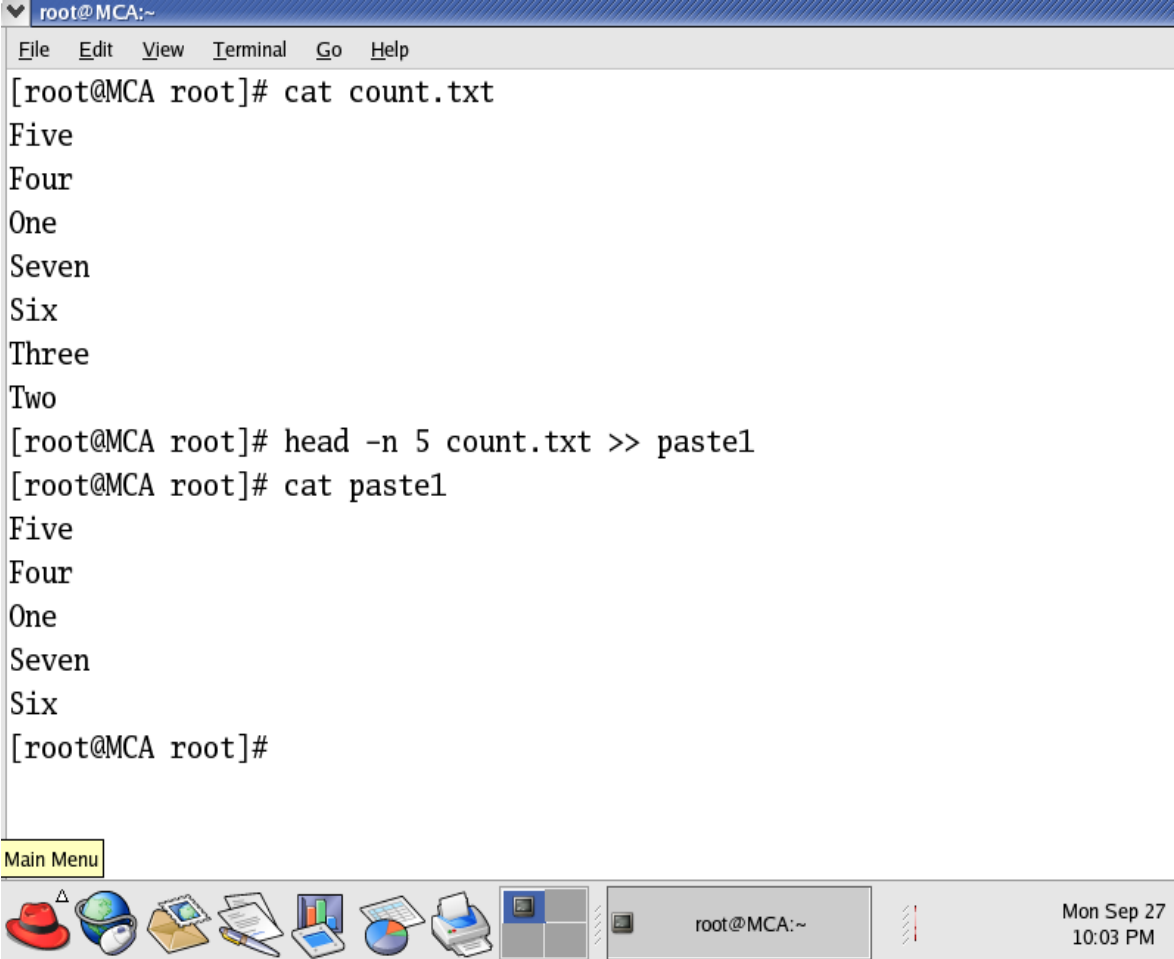


The screenshot shows a terminal window titled "root@MCA:~". The window contains the following text:

```
[root@MCA root]# cat count.txt
One
Two
Three
Four
Five
Six
Seven
[root@MCA root]# sort count.txt
Five
Four
One
Seven
Six
Three
Two
[root@MCA root]#
```

The terminal window has a menu bar with "File", "Edit", "View", "Terminal", "Go", and "Help". The bottom of the window shows a taskbar with various icons and a system tray area with the text "root@MCA:~" and "Mon Sep 27 9:52 PM".

- We can use “**head -n 5 <filename> >> <filename2>**” for storing 5 lines from sorted file to another file.



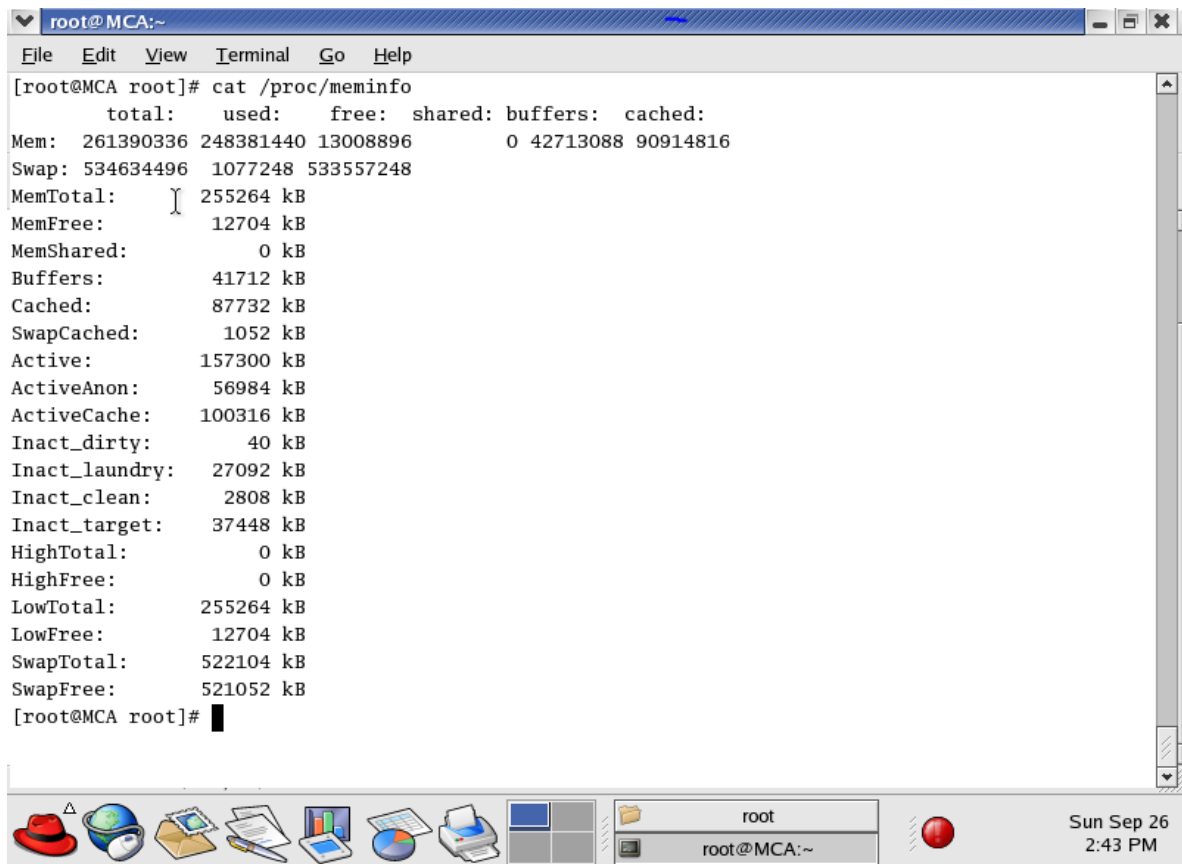
The image shows a terminal window titled "root@MCA:~" with a menu bar (File, Edit, View, Terminal, Go, Help). The terminal output is as follows:

```
[root@MCA root]# cat count.txt
Five
Four
One
Seven
Six
Three
Two
[root@MCA root]# head -n 5 count.txt >> pastel
[root@MCA root]# cat pastel
Five
Four
One
Seven
Six
[root@MCA root]#
```

Below the terminal window is a desktop environment with a "Main Menu" button and a taskbar. The taskbar contains icons for a red hat, a globe, an envelope, a notepad, a bar chart, a pie chart, a printer, and a window manager. The system tray on the right shows the user "root@MCA:~" and the date/time "Mon Sep 27 10:03 PM".

7. Check memory status of a disk :-

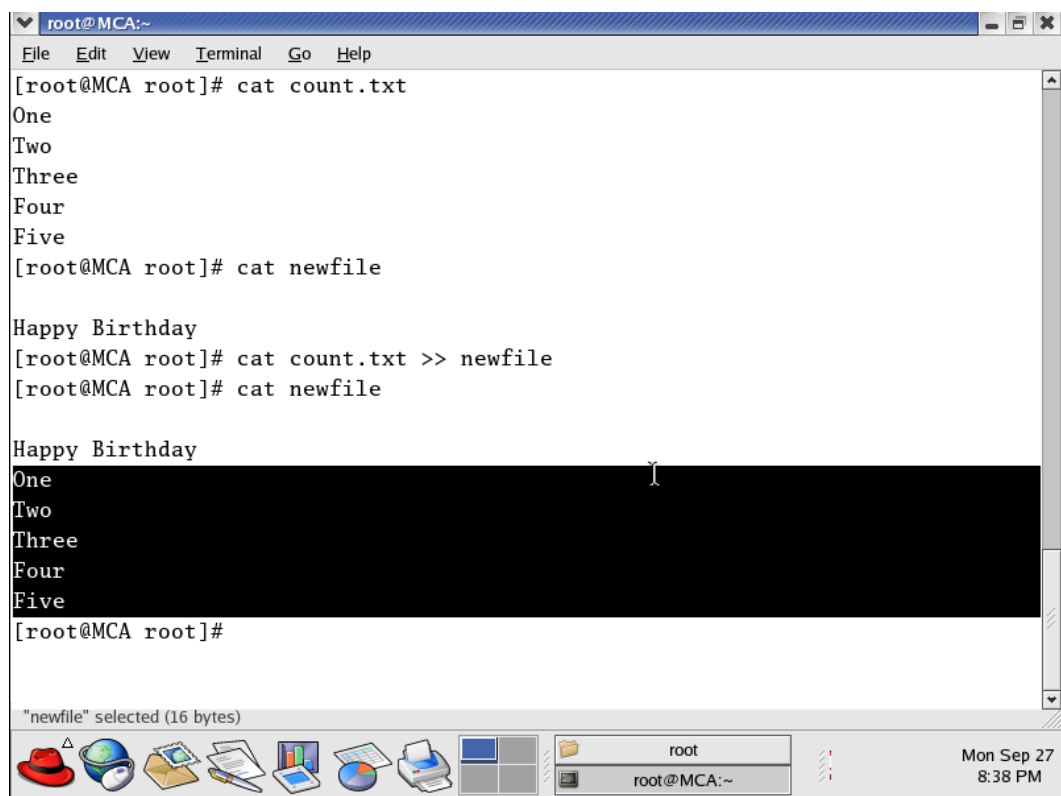
- We can use “**cat /proc/meminfo**” for checking memory status of a disk.



```
[root@MCA root]# cat /proc/meminfo
              total:      used:      free:  shared: buffers:  cached:
Mem:  261390336 248381440 13008896          0 42713088 90914816
Swap: 534634496 1077248 533557248
MemTotal:        255264 kB
MemFree:          12704 kB
MemShared:         0 kB
Buffers:          41712 kB
Cached:           87732 kB
SwapCached:        1052 kB
Active:           157300 kB
ActiveAnon:        56984 kB
ActiveCache:       100316 kB
Inact_dirty:        40 kB
Inact_laundry:     27092 kB
Inact_clean:       2808 kB
Inact_target:      37448 kB
HighTotal:         0 kB
HighFree:          0 kB
LowTotal:          255264 kB
LowFree:           12704 kB
SwapTotal:         522104 kB
SwapFree:          521052 kB
[root@MCA root]#
```


8. Append content in file :-

- To append content in a file we use :-
“ **cat <source file> >> <destination file>** “ .

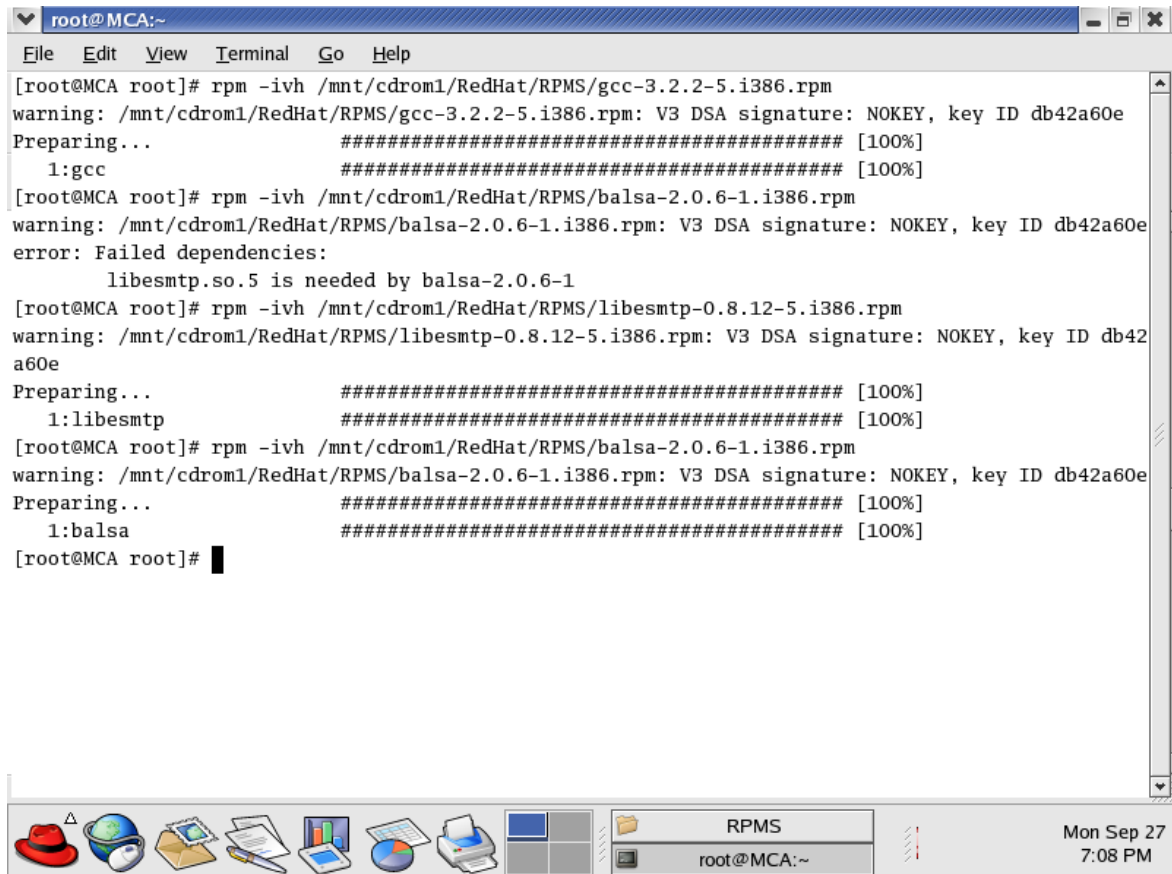


The screenshot shows a terminal window titled 'root@MCA:~'. The user first runs 'cat count.txt', which displays the numbers 'One' through 'Five'. Then, the user runs 'cat newfile', which displays 'Happy Birthday'. Next, the user runs 'cat count.txt >> newfile'. Finally, the user runs 'cat newfile' again, which now displays 'Happy Birthday' followed by 'One' through 'Five'. A black rectangular selection box highlights the numbers 'One' through 'Five' in the output. The terminal window has a menu bar with 'File', 'Edit', 'View', 'Terminal', 'Go', and 'Help'. The status bar at the bottom shows 'root@MCA:~' and the date 'Mon Sep 27 8:38 PM'.

```
root@MCA:~  
File Edit View Terminal Go Help  
[root@MCA root]# cat count.txt  
One  
Two  
Three  
Four  
Five  
[root@MCA root]# cat newfile  
Happy Birthday  
[root@MCA root]# cat count.txt >> newfile  
[root@MCA root]# cat newfile  
Happy Birthday  
One  
Two  
Three  
Four  
Five  
[root@MCA root]#  
"newfile" selected (16 bytes)  
root  
root@MCA:~  
Mon Sep 27 8:38 PM
```

9. Install a package and its dependencies :-

- To create package in a linux we use :-
“ **rpm -ivh /mnt/cdrom/RedHat/RPMS/
<package name>** ”.

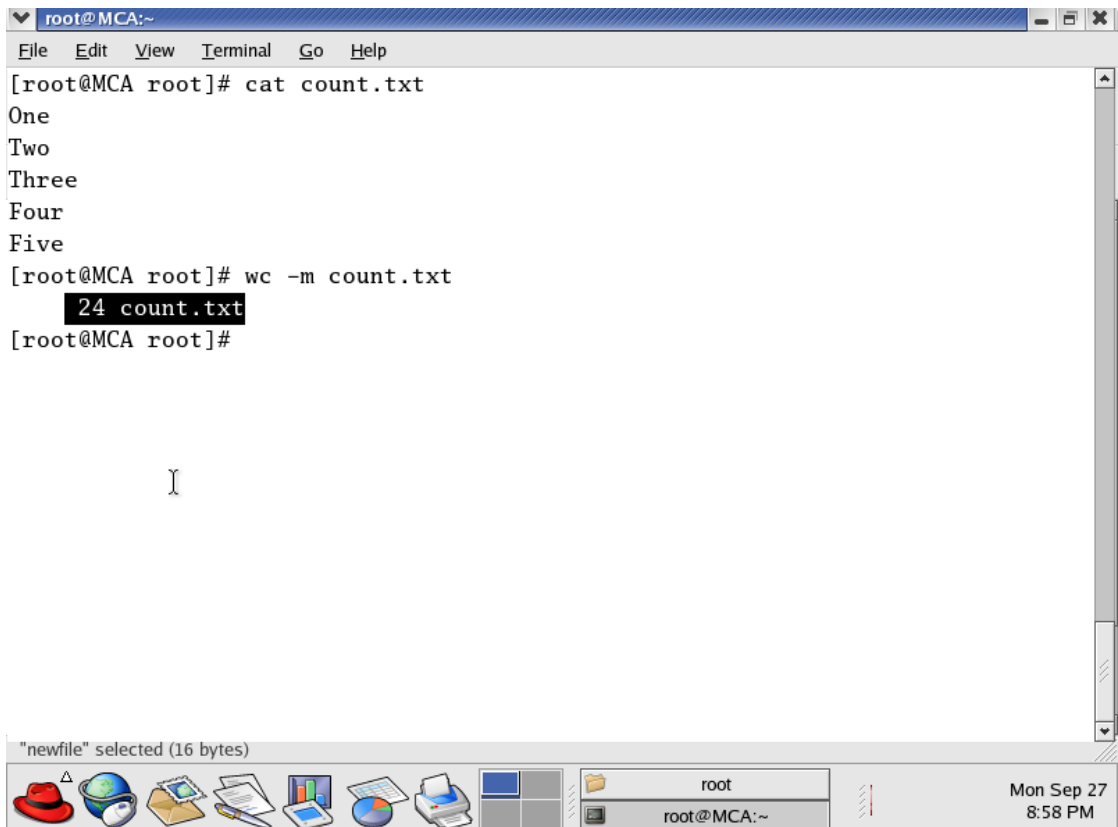


```
root@MCA:~  
File Edit View Terminal Go Help  
[root@MCA root]# rpm -ivh /mnt/cdrom1/RedHat/RPMS/gcc-3.2.2-5.i386.rpm  
warning: /mnt/cdrom1/RedHat/RPMS/gcc-3.2.2-5.i386.rpm: V3 DSA signature: NOKEY, key ID db42a60e  
Preparing... ##### [100%]  
1: gcc ##### [100%]  
[root@MCA root]# rpm -ivh /mnt/cdrom1/RedHat/RPMS/balsa-2.0.6-1.i386.rpm  
warning: /mnt/cdrom1/RedHat/RPMS/balsa-2.0.6-1.i386.rpm: V3 DSA signature: NOKEY, key ID db42a60e  
error: Failed dependencies:  
    libesmtp.so.5 is needed by balsa-2.0.6-1  
[root@MCA root]# rpm -ivh /mnt/cdrom1/RedHat/RPMS/libesmtp-0.8.12-5.i386.rpm  
warning: /mnt/cdrom1/RedHat/RPMS/libesmtp-0.8.12-5.i386.rpm: V3 DSA signature: NOKEY, key ID db42a60e  
Preparing... ##### [100%]  
1: libesmtp ##### [100%]  
[root@MCA root]# rpm -ivh /mnt/cdrom1/RedHat/RPMS/balsa-2.0.6-1.i386.rpm  
warning: /mnt/cdrom1/RedHat/RPMS/balsa-2.0.6-1.i386.rpm: V3 DSA signature: NOKEY, key ID db42a60e  
Preparing... ##### [100%]  
1: balsa ##### [100%]  
[root@MCA root]#
```

RPMS
root@MCA:~
Mon Sep 27 7:08 PM

10. Count number of letters in a file :-

- To count number of letter in a file we use “**wc -m <filename>**”



```
root@MCA:~  
File Edit View Terminal Go Help  
[root@MCA root]# cat count.txt  
One  
Two  
Three  
Four  
Five  
[root@MCA root]# wc -m count.txt  
24 count.txt  
[root@MCA root]#
```

The screenshot shows a terminal window titled 'root@MCA:~'. The user has executed the command 'cat count.txt', which displays the contents of the file: 'One', 'Two', 'Three', 'Four', and 'Five'. Then, the user runs 'wc -m count.txt', and the terminal outputs '24 count.txt', indicating that there are 24 characters (letters) in the file. The terminal window has a menu bar with 'File', 'Edit', 'View', 'Terminal', 'Go', and 'Help'. Below the terminal window, there is a taskbar with various icons and a system tray showing the date and time as 'Mon Sep 27 8:58 PM'.