



National Textile University

Department of Computer Science

Subject:

Operating System

Submitted to:

Sir Nasir Mehmood

Submitted by:

Akasha Fatima

Reg. number:

23-NTU-CS-FL-1132

Semester:

5th - A

LAB_02

Topic: Learning Linux Basic Commands:

Part_01: Making and removing folders(directories) & files:

- i. **Pwd** (tells current path)
- ii. **Ls** (shows the list of files in a directory)
- iii. **Touch file.txt** (create new empty file)
- iv. **Echo "content" > file_name** (create file with data if doesn't exist)
- v. **Cat file_name** (display file's data)

```
akasha@DESKTOP-NOLGFR1: ~$ pwd
/home/akasha
akasha@DESKTOP-NOLGFR1:~$ ls
Operating-System-1132
akasha@DESKTOP-NOLGFR1:~$ touch file.txt
akasha@DESKTOP-NOLGFR1:~$ ls
Operating-System-1132  file.txt
akasha@DESKTOP-NOLGFR1:~$ ls -l
total 4
drwxr-xr-x 7 akasha akasha 4096 Sep 26 14:09 Operating-System-1132
-rw-r--r-- 1 akasha akasha   0 Sep 26 14:31 file.txt
akasha@DESKTOP-NOLGFR1:~$ echo "hello"
hello
akasha@DESKTOP-NOLGFR1:~$ echo
akasha@DESKTOP-NOLGFR1:~$ echo "hello" > hello.txt
akasha@DESKTOP-NOLGFR1:~$ ls
Operating-System-1132  file.txt  hello.txt
akasha@DESKTOP-NOLGFR1:~$ cat hello.txt
hello
akasha@DESKTOP-NOLGFR1:~$ mkdir folder
akasha@DESKTOP-NOLGFR1:~$ ls
Operating-System-1132  file.txt  folder  hello.txt
```

```
akasha@DESKTOP-NOLGFR1: ~$ cd folder/
akasha@DESKTOP-NOLGFR1:~/folder$ mkdir -p folder1/folder2
akasha@DESKTOP-NOLGFR1:~/folder$ ls
folder1
akasha@DESKTOP-NOLGFR1:~/folder$ ls folder1/
folder2
akasha@DESKTOP-NOLGFR1:~/folder$ cd folder1/
akasha@DESKTOP-NOLGFR1:~/folder/folder1$ ls
folder2
akasha@DESKTOP-NOLGFR1:~/folder/folder1$ mkdir directory
akasha@DESKTOP-NOLGFR1:~/folder/folder1$ ls
directory  folder2
akasha@DESKTOP-NOLGFR1:~/folder/folder1$ ls
directory/  folder2/
akasha@DESKTOP-NOLGFR1:~/folder/folder1$ mkdir foldzzz
akasha@DESKTOP-NOLGFR1:~/folder/folder1$ ls
directory  folder2  foldzzz
akasha@DESKTOP-NOLGFR1:~/folder/folder1$ ls fold
folder2/  foldzzz/
akasha@DESKTOP-NOLGFR1:~/folder/folder1$ rmdir
rmdir: missing operand
Try 'rmdir --help' for more information.
akasha@DESKTOP-NOLGFR1:~/folder/folder1$ rmdir folder2/
```

Continue...

- vi. **Mkdir** `folder_name` (create new folder)
- vii. **Rmdir** `folder_name/` (remove the folder)
- viii. **Cd** `folder_name/` (navigate to the typed folder)
- ix. **Vim** `file_name` (text editor like notepad)
- x. **Rm -i/-f** `folder_name` (-I for confirmation -f for forcefully deletion)

```
akasha@DESKTOP-NOLGFR1: ~  
akasha@DESKTOP-NOLGFR1:~/folder/folder1$ rmdir folder2/  
akasha@DESKTOP-NOLGFR1:~/folder/folder1$ ls  
directory foldzzz  
akasha@DESKTOP-NOLGFR1:~/folder/folder1$ rm -r directory/  
akasha@DESKTOP-NOLGFR1:~/folder/folder1$ cd  
akasha@DESKTOP-NOLGFR1:~$ mkdir RecycleBin  
akasha@DESKTOP-NOLGFR1:~$ cd folder/  
akasha@DESKTOP-NOLGFR1:~/folder$ ls  
folder1  
akasha@DESKTOP-NOLGFR1:~/folder$ cd folder1/  
akasha@DESKTOP-NOLGFR1:~/folder/folder1$ ls  
foldzzz  
akasha@DESKTOP-NOLGFR1:~/folder/folder1$ cd foldzzz/  
akasha@DESKTOP-NOLGFR1:~/folder/folder1/foldzzz$ ls  
akasha@DESKTOP-NOLGFR1:~/folder/folder1/foldzzz$ vim hello.txt  
akasha@DESKTOP-NOLGFR1:~/folder/folder1/foldzzz$ ls  
hello.txt  
akasha@DESKTOP-NOLGFR1:~/folder/folder1/foldzzz$ cat hello.txt  
Hello my name is Akasha  
akasha@DESKTOP-NOLGFR1:~/folder/folder1/foldzzz$ wc hello.txt  
1 5 24 hello.txt  
akasha@DESKTOP-NOLGFR1:~/folder/folder1/foldzzz$ rm hello.txt  
akasha@DESKTOP-NOLGFR1:~/folder/folder1/foldzzz$ vim
```

```
akasha@DESKTOP-NOLGFR1: ~  
akasha@DESKTOP-NOLGFR1:~/folder/folder1/foldzzz$ vim  
akasha@DESKTOP-NOLGFR1:~/folder/folder1/foldzzz$ vim hello.txt  
akasha@DESKTOP-NOLGFR1:~/folder/folder1/foldzzz$ ls  
hello.txt  
akasha@DESKTOP-NOLGFR1:~/folder/folder1/foldzzz$ cat hello.txt  
Hello My name is Akasha  
akasha@DESKTOP-NOLGFR1:~/folder/folder1/foldzzz$ wc hello.txt  
1 5 25 hello.txt  
akasha@DESKTOP-NOLGFR1:~/folder/folder1/foldzzz$ rim -i hello.txt  
Command 'rim' not found, but there are 25 similar ones.  
akasha@DESKTOP-NOLGFR1:~/folder/folder1/foldzzz$ rm -i hello.txt  
rm: remove regular file 'hello.txt'? n  
akasha@DESKTOP-NOLGFR1:~/folder/folder1/foldzzz$ cd  
akasha@DESKTOP-NOLGFR1:~$ cd  
akasha@DESKTOP-NOLGFR1:~$ cd .  
akasha@DESKTOP-NOLGFR1:~$ cd ..  
akasha@DESKTOP-NOLGFR1:/home$ ls  
akasha  
akasha@DESKTOP-NOLGFR1:/home$ cd /  
akasha@DESKTOP-NOLGFR1:/$ ls  
bin          etc          lib.usr-is-merged  mnt          run          srv          var  
bin.usr-is-merged  home        lib64              opt          sbin         sys  
boot          init        lost+found         proc         sbin.usr-is-merged  tmp
```

Continue...

- xi. Mnt (used to access Windows drives)
- xii. Cd Users/abc/ (absolute path access)

```
akasha@DESKTOP-NOLGFR1: ~  
akasha@DESKTOP-NOLGFR1:/$ cd  
akasha@DESKTOP-NOLGFR1:~$ ls  
Operating-System-1132  RecycleBin  file.txt  folder  hello.txt  
akasha@DESKTOP-NOLGFR1:~$ cd /  
akasha@DESKTOP-NOLGFR1:/$ ls  
bin          etc  lib.usr-is-merged  mnt  run          srv  var  
bin.usr-is-merged  home  lib64             opt  sbin         sys  
boot           init  lost+found        proc sbin.usr-is-merged  tmp  
dev            lib  media             root snap        usr  
akasha@DESKTOP-NOLGFR1:/$ cd mnt/  
akasha@DESKTOP-NOLGFR1:/mnt$ ls  
3D Objects  wsl  wslg  
akasha@DESKTOP-NOLGFR1:/mnt$ cd c  
akasha@DESKTOP-NOLGFR1:/mnt/c$ ls  
ls: cannot access 'hiberfil.sys': Permission denied  
ls: cannot access 'swapfile.sys': Permission denied  
'$Recycle.Bin'  PerfLogs  Users  
'$WINRE_BACKUP_PARTITION.MARKER'  'Program Files'  Windows  
'$WinREAgent'  'Program Files (x86)'  hiberfil.sys  
'Documents and Settings'  ProgramData  inetpub  
DumpStack.log.tmp  Recovery  swapfile.sys  
Intel  'System Volume Information'  
akasha@DESKTOP-NOLGFR1:/mnt/c$ cd Users/abc/
```

```
Select akasha@DESKTOP-NOLGFR1: ~  
akasha@DESKTOP-NOLGFR1:/mnt/c$ cd Users/abc/  
akasha@DESKTOP-NOLGFR1:/mnt/c/Users/abc$ ls  
3D Objects  
AppData  
  
Cisco Packet Tracer 8.2.0  
Contacts  
Cookies  
Desktop  
  
Favorites  
IntelGraphicsProfiles  
Links  
'Local Settings'  
  
NTUSER.DAT  
NTUSER.DAT{53b39e88-18c4-11ea-a811-000d3aa4692b}.TM.blf  
NTUSER.DAT{53b39e88-18c4-11ea-a811-000d3aa4692b}.TMContainer000000000000000001.regtrans-ms  
NTUSER.DAT{53b39e88-18c4-11ea-a811-000d3aa4692b}.TMContainer000000000000000002.regtrans-ms
```

Continue...

xiii. Cd .ssh (ssh file for ssh keys)

```
Select akasha@DESKTOP-NOLGFR1: ~
NTUSER.DAT{53b39e88-18c4-11ea-a811-000d3aa4692b}.TM.blf
NTUSER.DAT{53b39e88-18c4-11ea-a811-000d3aa4692b}.TMContainer000000000000000001.regtrans-ms
NTUSER.DAT{53b39e88-18c4-11ea-a811-000d3aa4692b}.TMContainer000000000000000002.regtrans-ms
NetHood
OneDrive
Pictures
PrintHood
Recent
Saved Games
Searches
SendTo
'Start Menu'
Templates
Videos
ntuser.dat.LOG1
ntuser.dat.LOG2
ntuser.ini
source
vscode-remote-wsl
akasha@DESKTOP-NOLGFR1:/mnt/c/Users/abc$ cd Downloads/
akasha@DESKTOP-NOLGFR1:/mnt/c/Users/abc/Downloads$ ls
Abhi to maat baki hy by Umera Ahmed.pdf  TeamsSetupx64_s_8DC4442ABDE592A-1-0_c_w_.exe
AnyDesk.exe                             Ubuntu_Terminal_CheatSheet.pdf
ChromeSetup.exe                         VSCodeUserSetup-x64-1.93.0.exe
GitHubDesktopSetup-x64.exe              VisualStudioSetup.exe
```

```
Select akasha@DESKTOP-NOLGFR1: ~
OfficeSetup.exe                          windowsdesktop-runtime-8.0.11-win-x64.exe
akasha@DESKTOP-NOLGFR1:/mnt/c/Users/abc/Downloads$ cd
akasha@DESKTOP-NOLGFR1:~$ cd /
akasha@DESKTOP-NOLGFR1:/$ ls
bin          etc      lib.usr-is-merged  mnt      run          srv      var
bin.usr-is-merged  home    lib64              opt      sbin         sys
boot         init    lost+found         proc     sbin.usr-is-merged  tmp
dev          lib     media             root     snap         usr
akasha@DESKTOP-NOLGFR1:/$ cd home/
akasha@DESKTOP-NOLGFR1:/home$ ls
akasha
akasha@DESKTOP-NOLGFR1:/home$ cd akasha/
akasha@DESKTOP-NOLGFR1:~$ ls
Operating-System-1132  RecycleBin  file.txt  folder  hello.txt
akasha@DESKTOP-NOLGFR1:~$ ls -a
.          .cache      .motd_shown          .vscode-server      hello.txt
..         .dotnet     .profile             Operating-System-1132
.bash_history .gitconfig  .ssh                 RecycleBin
.bash_logout .landscape  .sudo_as_admin_successful  file.txt
.bashrc     .lessht     .viminfo             folder
akasha@DESKTOP-NOLGFR1:~$ cd .ssh
akasha@DESKTOP-NOLGFR1:~/.ssh$ ls
Operating-System-1132  id_ed25519  id_ed25519.pub  known_hosts  known_hosts.old
akasha@DESKTOP-NOLGFR1:~/.ssh$ cd
akasha@DESKTOP-NOLGFR1:~$ ls -al
total 72
```

Continue...

- xiv. **Man ls** (show the manual of the command)
- xv. **Ls - -help** (show the help related to the command)
- xvi. **Ls -al** (long listing with hidden files)
- xvii. **Ls -hl** (human readable file size format)

```

Select akasha@DESKTOP-NOLGFR1: ~
akasha@DESKTOP-NOLGFR1:~$ ls -al
total 72
drwxr-xr-x 10 akasha akasha 4096 Sep 26 14:47 .
drwxr-xr-x  3 root   root   4096 Sep 18 22:15 ..
-rw-r----- 1 akasha akasha 2265 Sep 26 14:28 .bash_history
-rw-r--r--  1 akasha akasha  220 Sep 18 22:15 .bash_logout
-rw-r--r--  1 akasha akasha 3771 Sep 18 22:15 .bashrc
drwx----- 4 akasha akasha 4096 Sep 22 21:48 .cache
drwxr-xr-x  3 akasha akasha 4096 Sep 18 23:13 .dotnet
-rw-r--r--  1 akasha akasha  64 Sep 19 01:21 .gitconfig
drwxr-xr-x  2 akasha akasha 4096 Sep 19 00:10 .landscape
-rw-r----- 1 akasha akasha  20 Sep 22 21:19 .lessshst
-rw-rw-r--  1 akasha akasha  60 Sep 26 14:06 .motd_show
-rw-r--r--  1 akasha akasha  807 Sep 18 22:15 .profile
drwx----- 3 akasha akasha 4096 Sep 20 14:35 .ssh
-rw-r--r--  1 akasha akasha  60 Sep 18 22:16 .sudo_as_admin_successful
-rw-r----- 1 akasha akasha 1193 Sep 26 14:47 .viminfo
drwxr-xr-x  5 akasha akasha 4096 Sep 18 23:12 .vscode-server
drwxr-xr-x  7 akasha akasha 4096 Sep 26 14:09 Operating-System-1132
drwxr-xr-x  2 akasha akasha 4096 Sep 26 14:40 RecycleBin
-rw-r--r--  1 akasha akasha  60 Sep 26 14:31 file.txt
drwxr-xr-x  3 akasha akasha 4096 Sep 26 14:34 folder
-rw-r--r--  1 akasha akasha  60 Sep 26 14:33 hello.txt
akasha@DESKTOP-NOLGFR1:~$ ls -hl
total 16K
drwxr-xr-x 7 akasha akasha 4.0K Sep 26 14:09 Operating-System-1132
drwxr-xr-x 2 akasha akasha 4.0K Sep 26 14:40 RecycleBin
-rw-r--r-- 1 akasha akasha 60 Sep 26 14:31 file.txt
drwxr-xr-x 3 akasha akasha 4.0K Sep 26 14:34 folder
-rw-r--r-- 1 akasha akasha 60 Sep 26 14:33 hello.txt

```

```

Select akasha@DESKTOP-NOLGFR1: ~
akasha@DESKTOP-NOLGFR1:~$ man ls
akasha@DESKTOP-NOLGFR1:~$ ls --help
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
                        change 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]           color the output WHEN; more info below
-d, --directory          list directories themselves, not their contents
-D, --dired              generate output designed for Emacs' dired mode
-f                       list all entries in directory order
-F, --classify[=WHEN]   append indicator (one of */=>@|) to entries WHEN
                        likewise, except do not append '*'
--file-type              likewise, except do not append '*'
--format=WORD             across -x, commas -m, horizontal -x, long -l,
                        single-column -1, verbose -l, vertical -C

```

Continue...

- xviii. **Uname -a** (system information)
- xix. **Date** (current date)
- xx. **Which ls** (location of commands)
- xxi. **Type ls** (command type information)
- xxii. **Ls -l** (long format)
- xxiii. **Sudo chmod 755 file_name** (change permissions numeric)
- xxiv. **Sudo chown user_name: group_name file_name** (change ownership if applicable)
- xxv. **Sudo g-w File_name** (remove write permission for the file)
- xxvi. **Cp file_name** (copy file)
- xxvii. **Mv file_name** (move or rename file)

```
akasha@DESKTOP-NOLGFR1: ~$ uname -a
Linux DESKTOP-NOLGFR1 6.6.87.2-microsoft-standard-WSL2 #1 SMP PREEMPT_DYNAMIC Thu Jun 5 18:30:46 UTC 2025 x86_64 x86_64 x86_64 GNU/Linux
akasha@DESKTOP-NOLGFR1:~$ date
Fri Sep 26 15:44:26 PKT 2025
akasha@DESKTOP-NOLGFR1:~$ which ls
/usr/bin/ls
akasha@DESKTOP-NOLGFR1:~$ type ls
ls is aliased to `ls --color=auto'
akasha@DESKTOP-NOLGFR1:~$ cd /home/
akasha@DESKTOP-NOLGFR1:/home$ cd
akasha@DESKTOP-NOLGFR1:~$ ls -l
total 16
drwxr-xr-x 7 akasha akasha 4096 Sep 26 14:09 Operating-System-1132
drwxr-xr-x 2 akasha akasha 4096 Sep 26 14:40 RecycleBin
-rw-r--r-- 1 akasha akasha 0 Sep 26 14:31 file.txt
drwxr-xr-x 3 akasha akasha 4096 Sep 26 14:34 folder
-rw-r--r-- 1 akasha akasha 6 Sep 26 14:33 hello.txt
akasha@DESKTOP-NOLGFR1:~$ touchfile.txt
touchfile.txt: command not found
akasha@DESKTOP-NOLGFR1:~$ touch file.txt
akasha@DESKTOP-NOLGFR1:~$ ls -l
total 16
drwxr-xr-x 7 akasha akasha 4096 Sep 26 14:09 Operating-System-1132
drwxr-xr-x 2 akasha akasha 4096 Sep 26 14:40 RecycleBin
-rw-r--r-- 1 akasha akasha 0 Sep 26 15:51 file.txt
drwxr-xr-x 3 akasha akasha 4096 Sep 26 14:34 folder
-rw-r--r-- 1 akasha akasha 6 Sep 26 14:33 hello.txt
akasha@DESKTOP-NOLGFR1:~$ sudo chmod 755 file.txt
```

```
akasha@DESKTOP-NOLGFR1: ~  
akasha@DESKTOP-NOLGFR1:~$ ls -l  
total 16  
drwxr-xr-x 7 akasha akasha 4096 Sep 26 14:09 Operating-System-1132  
drwxr-xr-x 2 akasha akasha 4096 Sep 26 14:40 RecycleBin  
drwxr-xr-x 3 akasha akasha 4096 Sep 26 14:34 folder  
-rw-r--r-- 1 akasha akasha 6 Sep 26 14:33 hello.txt  
-rwxr-xr-x 1 akasha akasha 0 Sep 26 15:51 myFile.txt  
akasha@DESKTOP-NOLGFR1:~$ sudo chown akasha:akasha myFile.txt  
akasha@DESKTOP-NOLGFR1:~$ ls -l  
total 16  
drwxr-xr-x 7 akasha akasha 4096 Sep 26 14:09 Operating-System-1132  
drwxr-xr-x 2 akasha akasha 4096 Sep 26 14:40 RecycleBin  
drwxr-xr-x 3 akasha akasha 4096 Sep 26 14:34 folder  
-rw-r--r-- 1 akasha akasha 6 Sep 26 14:33 hello.txt  
-rwxr-xr-x 1 akasha akasha 0 Sep 26 15:51 myFile.txt  
akasha@DESKTOP-NOLGFR1:~$ mv hello.txt hello_file.txt  
akasha@DESKTOP-NOLGFR1:~$ ls  
Operating-System-1132 RecycleBin folder hello_file.txt myFile.txt  
akasha@DESKTOP-NOLGFR1:~$ cp hello_file.txt backup.txt  
akasha@DESKTOP-NOLGFR1:~$ ls  
Operating-System-1132 RecycleBin backup.txt folder hello_file.txt myFile.txt  
akasha@DESKTOP-NOLGFR1:~$ sudo chmod g-w hello_file.txt  
akasha@DESKTOP-NOLGFR1:~$ ls -l  
total 20  
drwxr-xr-x 7 akasha akasha 4096 Sep 26 14:09 Operating-System-1132  
drwxr-xr-x 2 akasha akasha 4096 Sep 26 14:40 RecycleBin  
-rw-r--r-- 1 akasha akasha 6 Sep 26 16:25 backup.txt  
drwxr-xr-x 3 akasha akasha 4096 Sep 26 14:34 folder  
-rw-r--r-- 1 akasha akasha 6 Sep 26 14:33 hello_file.txt  
-rwxr-xr-x 1 akasha akasha 0 Sep 26 15:51 myFile.txt
```