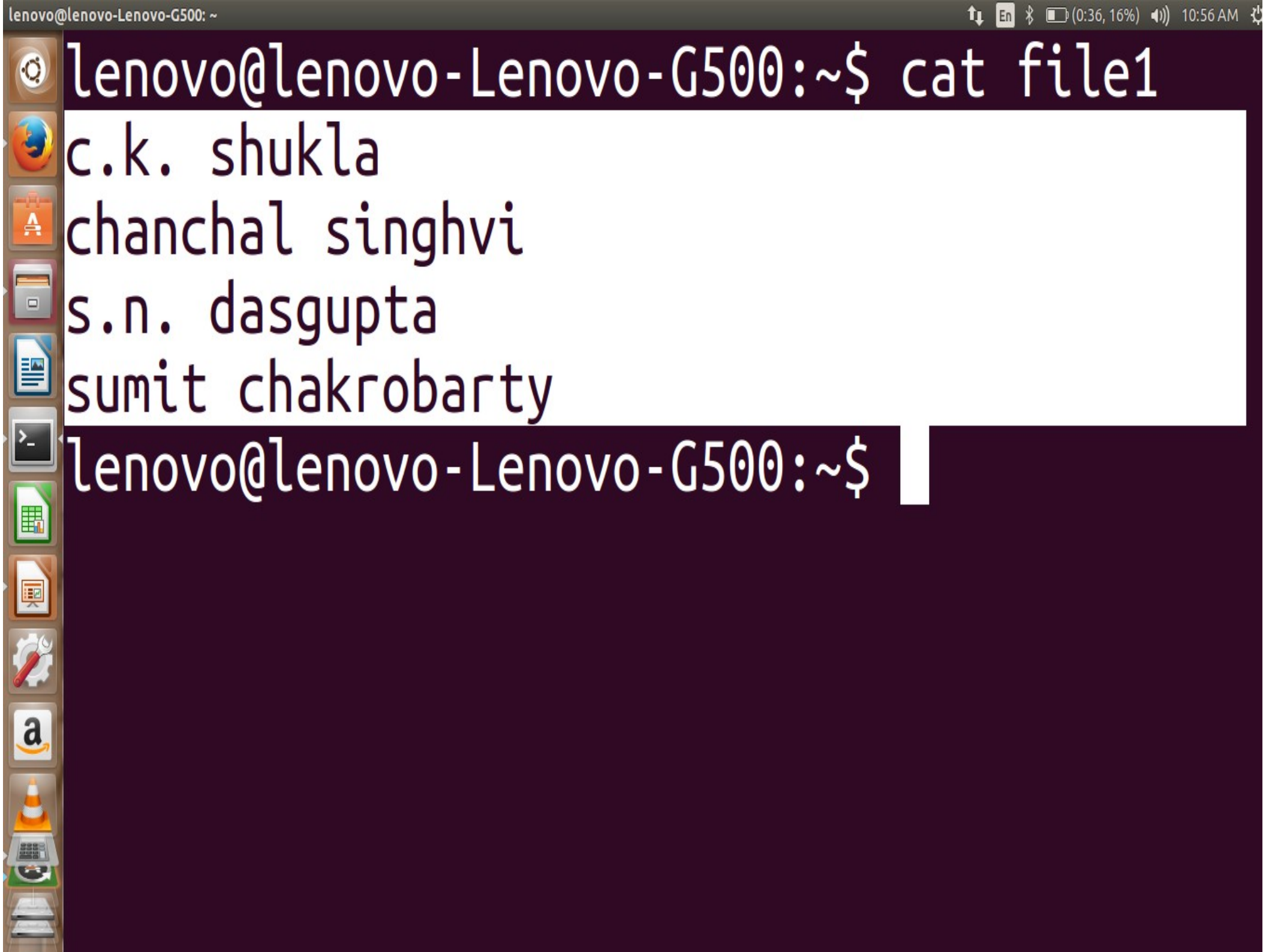
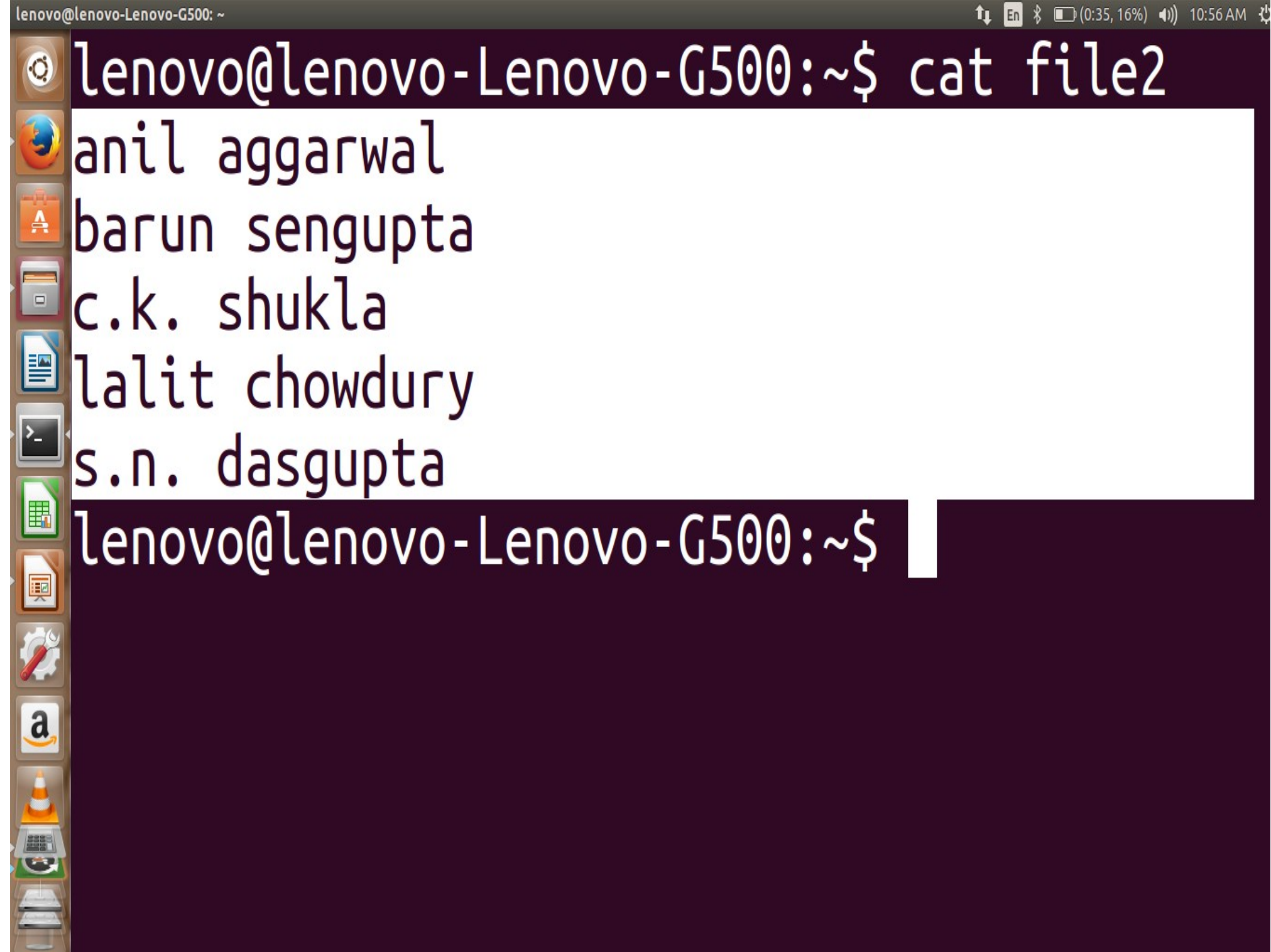
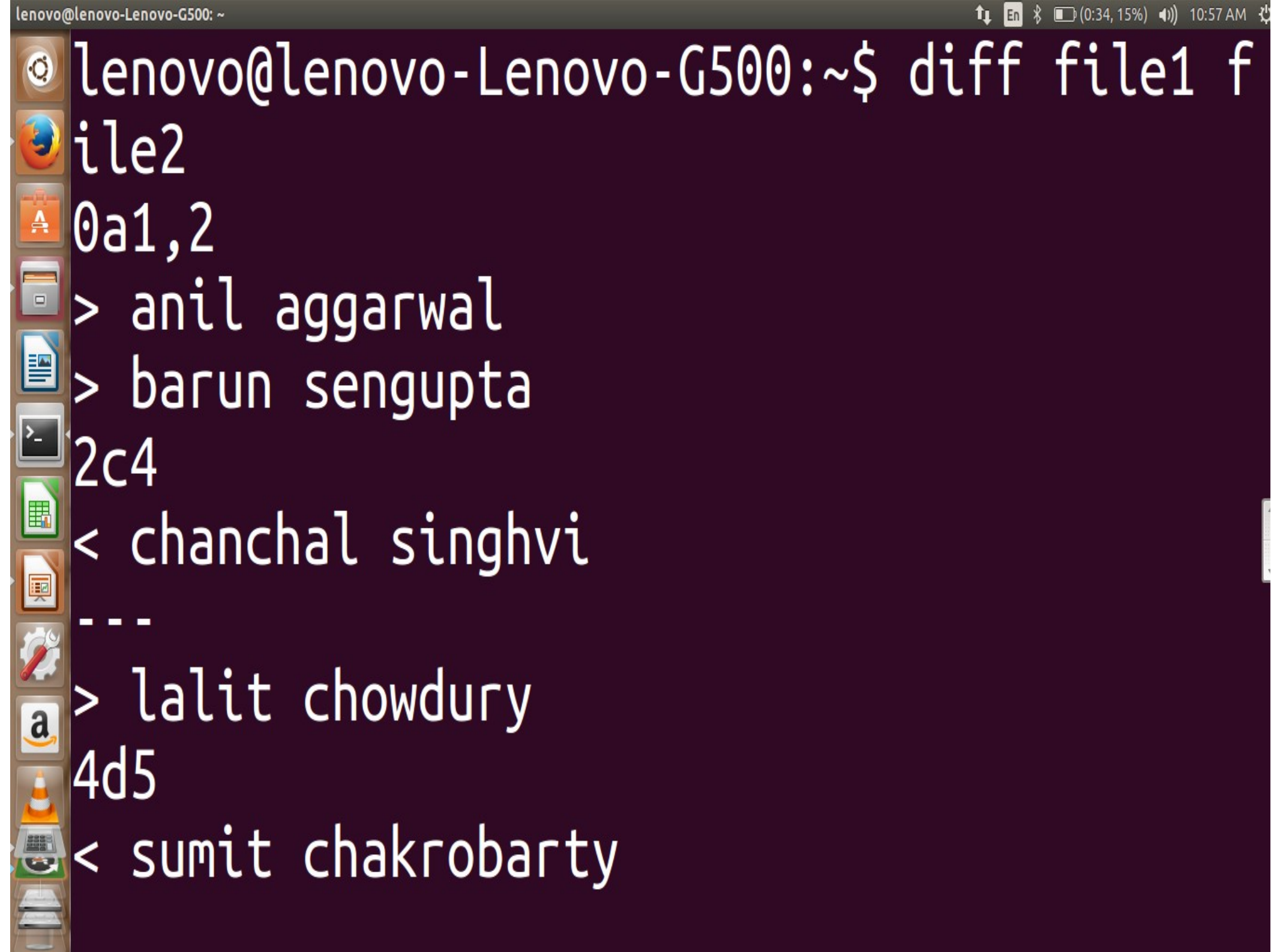
Handling Ordinary Files

diff:Converting one file to other

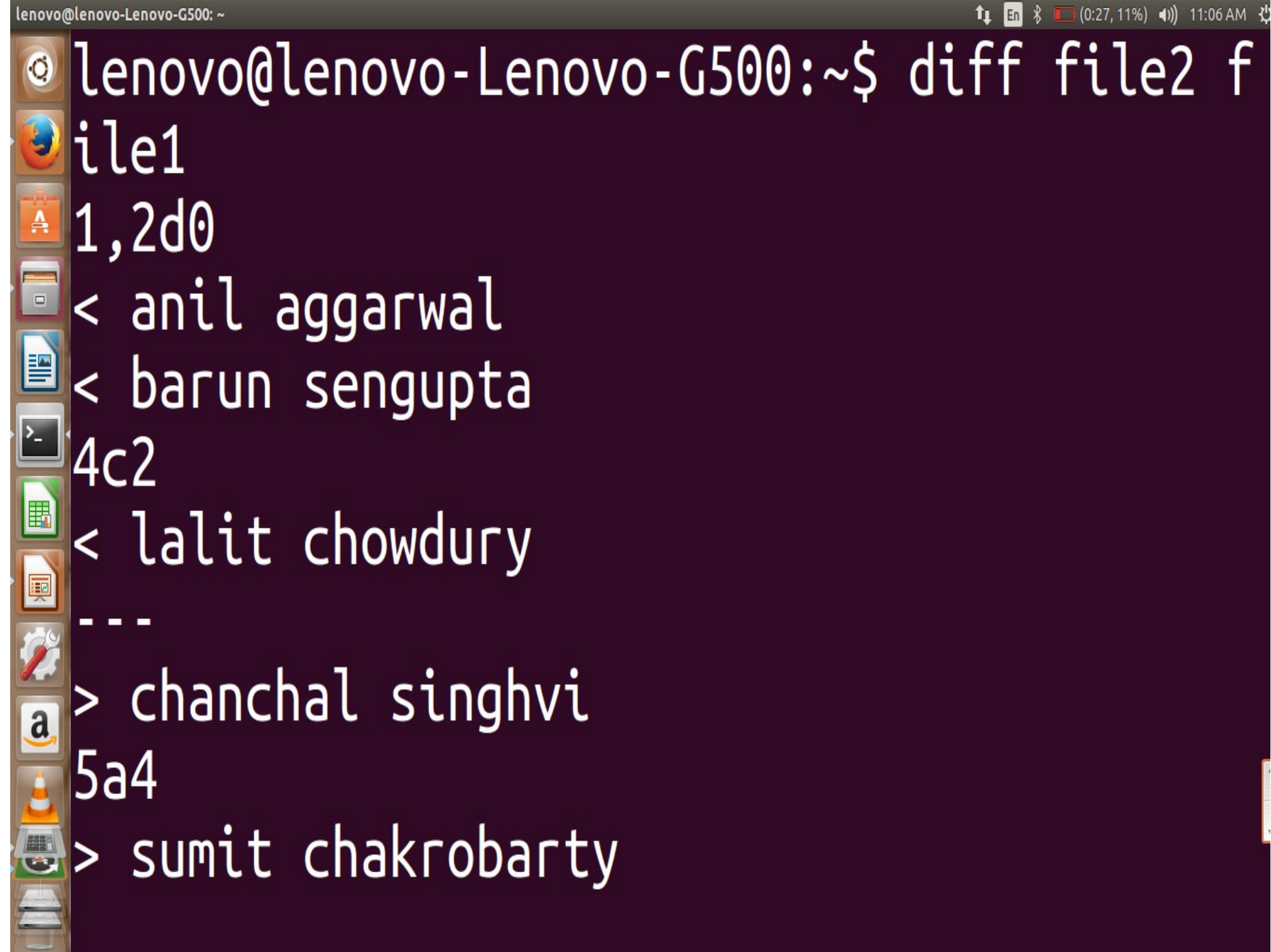
- Used to display file differences


lenovo@lenovo-Lenovo-G500: ~
(0:36, 16%)
10:56 AM
lenovo@lenovo-Lenovo-G500:~$ cat file1
c.k. shukla
chanchal singhvi
s.n. dasgupta
sumit chakrobarty
lenovo@lenovo-Lenovo-G500:~$


lenovo@lenovo-Lenovo-G500: ~
(0:35, 16%)
10:56 AM
lenovo@lenovo-Lenovo-G500:~$ cat file2
anil aggarwal
barun sengupta
c.k. shukla
lalit chowdury
s.n. dasgupta
lenovo@lenovo-Lenovo-G500:~$


lenovo@lenovo-Lenovo-G500: ~
(0:34, 15%)
10:57 AM
lenovo@lenovo-Lenovo-G500:~$ diff file1 f
ile2
0a1,2
> anil aggarwal
> barun sengupta
2c4
< chanchal singhvi

> lalit chowdury
4d5
< sumit chakrobarty


lenovo@lenovo-Lenovo-G500: ~
(0:27, 11%)
11:06 AM
lenovo@lenovo-Lenovo-G500:~$ diff file2 f
ile1
1,2d0
< anil aggarwal
< barun sengupta
4c2
< lalit chowdury

> chanchal singhvi
5a4
> sumit chakrobarty

Compressing and Archiving Files

- Unix system provides the compression and decompression utilities

  1) compress and uncompress (.Z)

  2) gzip and gunzip(.gz)

  3) bzip2 and bunzip2(.bz2)

  4) zip and unzip(.zip)

- You require to group a set of files into single file called an archive
- tar and zip commands can pack an entire directory structure into an archive

Compress a single file

- gzip file.txt

  //create file.txt.gz,

  Note that this will remove the original file.txt file.

  Compress multiple files at once

- gzip file1.txt file2.txt file3.txt

- Compress a single file and keep the original.You can instead keep the original file and create a compressed copy

  gzip -c file.txt > file.txt.gz

  The -c flag outputs the compressed copy of file.txt to stdout, this is then sent to file.txt.gz, keeping the original file.txt file in place

- Compress all files recursively

  All files within the directory and all sub directories can be compressed recursively with the -r flag

- [root@centos test]# ls -laR

- drwxr-xr-x. 2 root root   24 Jul 28 18:05 example
- -rw-r--r--. 1 root root   8 Jul 28 17:09 file1.txt
- -rw-r--r--. 1 root root   3 Jul 28 17:54 file2.txt

- ./example:
- -rw-r--r--. 1 root root 5 Jul 28 18:00 example.txt

- [root@centos test]# gzip -r *
- [root@centos test]# ls -laR

- drwxr-xr-x. 2 root root   27 Jul 28 18:07 example
- -rw-r--r--. 1 root root   38 Jul 28 17:09 file1.txt.gz
- -rw-r--r--. 1 root root   33 Jul 28 17:54 file2.txt.gz

- ./example:
- -rw-r--r--. 1 root root 37 Jul 28 18:00 example.txt.gz

Decompress a gzip compressed file

- gzip -d file.txt.gz

  OR

- gunzip file.txt.gz

  -d is used to decompress and -r performs this on all of the files recursively.

List compression information

- [root@centos ~]# gzip **-l** linux-3.18.19.tar.gz

  compressed uncompressed ratio uncompressed_name

  126117045 580761600 78.3% linux-3.18.19.tar

  a gzipped copy of the Linux kernel has compressed to 78.3% of its original size,

Adjust compression level

- The level of compression applied to a file using gzip can be specified as a value between 1 (less compression) and 9 (best compression). Using option 1 will complete faster, but space saved from the compression will not be optimal.
- Using option 9 will take longer to complete, however you will have the largest amount of space saved.

- [root@centos ~]# time gzip **-1** linux-3.18.19.tar

  real 0m13.602s

  user 0m12.908s

  sys 0m0.662s

  [root@mirror1 ~]# gzip -l linux-3.18.19.tar.gz

  compressed uncompressed ratio uncompressed_name

  156001021 580761600 73.1% linux-3.18.19.tar

[root@centos ~]# **time gzip -9 linux-3.18.19.tar**

real 0m58.129s

user 0m57.193s

sys 0m0.735s

[root@centos ~]# **gzip -l linux-3.18.19.tar.gz**

compressed uncompressed ratio uncompressed_name

125064095 580761600 78.5% linux-3.18.19.tar

tar:Archival Program

- For creating a disk archive that contains a group of files or an entire directory structure we need to use tar
- Key options:

  -c Create a archive

  -x extract files from archive

  -t Display files in archive

  -f Name the archive arch

  Only one of these key options can be used at a time

Create an Archive File(-c)

- $tar -cvf archive.tar libc.html User_Guide.ps

  If the created archive is very big, you may like to compress it with gzip

  gzip archive.tar //archived and compressed

  This creates a “tar gzipped file” file,archive.tar.gz

Extracting files from archive(-x)

- Tar uses the -x option to extract files from archive

  $gunzip archive.tar.gz

  $tar -xvf archive.tar

  two files in current directory is extracted

- Selective extraction is also possible

  $tar -xvf archive.tar User_guide.ps //extracts only User_guide.ps

Extract a tar.gz archive

- $ tar -xvzf tarfile.tar.gz

  x - Extract files

  v - print the file names as they are extracted one by one

  z - The file is a "gzipped" file

  f - Use the following tar archive for the operation

Extract tar.bz2/bzip archives

- $ tar -xvjf archivefile.tar.bz2

  Use the j option instead of the z option.

Viewing the archive(-t)

- To view the contents of the archive, use -t(table of contents) option
- It doesnot extract the files, but simply display their attributes

  $tar -tvf archive.tar

  -rw-r- -r-- 102/10 3875302 Aug 24 19:49 2002 libc.html

  -rw-r- -r-- 102/10 372267 Aug 24 19:48 2002 User_Guide.ps

Zip and unzip:compressing and archiving together

- Zip requires the first argument to be compresses filename; the remaining arguments are interpreted as files and directories to be compressed

  $zip archive.zip lib.html User_Guide.ps

  adding: libc.html

  adding:User_Guide.ps

Rcursive Compression(-r)

- $cd ; same as cd $Home

  zip -r sumit_home.zip .

Viewing the archive(-v)

- $unzip -v archive.zip

rm:Deleting files

- rm option

  1) -i (Interactive deletion)

  2) -r / -R (recursive)

  3) -f (Forcing Removal)

mv: Renaming Files

- mv renames (moves) files:It has two function->

  1) It renames a file(or directory)

  2) It moves a group of files to a different directory

  1)---->$mv chap01 man01

  2)---->$mv chap01 chap02 chap03 progs

lp:Printing a file

- $lp rfc822.ps //Postscript file

  request id is pr1-320

  request id – combination of printer name(pr1)

  and job number(320)

lp options

- System V is using lp command
- System derived from BSD(like Linux) use lpr command
- $ lp -dlaser chap01.ps

  -d-> printer name i.e laser
- $lp -t “First chapter” chap01.ps

  -t ->title

  prints title on first page
- $lp -n3 -m chap01.ps

  prints three copies and mails(-m) user a message

- Print queue is viewed with lpstat command
- Cancel command to cancel any jobs submitted by you
- Cancel command uses request-id or printer name as argument

  $cancel laser //cancels current job on printer laser

  $cancel pr1-320 //cancels job with request-id pr1-320

Linux System

- $lpr -T “The List of RFCs” foo.ps //Uses this title
- $lpr -#3 foo.ps //Prints 3 copies
- $lpr -m foo.ps //Mails message after completion

- $lprm 31 //Removes job number 31

file:Knowing The file types

- **$file archive.zip**

  archive.zip:ZIP archive