# 

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| --- | --- | --- | --- |
| **Sr. No** | **Date** | **Topic** | **Sign** |
| 1. |  | Demonstration of Linux installment |  |
| 2. |  | Understand the working of UNIX,  UNIX file system |  |
| 3. |  | Basic UNIX commands   * File System Commands * ls and ls with options |  |
| 4 |  | Study of Commands:   * tr, head, tail, wc, sort * find ,file, ,split |  |
| 5 |  | Comparing files:  od, cmp, comm, diff, uniq |  |
| 6 |  | Filter Commands  Grep, egrep, fgrep |  |
| 7 |  | Advanced Shell Programming I |  |
| 8 |  | Editors in Linux   * sed editor |  |

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Practical No. 1

**Demonstration practical:**

Perform the following:

1. Create a Linux partition.

(Use either MS-DOS fdisk command or LINUX fdisk or diskdruid option).

1. Create boot disks for LINUX.
2. Install Red Hat Linux.
3. Understand the procedure of login, logout and shutting down the server.
4. Understanding the procedure for connecting to the Linux server and creating users either graphically or using Linuxconf utility.

Practical No 1

Installation Of Linux Red Hat 7.1

We have 4.3 GB Hard disk drive installed in the system. 2GB is partitioned for Windows 98 as FAT 32. Rest disk space we will be using for Linux installation.

1. Enter into your system’s CMOS setup, select Advanced BIOS setup (in most of the computers) and set the first boot drive as CDROM.
2. Insert the 1st CD into CDROM drive and start the computer system.
3. System will boot with the Linux Installation CD and will return to boot prompt.

**Boot :**

1. To install Linux in Graphical Mode. **Press <Enter>**

# Boot : <Enter>



Language Selection

Default is “ English “

## Press <Enter>



Keyboard Selection

#### Default is “US” Press <Enter>

1. **What type of system would you like to install?**

##### Available options are Workstation

##### Server System

Laptop

Custom System

Upgrade Existing Installation.

**Select Custom System** as this allows you to select the partitions and keeps the existing partitions as they are all other types erase the existing partitions and we can loose the Windows 98 partition.



Partitions

Available options are

* Continue (Automatic)
* Manually Partition

Select “Manually Partition”

Tool to partition the Hard Disk



Available options are

* Disk Druid
* Fdisk

**Select “ Disk Druid “**

1. Now it will display the existing partition of windows 98 FAT32. The options are

###### Add / Edit / Delete / OK / Back

**Select “Add”** it will display the following Box

|  |  |
| --- | --- |
| Mount Point : | Type : Linux Swap  Linux Native  DOS 16 bit < 32M  DOS 16 bit > 32M |
| Size in (Megs) |
| Use Remaining Space? [ ] |
| Allowable Drives [ \* ] had |

Write Mount Point : /boot

##### Size in (Megs) : 20

Select Type : Linux Native

**Again select “Add”** to create second partition

**Mount Point :**

**Size in (Megs) : 64 (if you have 32MB RAM)**

Select Type : Linux Swap

This will automatically write in Mount Point as “Swap Partition”

**Again select “Add”** to create third partition

Mount point : / **- This “ / “ will be root point.**

Size in (Megs) : 1000 (Considering only 2GB is available from 4GB HDD for Linux)

Use remaining space [ \* ] (select “ \* “ by pressing space bar)

**Type : Linux Native.**

Now the main partition menu shows “ 0 “ (Zero) M free space since we have selected use remaining space in root partition.

**Click “ OK “** Save changes to your partition table “Yes” It will display following message box

We need to turn ON swap space immediately. To do this we will have to write your new partition table to the disk immediately. Is that Okay?



#### Select “ Yes ”

1. **Choose partition to Format**

# By pressing Space Bar select all the partitions we have created. i.e. Boot and Root

Select “ OK “



|  |
| --- |
| LILO Configuration |
| A few systems will need to pass special options to the Kernel at boot time for the system to function properly. If you need to pass boot options to the Kernel, enter them Now. If you don’t need any or aren’t sure , leave this blank. |

**Leave this Blank and Press “ OK “**

|  |
| --- |
| LILO Configuration |
| /dev/had Master Boot Record (MBR)  /dev/hda2 First sector of boot partition. |

**Select “ Master Boot Record “ and press “ OK “**



|  |
| --- |
| LILO Configuration |
| The boot manager Red Hat uses can boot other operating systems as well. You need to tell me what partitions you would like to be able to boot and what level you want to use for each of them. |

|  |  |  |
| --- | --- | --- |
| Device | Partition Type | Default Boot Label |
| /dev/hda1  /dev/hda5 | DOS / Windows  Linux Native | DOS  \* Linux |
| OK Edit Back | | |

You can change the Boot Label if you want. Select “ Edit “ and change the label to windows instead of DOS.

“ \* “ is the first option you get while booting. (i.e. Linux will be the default operating system to load). You can change it to DOS / Windows by selecting that option and pressing Space Bar.

**Finally Press “ OK “**

1. Hostname Configuration

The hostname is the name of your computer. If your computer is attached to a network, this may be assigned by your network administrator.

**Type the Host Name you want and** **select “ OK “**

|  |
| --- |
| Fire Wall Configuration |
| A firewall protects against unauthorized network instructions. High security blocks all incoming accesses. Medium blocks access to system services (such as telnet or printing), but allows other connections. No firewall allows all connections and is not recommended. |
| Security Level : ( ) High ( \* ) Medium) ( ) No firewall |
| OK Customize Back |

**Select Medium and “ OK “**

1. Mouse Selection :

If you have serial mouse 3 button then,

Select Generic – 3 Button Mouse (Serial) from the list

[ ] Emulate 3 Buttons? - Leave this blank as it is.

**Press “ OK “**



|  |
| --- |
| Device |
| What device is your mouse located on ? |
| /dev/ttys0 (Com1 under DOS)  /dev/ttys1 (Com2 under DOS)  /dev/ttys2 (Com3 under DOS)  /dev/ttys3 (Com4 under DOS) |

Select the highlighted one if you are not sure on which serial port your mouse is connected. **Press “ OK “**

1. Language Support : select English (USA) by pressing space bar on that.

[ \* ] English (USA) **Press “ OK “**

1. Time Zone Selection

[ ] Hardware clock set to GMT ?

**Select from list “ Asia / Calcutta “ and Press “ OK “**

1. Root Password : **Enter Password and press “ OK “**

|  |
| --- |
| Add User |
| You should use a normal user account for most activities on your system. By not using the root account casually, you will reduce the chance of disrupting your system’s configuration. |

User Id : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Password : \_\_\_\_\_\_\_\_\_\_\_

Password confirm : \_\_\_\_\_\_\_\_\_\_\_

Full Name : \_\_\_\_\_\_\_\_\_\_\_\_

**Enter the above mentioned information and press “ OK “**



|  |
| --- |
| Authentication Configuration |
| [ \* ] Use Shadow password  [ \* ] Enable MD5 passwords  [ ] Enable NIS NIS Domain:\_\_\_\_\_\_\_\_\_  NIS server : [ ] Request server via broad cast  Or use :\_\_\_\_\_\_\_\_\_\_  [ ] Enable LDAP LDAP Server:\_\_\_\_\_\_\_\_\_\_  LDAP base DN:  [ ] use TLS connections:  [ ] Enable Kerberos Realm :\_\_\_\_\_\_\_\_  KDC :\_\_\_\_\_\_\_\_  Admin Server:\_\_\_\_\_\_\_\_\_\_ |

**Select the default values and press “ OK “**



|  |
| --- |
| Package Group Selection |
| [ ]Printer support  [ ]X windows system  [ ]G Nome  [ ]KDE  [ ]Mail / www / News Tools  [ ]DOS / windows connectivity  [ ]Graphics Manipulation  [ ]Games  [ ]Multimedia support  [ ]Laptop support  [ ]Networked workstation  [ ]Dialup workstation  [ ]News server  [ ]NFS server  [ ]SMB (Samba) server  [ ]IPX / Netware ™ connectivity  [ ]Anonymous FTP server  [ ]SQL server  [ ]Web server  [ ]DNS Name server  [ ]Network management workstation  [ ]Authoring / Publishing  [ ]Emacs  [ ]Development  [ ]Kernel development  [ ]Utilities  [ ]Everything |

**Select the options by pressing space bar and finally press “OK“.**



|  |
| --- |
| Video Card Selection |
| Select your video card from the list displayed in this box and then  press “ OK “ |



|  |
| --- |
| Installation to Begin |
| A complete log of your installation will be in /tmp/install.log after rebooting your system. You may want to keep this file for later reference. |

1. Formatting will start now followed by copying files. After completing this job. The installation procedure will ask to create boot disk.
2. **Insert the Blank floppy into floppy drive and press “ OK** “
3. Monitor Probe : Monitor probing found.

Do you want to use these settings? - **Press “ Yes “**

1. Video Memory : **Select 1MB**
2. Clockchip Configuration : **Select No clockchip settings** (Recommended)
3. Probe for clocks : **Select “ Probe “**

|  |  |  |
| --- | --- | --- |
| Select Video Modes | | |
| 8 Bit | 16 Bit | 24 Bit |
| [ ]1152 x 864  [ ]1024 x 768  [ ]800 x 600  [ ]640 x 480 | [ ]800 x 600  [\* ]640 x 480 | [ ]640 x 480 |

**Select the appropriate resolution by pressing space bar and then press “ OK “.**



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| Starting X |
| X configuration will now start X to test your configuraton. |

**Practical No. 2**

1. Understand the working of LINUX (rules), LINUX file system.
2. Create your own user account from the root login. Enter login name, group, home directory and the password.
3. Understand the procedure of logging in and out of Linux.
4. Study the following user commands:

.Passwd .talk

.id .pine

.su .write

.users .df

.who, who am i .du

.clear

.login

1. Study of general purpose utilities: man, help, cal, banner, date,cal, history, tty, stty, echo, bc.

6. Study of directory commands: pwd, dir, cd, mkdir, rmdir

**Practical No 2**

###### Answer 1

###### Rules for naming and using files:

1. LINUX IS CASE-SENSITIVE. Your user login name and password are

also case sensitive. (This goes with the tradition of UNIX and the

"c" programming language being case sensitive.)

2. Filenames can be up to 256 characters long and can contain

letters, numbers, "." (Dots), "\_" (underscores), "-" (dashes), plus

some other non-recommended characters.

3. Files with names starting with "." are normally not shown by the

ls (list) or dir command. Think of these "dot" files as "hidden". We

use ls -a  (list with the option "all") to see these files.

4. "/" is an equivalent to DOS "\" (root directory, meaning the parent

of all other directories, or a separator between a directory name and

a subdirectory or filename).

5. Under Linux, all directories appear under a single directory tree (there are no DOS-style drive letters).  This means directories and

files from all physical devices are merged into this single file

system.

6. Linux is a multi-user system. Your personal settings are in your

home directory which is /home/your\_user\_login\_name.

7. Under Linux, as in any multi-user operating system, directories

and files have an owner and set of permissions. You will typically

be allowed to write only to your home directory which is /home/your\_user\_login\_name. Learn to use the file permissions else

you will be constantly annoyed with Linux.

**Linux file system**

Linux treats everything it knows and understands, as a file. All utilities, applications, data in Linux is stored as a file. Even a directory is treated as a file, which contains several other files. The file system, begins with a directory called root, and resembles an upside down tree. The root directory is denoted as (/). Different directories on the root directory are

|  |
| --- |
| /root  |  | | | | | | | | | | | |  bin boot dev etc usr home lib mnt proc sbin tmp var  |  | | | | |  user1 user2 .. ..doc .. bin …lib…. |

1. /bin – contains executable files for essential LINIX commands such as cp, mv, rm, ln etc. It also holds basic user programs, such as login, shells(bash, tcsh, zsh. . . etc.)
2. /boot – contains files used during booting and possibly the kernel itself are stored here.
3. /dev - contains all files related to various devices connected to the system such as terminals, printer, disk drives etc.
4. /etc – contains the files required for system administration

purpose such as networking, mail.. etc. It also contains the configuration files for the system, network and server.

It contains subdirectories and files such as fstab (mounts

file system when you start your system), passwd(contains user

password and login configuration),…..etc.shadow(contains user’s

encrypted password)

1. /usr – contains user related programs and files. In usr directory there are several directories, each associated with a particular

user. The system administrator creates these directories when he

creates accounts for different users. Each user is allowed to work

with his directory, often called as home directory. It can create

subdirectories and files under his home directory.

/usr holds subdirectories such as /bin(holds programs for user’s tasks), /sbin holds user-related system operation, such as user

add to add users, /lib holds all the libraries used by the system.

1. /home - home directories of individual users. For each user its home directory is created with his user name when a user account is set up.

/home also holds subdirectories such as /ftpd(for ftp files), /httpd(for Apche web server web site files)

1. /lib – contains all standard shared system library files/functions.
2. /mnt - typical mount point for many user-mountable devices such as floppy drives, cd-rom readers, etc. Each device is mounted on a subdirectory of /mnt.
3. /proc - virtual file system that provides a number of system statistics.
4. /root - home directory for root.
5. /sbin - location of binaries used for system administration, configuration, and monitoring.
6. /tmp - directory specifically designed for programs and users to store temporary files.
7. /var - administrative files such as log files, used by various utilities.

**To connect through Telnet server**

Connect to another machine using the TELNET protocol. Use a remote machine name or IP address. You will be prompted for your login name and password--you must have an account on the remote machine to login. Telnet will connect you to another machine and let you operate on it as if you were sitting at its keyboard (almost). Telnet is not very secure--everything you type moves through the networks in open text, even your password!

# *Managing users*

Linuxconf: is a tool used for administrative tasks, including user and file management, as well as network services. It has three interfaces: text, GUI and HTML. The text interface provides cursor-based screens that can be run from shell command line. You use TAB key to move between boxes, lists and buttons. You use the arrow keys to select entries in a list. For GUI interface go to X window System interface that runs on any window manager or desktop. HTML interface is a web page interface that lists options as inks to other web pages. You can download the current version from the Linuxconf Web site at [www.soulcorp.qc.ca/linuxconf](http://www.soulcorp.qc.ca/linuxconf).

You can easily add, remove, or change users with linuxconf:

1. Login as root user.
2. Use command linuxconf to go to the text interface.
3. Select user accounts in the normal list under the User accounts heading under Config. This displays a panel listing all your user accounts, including those used for special purposes.
4. To add a new user, click add on this panel. This displays a User information panel.
5. Enter the login name, group, and user’s home directory. The root user assigns the permission at this stage, If not assigned, the minimum possible permissions will be assigned.
6. Click Accept. To give the user initial password, click Passwd. A changing Password panel is displayed where you can enter the new password.
7. Retype new UNIX password, click Accept. (It is possible to change

the password). You now see the new user displayed in the user

accounts panel. If you need to change or delete a user, double-

click it entry in this panel to display the User information

panel. To remove the user, click Del. To edit the other entries

make changes at the appropriate entries and click Accept.

1. Quit enter 3 times. (It is not possible to add user if you log in as normal user. The user’s entry is made in /home as well as in a file called passwd under /etc directory.)

**Answer 2 and 3:**

As given in Practical 1

**Answer 4:**

|  |  |
| --- | --- |
| User Commands for root user | |
| Command | Description and syntax |
| Finger | Display information about a user  # finger |
| Passwd | Change a user's password  # passwd username |
| Su | Change to another user id  # su username |
| Useradd | Add a new user to the system |
| Userdel | Delete a user from the system |
| Shutdown | To shut down or reboot the system  # shutdown  # shutdown –r now |
| Halt | halt the system |
| Init | set runlevel, or define processes that are begun on a specific runlevel  # init 0 |
| Lilo | install the LILO boot loader |
| poweroff | power the system off' |
| Reboot | reboot the system |
| Runlevel | show the current system runlevel |

|  |  |
| --- | --- |
| User Commands for normal as well as root user | |
| Command | Description and syntax |
| Passwd | Change a user's password  # passwd usename  $ passwd usename  password: |
| Id | Display information about a user  # id  $ id |
| Su | Change to root user id  $ su rootuser/username  password: |
| users | Display a list of current users  # users |
| who  who am i | Display a list of current users as follows:  Login name terminal number date &time  Or the serial port  Line by which your  Terminal is connected  To the host machine  e.g. sup1 tty1 Dec 30 ……..  # who or $ who  # who am I or $ who am i |
| clear | Clears the screen  $ clear |
| login | Initiate user login  $ login |
| talk | Communicate between the two users: to talk |
| pine | Communicate between the two users: to send the message |
| write | Communicate between the two users: to send the message |
| df | Display information about file system |
| du | Display information about disk usage |

|  |  |  |  |
| --- | --- | --- | --- |
| General Purpose Utilities | | | |
| Command | Purpose | Syntax | |
| man | To get the on-line help. Offers help on almost all the topics related to linux. | $man expr  here expr denotes the command name for which you need the help | |
| help | To get the on-line help, but restricted to very few commands. | $help expr  here expr denotes the command name for which you need the help | |
| banner | To create a poster by blowing up its arguments on the keyboard.  On each line it can display atleast ten characters. | $banner expr  OR  $/usr/games/banner expr  expr denotes the expression which you display as the banner.  $banner –w n expr  displays the banner of size n, where n is some positive integer. | |
| date | To get the current date and time to the nearest second  For specific format each format is proceeded by a + symbol and the % operator  To get the day  To get the month in the number or name format.  To get the year  To get the date in the format mm/dd/yy  To get the time in the format hr:min:sec  To get the hours  To get the minutes  To get the seconds  To couple more than one formats at a time enclose them in single or double quotes and write + symbol before | $date  $date +%d  $date +%m or +%h  $date +%y  $date +%D  $date +%T  $date +%D  $date +%M  $date +%S  e.g  $date +”%H:%M:%S”  or  $date +’%H:%M:%S’  displays the time in the format hr:min:sec  date +"%D%n%T”  displays the date and and time on two different lines when %n is used between them. | |
| cal | To print the calendar of the current month of the current year  To print the calendar for a particular year  To print the calendar for a particular month of a year. | $cal  $cal year  $cal month year  where month and year denote the number of the month and year denotes the year. | |
| tty | To tell the name of the terminal(Linux treats even the terminal as file) | $tty  gives /dev/tty1  which means the terminal name is tty1 in the /dev.  (tty means the teletype command.) | |
| stty | Used to set the terminal characteristics according to user’s choice. | $stty –a  the output consists of the baud rate, the parameters , a series of keywords or options with a – preceded to some of them. When an option doesn’t have the -, it means the option is turned on. It is possible to use stty to set or unset these options. Also it can be used to set the functions for some of the keys e.g to change the interrupt key, to change the eof, eol character. | |
| history | Every command has an event number associated with it. By default, Korn shell stores all previous commands.  To see all the commands entered from the very beginning | $history  $history n  prints last n number of commands typed. | |
| echo | To echo/display the expression required | $echo expr  displays the expr as it is. | |
| bc | Linux provides two calculators : bc and xcalc  To do the mathematical  calculations with truncation.  To do the calculations with decimals. | $bc or $bc –q  to get the clear bc  $bc –q  scale = 2 to set the scale to get the truncation upto 2 decimal places while doing the calculations. | |
| Directory commands | | | |
| pwd | When you are logged in, you are placed in a specific directory of the file system. Rhis directory is called the current directory.  To know the current working/home directory along with its pathname and parent directory. | | $pwd  or  $echo $HOME |
| dir | To see the contents of the directory | | $dir  which displays all the files and directories  $dir –a  displays all the files and directories including the hidden files beginning with . and .. The symbols . and .. are used universally to represent the current and parent directory respectively. |
| cd | To change to the parent directory  To change to some other directory say dir1 | | $cd  $cd dir1 |
| Mkdir | To create a new directory with name dir\_name  To create the chain of directories | | $mkdir dir\_name  $mkdir –p dir1/dir2/dir3  creates dir3 inside dir2 inside dir1 on current working directory at once. |
| Rmdir | To remove already created directory with name dir\_name  To remove the chain of directories | | $rmdir dir\_name  $mkdir –p dir1/dir2/dir3  removes dir3, dir2 and dir1 at once. |

**Practical No.3**

Basic Linux Commands

Part(I): File System Commands: touch, cat, cp, rm, mv, mkdir, cd, rmdir.

Do the following and enter the related commands in your journal.

1. Create five files with the name a1, b2, c3, d4, e5 by using touch command.
2. Create five files with the name f6, g7, h8 using cat command with some meaningful contents with at least five lines each.
3. Concatenate the contents of f6 and g7 to a file called new1. (Without creating new1)
4. Append the contents of f6 and h8 to new1.
5. Copy contents of f6 to a1, g7 to b2, h8 to c3 by using cp command.
6. Create two directions with the name dd1, dd2.
7. Copy the files a1 and b2 to the directory dd1 by using cp command. Copy the files f6, g7 to the director dd2.
8. Remove the files a1, b2 from dd1.
9. Remove the directory dd2 along with its contents.

10. Rename the files f6, g7, h8, by newf6, newg7, newh8, using mv

command.

1. Move the files newf6, newg7 the directory dd1.

Part II : ls and ls with options

**Change the directory to /bin and do the following and enter the commands in your journal.**

* 1. list all filenames.
  2. list all filenames with one screen at a time.
  3. list all filenames with 2 characters, 3 characters.
  4. List all filenames with 2 and 4 characters at the same time.
  5. List all filenames starting with vowel.
  6. List all filenames with the last character as a or b or c or d.
  7. List all filenames with exactly three characters in which the second character is a vowel.
  8. List all filenames starting with character ‘a’.
  9. List all 4 character filenames whose first character is ‘a’ and the third character is ‘b’.
  10. List all filenames whose first character is ‘m’ or ‘r’ or is in the range c to f or v to z.
  11. List all filenames whose first character is any thing other than an alphabet in the range d to m.
  12. Construct a command to display the total number of files with exactly three characters in their filename.
  13. Construct a command to display the total number of files with exactly two or three or four characters in their filename.

**Change the directory to your home directory and do the following**

* 1. List the contents of the directory.
  2. List the contents of the directory along with all hidden files.
  3. List the contents of the directory along with all hidden files except . and .. files.
  4. List all files with their attributes and file permissions.
  5. List all files identifying direct6ories and executable files.
  6. List all the files showing the size of each file rounded up to the nearest kilobyte.
  7. List all the files according to file size.
  8. Give the file listing displayed in columns.
  9. Give the file listing in reverse order.
  10. Give the file listing where all the files are in long format showing full file details.

**Practical No 3**

**Part-I:File System Commands:touch,cat,cp,rm,mv,mkdir,cd,rmdir**

**Q:1) Create five files with the name a1,b2,c3,d4,e5 by using touch command.**

**[tybsc308@linserver tybsc308]**

**$touch a1 b2 c3 d4 e5**

**Q:2)Create three files with the name f6,g7,h8 using cat command with some meaningful contents with a**

[tybsc308@linserver tybsc308]$ **cat> f6**

**This is file f6**

**this is cat command.**

**hello.**

**hi.**

**tybsc.**

[tybsc308@linserver tybsc308]$ **cat> g7**

**this is file g7**

**hello.**

**hi.**

**tybsc.**

**this is cat cmd.**

[tybsc308@linserver tybsc308]$ **cat> h8**

**this is file h8**

**hello.**

**hi.**

**tybsc.**

**this is cat cmd.**

**Q:3) Concatenate the contents of f6 and g7 to a file called new1.(Without creating new1)**

[tybsc308@linserver tybsc308]$ **cat f6 g7 >new1**

[tybsc308@linserver tybsc308]$ **cat new1**

This is file f6

this is cat command.

hello.

hi.

tybsc.

thid is file g7

hello.

hi.

tybsc.

this is cat cmd.

**Q:4) Append the contents of f6 and h8 to new1.**

[tybsc308@linserver tybsc308]$ **cat f6 h8 >> new1**

[tybsc308@linserver tybsc308]$ **cat new1**

This is file f6

this is cat command.

hello.

hi.

tybsc.

thid is file g7

hello.

hi.

tybsc.

this is cat cmd.

This is file f6

this is cat command.

hello.

hi.

tybsc.

this is file h8

hello.

hi.

tybsc.

this is cat cmd.

**Q:5) Copy contents of f6 to a1, g7 to b2, h8 to c3 by using cp command.**

[tybsc308@linserver tybsc308]$ **cp f6 a1**

[tybsc308@linserver tybsc308]$ **cat a1**

This is file f6

this is cat command.

hello.

hi.

tybsc.

[tybsc308@linserver tybsc308]$ **cp g7 b2**

**[tybsc308@linserver tybsc308]$ cat b2**

thid is file g7

hello.

hi.

tybsc.

this is cat cmd.

[tybsc308@linserver tybsc308]$ **cp h8 c3**

**[tybsc308@linserver tybsc308]$ cat c3**

this is file h8

hello.

hi.

tybsc.

this is cat cmd.

**Q:6) Create two directory with the name dd1 and dd2.**

[tybsc308@linserver tybsc308]$ **mkdir dd1**

**[tybsc308@linserver tybsc308]$ mkdir dd2**

**Q:7) Copy the files a1 and b2 to the directory dd1 by using cp command. Copy the files f6, g7 to the directory dd2.**

[tybsc308@linserver tybsc308]$ **cp a1 b2 dd1**

**[tybsc308@linserver tybsc308]$ ls dd1**

**a1 b2**

**[tybsc308@linserver tybsc308]$ cp a1 b2 dd2**

**[tybsc308@linserver tybsc308]$ ls dd1**

a1 b2

**Q:8) Remove the files a1, b2 from dd1.**

[tybsc308@linserver tybsc308]$ **rm dd1/a1**

**[tybsc308@linserver tybsc308]$ ls dd1**

b2

[tybsc308@linserver tybsc308]$ rm dd1/b2

[tybsc308@linserver tybsc308]$ ls dd1

**Q:9) Remove the directory dd2 along with its contents.**

[tybsc308@linserver tybsc308]$ **rm -r dd2**

**Q:10) Rename the files f6, g7, h8, by newf6, newg7, newh8, using mv command.**

[tybsc308@linserver tybsc308]$ **mv f6 newf6**

**[tybsc308@linserver tybsc308]$ mv g7 newg7**

**[tybsc308@linserver tybsc308]$ mv h8 newh8**

**Q:11) Move the files newf6, newg7 to the directory dd1.**

[tybsc308@linserver tybsc308]$ **mv newf6 newg7 dd1**

**[tybsc308@linserver tybsc308]$ ls dd1**

newf6 newg7

**Part II: ls and ls with options**

**Change the directory to /bin and do the following and enter the commands in your journal.**

**(i) List all filenames.**

[tybsc308@linserver tybsc308]$ cd /bin

[tybsc308@linserver bin]$ ls

arch cut gawk ls red tcsh

ash date gettext mail rm touch

ash.static dd grep mkdir rmdir true

aumix-minimal df gtar mknod rpm umount

awk dmesg gunzip mktemp rvi uname

basename dnsdomainname gzip more rview unicode\_start

bash doexec hostname mount sed unicode\_stop

bash2 domainname igawk mt setfont unlink

bsh dumpkeys ipcalc mv setserial usleep

cat echo jpeg-6b netstat sh vi

chgrp ed kbd\_mode nice sleep view

chmod egrep kill nisdomainname sort ypdomainname

chown env link pgawk stty zcat

cp ex ln ping su

cpio false loadkeys ps sync

csh fgrep login pwd tar

**(ii) List all filenames with one screen at a time.**

[tybsc308@linserver bin]$ ls |more

arch

ash

ash.static

aumix-minimal

awk

basename

bash

bash2

bsh

cat

chgrp

chmod

chown

cp

cpio

csh

cut

date

dd

df

dmesg

dnsdomainname

doexec

--More—

**(iii) List all filenames with 2 characters, 3 characters.**

[tybsc308@linserver bin]$ ls ??

cp dd df ed ex ln ls mt mv ps rm sh su vi

[tybsc308@linserver bin]$ ls ???

ash awk bsh cat csh cut env pwd red rpm rvi sed tar

**(iv) List all filenames with 2 characters and 4 characters at the same time.**

[tybsc308@linserver bin]$ ls ?? ????

arch cpio df ex gtar link mail mv ps sort sync vi

bash date echo gawk gzip ln more nice rm stty tcsh view

cp dd ed grep kill ls mt ping sh su true zcat

**(v)** **List all filenames starting with vowel**

[tybsc308@linserver bin]$ **ls [aeiou]\***

arch ash.static awk ed env igawk umount unicode\_start unlink

ash aumix-minimal echo egrep ex ipcalc uname unicode\_stop usleep

**(vi) List all filenames with the last character as a or b or c or d.**

[tybsc308@linserver tybsc308]$ **ls \*[abcd]**

fspaa fspac newsed prime.c xaa xac

fspab masterdata prime1.c transdata xab

**(vii) List all filenames with exactly three characters in which the second character is a vowel.**

[tybsc308@linserver bin]$ ls ?[aeiou]?

cat cut red sed tar

**(viii) List all filenames starting with character ‘a’.**

[tybsc308@linserver bin]$ ls [a]\*

arch ash ash.static aumix-minimal awk

**(ix) List all 4 character filenames whose first character is ‘a’ and the third character is ‘b’.**

[tybsc308@linserver bin]$ ls [a]?[b]?

ls: [a]?[b]?: No such file or directory

**(x) List all filenames whose first character is ‘m’ or ‘r’ or is in the range c to f or v to z.**

[tybsc308@linserver bin]$ ls [mrc-fv-z]\*

cat cpio df dumpkeys ex mknod mv rvi zcat

chgrp csh dmesg echo false mktemp red rview

chmod cut dnsdomainname ed fgrep more rm vi

chown date doexec egrep mail mount rmdir view

cp dd domainname env mkdir mt rpm ypdomainname

**(xi) List all filenames whose first character is any thing other than an alphabet in the range d to m.**

[tybsc308@linserver bin]$ ls [!d-m]\*

arch cat nice rpm stty unicode\_start

ash chgrp nisdomainname rvi su unicode\_stop

ash.static chmod pgawk rview sync unlink

aumix-minimal chown ping sed tar usleep

awk cp ps setfont tcsh vi

basename cpio pwd setserial touch view

bash csh red sh true ypdomainname

bash2 cut rm sleep umount zcat

bsh netstat rmdir sort uname

**(xii) Construct a command to display the total number of files with exactly three characters in their filename.**

[tybsc308@linserver bin]$ **ls ???|wc -l**

13

**(xiii) Construct a command to display the total number of files with exactly two or three or four characters in their filename.**

[tybsc308@linserver bin]$ **ls ?? ??? ????|wc -l**

49

**Change the directory to the home directory and do the following**

**(xiv) List the contents of the directory.**

[tybsc308@linserver tybsc308]$ **ls dir1**

f1 file1

**(xv) List the contents of the directory along with all hidden files.**

[tybsc308@linserver tybsc308]$ **ls -a dir1**

. .. f1 file1

**(xvi) List the contents of the directory along with all hidden files except . and .. files.**

[tybsc308@linserver tybsc308]$ **ls -A**

+1 copy1 fcmp1\_308 green pract7.10 pract7.7 prime1.out Student date fcmp2 .gtkrc pract7.11 pract7.9 prime.c Student308 ashwini date1 fcmp2\_308 .kde pract7.12 pract8.1 .prime.c.swo t4 .bash\_history dir1 fcmp3\_308 line pract7.13 pract8.11.2 prime.out transdata .bash\_logout dir2 fex1 login pract7.15 pract8.12.3 product\_308 try2

.bash\_profile dir3 .file loop pract7.17 pract8.14 result tryTime .bashrc doll file2 masterdata pract7.18 pract8.3 result1 .viminfo bdata308 .emacs fod1 merit308 pract7.3 pract8.5 Shweta308 yellow

check emp foreg month pract7.3.1 pract8.6 ss1 checkgrade empdata308 fsp308 names pract7.4 pract8.7 ss2 commandfor fact gre1 pract pract7.5 pract8.8 ss3 commandline fcmp1

**(xvii) List all files with their attributes and file permissions.**

[tybsc308@linserver tybsc308]$ **ls -l**

total 204

-rw-r--r-- 1 tybsc308 tybsc 159 Dec 7 10:52 +1

-rw-r--r-- 1 tybsc308 tybsc 16 Jan 18 09:57 ashwini

-rw-r--r-- 1 tybsc308 tybsc 193 Jan 18 08:39 check

-rw-r--r-- 1 tybsc308 tybsc 307 Jan 10 15:51 Stud308

...

...

-rw-r--r-- 1 tybsc308 tybsc 139 Jan 19 11:53 Student

-rw-r--r-- 1 tybsc308 tybsc 881 Jan 4 08:58 t1

-rw-rw-r-- 1 tybsc308 546 881 Dec 14 09:52 try1

-rw-rw-r-- 1 tybsc308 546 28 Dec 30 10:15 white

-rw-rw-r-- 1 tybsc308 546 36 Dec 14 09:09 yellow

**(xviii)** Same as above

**(xix) List all the files showing the size of each file rounded up to the nearest kilobyte.**

[tybsc308@linserver tybsc308]$ ls -s

total 204

4 +1 4 dir3 4 login 4 pract7.17 4 ss1

4 ashwini 4 doll 4 loop 4 pract7.18 4 ss2

4 check 4 emp 4 names 4 pract7.3 4 ss3

4 checkgrade 4 fact 4 pink 4 pract7.3.1 4 Stud308

4 commandfor 4 file2 4 pract 4 pract7.4 4 Student

4 date 4 gre1 4 pract7.11 0 pract7.7 4 white

...

**(xx) List all the files according to file size.**

[tybsc308@linserver tybsc308]$ **ls -S**

prime.out prime.c month fact fcmp3\_308 bdata308 fcmp1\_308 pract7.18 prime1.out pract8.14 pract7.11 +1 loop merit308 commandline pract7.3 dir1 pract7.13 pract7.12 pract8.12.3 Student308 transdata fod1 10000

dir2 pract8.5 pract7.10 pract8.8 pract7.17 file2 doll date1 dir3 prime1.c checkgrade Student line result pract7.1 pract7.7 result1 tryTime pract7.9 pract7.4 ss3 pract8.1 yellow fsp308 pract7.3.1 date Shweta308 masterdata emp green

login pract8.6 pract7.15 pract8.7 names fcmp2\_308 commandfor t4 pract8.11.2 empdata308 pract7.6 pract7.5 fcmp2 ss2 try2 gre2 copy1 gre1 foreg product\_308 pract8.3 fex1 Stud308 check pract fcmp1 ss1 ashwini

**(xxi) Give the file listing displayed in columns.**

[tybsc308@linserver tybsc308]$ ls -c

gre2 date1 pract7.18 check ss1 pract7.1 white gre1 commandfor ashwini emp checkgrade fsp308 green +1 pract8.3 foreg ss3 pract7.13 pract7.7 Stud308 ss2 dir2 dir3

Student pract7.15 pract7.12 doll names t1 login dir1 pract7.11 pract7.17 fact pract7.6 copy1 commandline try1 pract8.1 pract pract7.10 pract7.4 pract7.3.1 file2 yellow date loop pract7.9 pract7.5 pract7.3 pink line

**(xxii) Give the file listing in reverse order.**

[tybsc308@linserver tybsc308]$ ls -r

yellow ss2 pract7.5 pract7.13 names fsp308 dir2 white checkgrade ss1 pract7.4 pract7.12 loop foreg dir1 check try1 pract8.3 pract7.3.1 login file2 date1 ashwini t1 pract8.1 line pract7.3 pract7.10 fact date +1 Student pract7.9 pract7.18 pract7.1 green

emp copy1 Stud308 pract7.7 pract7.17 pract

gre2 doll commandline ss3 pract7.6 pract7.15

pink gre1 dir3 commandfor

**(xxiii) Give the file listing where all the files are in long format showing full size details.**

[tybsc308@linserver tybsc308]$ ls -l

total 204

-rw-r--r-- 1 tybsc308 tybsc 159 Dec 7 10:52 +1

-rw-r--r-- 1 tybsc308 tybsc 16 Jan 18 09:57 ashwini

-rw-r--r-- 1 tybsc308 tybsc 193 Jan 18 08:39 check

-rw-r--r-- 1 tybsc308 tybsc 243 Jan 18 08:38 checkgrade

-rw-r--r-- 1 tybsc308 tybsc 31 Jan 18 11:26 commandfor

-rw-r--r-- 1 tybsc308 tybsc 56 Jan 4 08:57 commandline

-rw-r--r-- 1 tybsc308 tybsc 212 Jan 7 11:56 copy1

-rw-r--r-- 1 tybsc308 tybsc 220 Jan 18 11:48 date

-rw-r--r-- 1 tybsc308 tybsc 0 Jan 18 11:32 date1

drwxrwxr-x 2 tybsc308 546 4096 Nov 30 09:44 dir1

drwxrwxr-x 3 tybsc308 546 4096 Dec 14 10:08 dir2

drwxrwxrwx 2 tybsc308 546 4096 Dec 7 09:07 dir3

-r-xr-xr-x 1 tybsc308 tybsc 47 Jan 4 08:24 doll

. . .

-rw-r--r-- 1 tybsc308 tybsc 41 Jan 4 10:18 pract7.1

-rw-r--r-- 1 tybsc308 tybsc 260 Jan 18 09:10 pract7.10

-rw-r--r-- 1 tybsc308 tybsc 299 Jan 18 09:24 pract7.11

-rw-r--r-- 1 tybsc308 tybsc 286 Jan 18 09:33 pract7.12

-rw-r--r-- 1 tybsc308 tybsc 419 Jan 18 09:56 pract7.13

-rw-r--r-- 1 tybsc308 tybsc 220 Jan 18 11:03 pract7.15

-rw-r--r-- 1 tybsc308 tybsc 115 Jan 18 10:49 pract7.17

-rw-r--r-- 1 tybsc308 tybsc 3 Jan 18 10:26 pract7.18

-rw-r--r-- 1 tybsc308 tybsc 1 Jan 4 10:32 pract7.3

-rw-r--r-- 1 tybsc308 tybsc 360 Jan 4 10:49 pract7.3.1

-rw-r--r-- 1 tybsc308 tybsc 138 Jan 18 08:10 pract7.4

-rw-r--r-- 1 tybsc308 tybsc 103 Jan 18 08:02 pract7.5

-rw-r--r-- 1 tybsc308 tybsc 128 Jan 18 08:12 pract7.6

-rw-r--r-- 1 tybsc308 tybsc 0 Jan 18 08:33 pract7.7

-rw-r--r-- 1 tybsc308 tybsc 221 Jan 18 08:43 pract7.9

-rw-r--r-- 1 tybsc308 tybsc 79 Jan 19 11:18 pract8.1

-rw-rw-r-- 1 tybsc308 546 28 Dec 30 10:15 white

-rw-rw-r-- 1 tybsc308 546 36 Dec 14 09:09 yellow

Practical No.4

**Study of Commands: find, tr, head, tail, wc, file, sort, split**

1. Display using “find command” all the filenames under:

* 1. /usr/sbin one screen at a time
  2. /usr/sbin beginning with a lowercase ‘c’.
  3. /usr/sbin in capital letters beginning with a lowercase ‘c ’

(Use single-quote for tr command)

* 1. /usr sbin which are over 5k in size in uppercase.

1. Display Parts of Files using head or tail command:
2. Display and count all the lines in the file /etc/mime.types
3. Display the first 10 lines of the file/etc/mime.types
4. Display the last 10 lines of /etc/mime.types
5. Display the first 25 lines of /etc/mime.types
6. Classify, Count and Compare Files
   1. Find out what file types you have in the following directories:
      1. /etc
      2. /bin
   2. Repeat the previous question, but this time:
      1. Re-direct /etc listing to new file etcfiles.txt
      2. Append the listing for /usr/bin to etcfiles.txt
   3. Construct a command to find out how many files are in

the /usr/bin directory.

1. Sorting:

a. Sort the etcfiles.txt file into reverse alphabetical order on the first filed.

You may notice that capital and lowercase letters are sorted

independently, e.g. ‘A’ comes before ‘a’.

b. Repeat the first sorting exercise but ignoring case differences

c. Sort the etcfiles.txt files into alphabetical order on the second field (the file type).

* 1. Find out how many English text files are listed in the etcfiles.txt file.

5. Create a file using vi editor with the following contents

Mahesh Deshpande 234

Naresh Nair 431

Allen Disuza 121

Hari Kutian 231

Ramesh Dubey 231

Akshay Das 256

1. Sort on the first names only
2. Sort on last names only
3. Sort on first 4 characters only
4. Sort on their numbers only.

6. Construct and execute the commands to c*reate a file* with the name Stud<roll\_no>

*with the following fields separated by a* blank space *having the*

*below mentioned values:*

*Field* RollNo First Name Last Name Date of Birth

Marks

*Values* Numeric Character Character dd-mm-yy Numeric out of 600

1. Insert at least five appropriate records and do

the following:

1. Sort the data on first names only.
2. Sort the data on the Marks only
3. Prepare a ranked merit list with student’s first and

last name only and store in the file Merit<roll\_no> and display

its contents.

**Write down the commands and attach the printout of the**

**commands and their the corresponding output in your answer sheet.**

7. Construct the commands and execute them to

1. Create a file named fsp<seat\_no> having the listing of

atleast 50 lines (e.g, listing of /usr/sbin or /usr/bin

or /etc or can create your own).

1. Display first 2 lines of fsp<seat\_no> and convert all the characters into capital letters.
2. Display the last 15 lines of fsp<seat\_no>.
3. Display the lines starting with a vowel.
4. Split the file fsp<seat\_no> into subparts each having at

most 20 lines and display the contents of these subparts

and count the number of lines in them.

1. Split the file fsp<seat\_no> into three subparts named fspaa, fspab, fspac and display the contents of these files and count the number of lines in them.

**Practical No 4**

**Study of commands:find, tr, head, tail, wc, file, sort, split**

**1) Display using “find command” all the filenames under:**

**(i) /usr/sbin one screen at a time.**

[tybsc308@linserver tybsc308]$**find /usr/sbin| more**

/usr/sbin

/usr/sbin/iconvconfig

/usr/sbin/rpcinfo

/usr/sbin/build-locale-archive

/usr/sbin/zdump

/usr/sbin/zic

/usr/sbin/pwunconv

/usr/sbin/pwck

/usr/sbin/glibc\_post\_upgrade

/usr/sbin/alternatives

/usr/sbin/update-alternatives

/usr/sbin/mklost+found

/usr/sbin/arping

/usr/sbin/clockdiff

/usr/sbin/ping6

/usr/sbin/rdisc

/usr/sbin/tracepath

/usr/sbin/tracepath6

/usr/sbin/traceroute6

/usr/sbin/adduser

/usr/sbin/chpasswd

/usr/sbin/groupadd

/usr/sbin/groupdel

--More—

**(ii) /usr/sbin beginning with a lowercase ‘c’.**

[tybsc308@linserver tybsc308]$ **find /usr/sbin/c\***

/usr/sbin/camel-index-control

/usr/sbin/camel-lock-helper

/usr/sbin/capiinit

/usr/sbin/chat

/usr/sbin/chkfontpath

/usr/sbin/chpasswd

/usr/sbin/chroot

/usr/sbin/ciped-cb

/usr/sbin/clockdiff

/usr/sbin/crond

/usr/sbin/cupsaddsmb

/usr/sbin/cupsd

**(iii) /usr/sbin in capital letters beginning with a lowercase ‘c’.(Use single-quote for tr command)**

[tybsc308@linserver tybsc308]$ **find /usr/sbin/c\* | tr '[a-z]' '[A-Z]'**

/USR/SBIN/CAMEL-INDEX-CONTROL

/USR/SBIN/CAMEL-LOCK-HELPER

/USR/SBIN/CAPIINIT

/USR/SBIN/CHAT

/USR/SBIN/CHKFONTPATH

/USR/SBIN/CHPASSWD

/USR/SBIN/CHROOT

/USR/SBIN/CIPED-CB

/USR/SBIN/CLOCKDIFF

/USR/SBIN/CROND

/USR/SBIN/CUPSADDSMB

/USR/SBIN/CUPSD

**(iv) /usr/sbin which are over 5k in size in uppercase.**

[tybsc308@linserver tybsc308]$ **find /usr/sbin -size 5k | tr '[a-z]' '[A-Z]'**

/USR/SBIN/MODELINE2FB

/USR/SBIN/RPC.NFSD

/USR/SBIN/EXECCAP

/USR/SBIN/SETPCAPS

**2) Display parts of files using head or tail command:**

**(i) Display and count all the lines in the file/etc/mime.types**

[tybsc308@linserver tybsc308]$ **wc -l /etc/mime.types**

480 /etc/mime.types

**(ii) Display the first 10 lines of the file/etc/mime.types**

[tybsc308@linserver tybsc308]$ **head -10 /etc/mime.types**

# This is a comment. I love comments.

# This file controls what Internet media types are sent to the client for

# given file extension(s). Sending the correct media type to the client

# is important so they know how to handle the content of the file.

# Extra types can either be added here or by using an AddType directive

# in your config files. For more information about Internet media types,

# please read RFC 2045, 2046, 2047, 2048, and 2077. The Internet media type

# registry is at <http://www.iana.org/assignments/media-types/>.

**(iii) Display the last 10 lines of the /etc/mime.types**

[tybsc308@linserver tybsc308]$ **tail -10 /etc/mime.types**

video/vnd.fvt

video/vnd.motorola.video

video/vnd.motorola.videop

video/vnd.mpegurl mxu

video/vnd.mts

video/vnd.nokia.interleaved-multimedia

video/vnd.vivo

video/x-msvideo avi

video/x-sgi-movie movie

x-conference/x-cooltalk ice

**(iv) Display the first 25 lines of the /etc/mime.types**

[tybsc308@linserver tybsc308]$ **head -25 /etc/mime.types**

# This is a comment. I love comments.

# This file controls what Internet media types are sent to the client for

# given file extension(s). Sending the correct media type to the client

# is important so they know how to handle the content of the file.

# Extra types can either be added here or by using an AddType directive

# in your config files. For more information about Internet media types,

# please read RFC 2045, 2046, 2047, 2048, and 2077. The Internet media type

# registry is at <http://www.iana.org/assignments/media-types/>.

# MIME type Extension

application/EDI-Consent

application/EDI-X12

application/EDIFACT

application/activemessage

application/andrew-inset ez

application/applefile

application/atomicmail

application/batch-SMTP

application/beep+xml

application/cals-1840

application/commonground

application/cybercash

application/dca-rft

application/dec-dx

**3)Classify,Count and Compare Files**

**a) Find out what file types you have in the following directories:**

**(i) /etc**

[tybsc308@linserver tybsc308]$ **file /etc/\***

/etc/a2ps.cfg: ASCII English text

/etc/a2ps-site.cfg: ASCII English text

/etc/adjtime: ASCII text

/etc/aep: directory

/etc/aep.conf: ASCII text

/etc/aeplog.conf: ASCII text

/etc/alchemist: directory

/etc/aliases: ASCII English text

/etc/aliases.db: can't read `/etc/aliases.db' (Permission denied).

/etc/alternatives: directory

/etc/anacrontab: ASCII text

/etc/at.deny: can't read `/etc/at.deny' (Permission denied).

/etc/auto.master: ASCII English text

/etc/auto.misc: ASCII English text

/etc/bashrc: ASCII text

/etc/bonobo-activation: directory

/etc/cdrecord.conf: ASCII English text

/etc/cipe: directory

/etc/CORBA: directory

/etc/cron.d: directory

/etc/cron.daily: directory

/etc/cron.hourly: directory

/etc/cron.monthly: directory

/etc/crontab: ASCII text

/etc/cron.weekly: directory

/etc/csh.cshrc: ASCII text

/etc/csh.login: ASCII text

/etc/cups: directory

/etc/default: directory

/etc/DIR\_COLORS: ASCII English text

/etc/DIR\_COLORS.xterm: ASCII English text

…..

…..

**(ii) /bin**

[tybsc308@linserver tybsc308]$ **file /usr/bin/\***

/usr/bin/zip: ELF 32-bit LSB executable, Int

el 80386, version 1 (SYSV), for GNU/Linux 2.2.5, dynamically linked (uses shared

libs), stripped

/usr/bin/zipcloak: ELF 32-bit LSB executable, Int

el 80386, version 1 (SYSV), for GNU/Linux 2.2.5, dynamically linked (uses shared

libs), stripped

/usr/bin/zipgrep: Bourne shell script text execu

table

/usr/bin/zipinfo: ELF 32-bit LSB executable, Int

el 80386, version 1 (SYSV), for GNU/Linux 2.2.5, dynamically linked (uses shared

libs), stripped

/usr/bin/zipnote: ELF 32-bit LSB executable, Int

el 80386, version 1 (SYSV), for GNU/Linux 2.2.5, dynamically linked (uses shared

libs), stripped

/usr/bin/zipsplit: ELF 32-bit LSB executable, Int

el 80386, version 1 (SYSV), for GNU/Linux 2.2.5, dynamically linked (uses shared

libs), stripped

/usr/bin/zless: Bourne shell script text execu

table

/usr/bin/zmore: Bourne shell script text execu

table

…..

**b)Repeat the previous question, but this time:**

**(i) Re-direct /etc listing to new file etcfiles.txt**

[tybsc308@linserver tybsc308]$ **file /etc/\*>etcfiles.txt**

[tybsc308@linserver tybsc308]$ **cat etcfiles.txt | more**

/etc/a2ps.cfg: ASCII English text

/etc/a2ps-site.cfg: ASCII English text

/etc/adjtime: ASCII text

/etc/aep: directory

/etc/aep.conf: ASCII text

/etc/aeplog.conf: ASCII text

/etc/alchemist: directory

/etc/aliases: ASCII English text

/etc/aliases.db: can't read `/etc/aliases.db' (Permission denied).

/etc/alternatives: directory

/etc/anacrontab: ASCII text

/etc/at.deny: can't read `/etc/at.deny' (Permission denied).

/etc/auto.master: ASCII English text

/etc/auto.misc: ASCII English text

/etc/bashrc: ASCII text

/etc/bonobo-activation: directory

/etc/cdrecord.conf: ASCII English text

/etc/cipe: directory

/etc/CORBA: directory

/etc/cron.d: directory

/etc/cron.daily: directory

/etc/cron.hourly: directory

/etc/cron.monthly: directory

**(ii) Append the listing for /usr/bin to etcfiles.txt**

[tybsc308@linserver tybsc308]

$**file /usr/bin/\*>> etcfiles.txt**

**c) Construct a command to find out how many files are in the /usr/bin directory.**

[tybsc308@linserver tybsc308]$ **file /usr/bin/\* | wc –l**

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**4) Sorting**

**a) Sort the etcfiles.txt into reverse alphabetical order on the first file.**

[tybsc308@linserver tybsc308**]$ sort -r etcfiles.txt | more**

/usr/bin/zsoelim: symbolic link to soelim

/usr/bin/zsoelim: symbolic link to soelim

/usr/bin/znew: Bourne shell

ELF 32-bit LSB executable, Int

el 80386, version 1 (SYSV), for GNU/Linux 2.2.5, dynamically linked (uses shared

libs), stripped

/usr/bin/zipnote: ELF 32-bit LSB executable, Int

el 80386, version 1 (SYSV), for GNU/Linux 2.2.5, dynamically linked (uses shared

libs), stripped

**b) Repeat the first sorting exercise but ignoring case differences.**

[tybsc308@linserver tybsc308]$ **sort -f -r etcfiles.txt | more**

/usr/bin/zsoelim: symbolic link to soelim

/usr/bin/zsoelim: symbolic link to soelim

/usr/bin/znew: Bourne shell script text execu

table

/usr/bin/znew: Bourne shell script text execu

table

/usr/bin/zmore: Bourne shell script text execu

table

/usr/bin/zmore: Bourne shell script text execu

table

/usr/bin/zless: Bourne shell script text execu

table

/usr/bin/zless: Bourne shell script text execu

table

/usr/bin/zipsplit: ELF 32-bit LSB executable, Int

el 80386, version 1 (SYSV), for GNU/Linux 2.2.5, dynamically linked (uses shared

libs), stripped

/usr/bin/zipsplit: ELF 32-bit LSB executable, Int

el 80386, version 1 (SYSV), for GNU/Linux 2.2.5, dynamically linked (uses shared

libs), stripped

/usr/bin/zipnote: ELF 32-bit LSB executable, Int

el 80386, version 1 (SYSV), for GNU/Linux 2.2.5, dynamically linked (uses shared

libs), stripped

**c) Sort the etcfiles.txt into alphabetical order on the second field**

[tybsc3

08@linserver tybsc308]$ **sort +1 -2 etcfiles.txt | more**

/usr/bin/evolution-move-tasks: a perl script text executable

/usr/bin/evolution-move-tasks: a perl script text executable

/usr/bin/libglade-xgettext: a python script text executabl

e

/usr/bin/libglade-xgettext: a python script text executabl

e

/etc/rpc: ASCII C program text

/etc/mime-magic: ASCII C++ program text

/etc/ltrace.conf: ASCII C program text

/usr/bin/e2pall: ASCII English text

/usr/bin/e2pall: ASCII English text

/usr/bin/xsubpp: ASCII English text

/usr/bin/xsubpp: ASCII English text

/usr/bin/epstopdf: ASCII English text

/usr/bin/epstopdf: ASCII English text

/usr/bin/thumbpdf: ASCII English text

/usr/bin/thumbpdf: ASCII English text

/etc/imrc: ASCII English text

/etc/fdprm: ASCII English text

/etc/hosts: ASCII English text

**d) Find out how many English text files are listed in the etcfiles.txt file**

[tybsc308@linserver tybsc308]$ grep English etcfiles.txt | wc -l

67

**5) Create a file using vi editor with the following contents.**

[tybsc308@linserver tybsc308]$ **cat names**

**Mahesh Deshpande 234**

**Naresh Nair 431**

**Allen Disuza 121**

**Hari Kutian 231**

**Ramesh Dubey 231**

**Akshay Das 256**

**(i) Sort on the first names only**

[tybsc308@linserver tybsc308]$ **sort +0 -1 names**

Akshay Das 256

Allen Disuza 121

Hari Kutian 231

Mahesh Deshpande 234

Naresh Nair 431

Ramesh Dubey 231

**(ii) Sort on the last names only**

[tybsc308@linserver tybsc308]$ **sort +1 -2 names**

Akshay Das 256

Mahesh Deshpande 234

Allen Disuza 121

Ramesh Dubey 231

Hari Kutian 231

Naresh Nair 431

**(iii) Sort on first four characters only**

[tybsc308@linserver tybsc308]$ **cut -c 1-4 names | sort**

Aksh

Alle

Hari

Mahe

Nare

Rame

**(iv) Sort on their numbers only**

[tybsc308@linserver tybsc308]$ **sort +2 -3 names**

Allen Disuza 121

Hari Kutian 231

Ramesh Dubey 231

Mahesh Deshpande 234

Akshay Das 256

Naresh Nair 431

**6)Construct and execute the commands to create a file with the name Stud<roll\_no> with the following fields separated by a blank space.**

**(i)**

[tybsc308@linserver tybsc308]$ **cat Stud308**

**308 Shweta Choudhary 7-12-1985 450**

**309 Mildred D'mello 9-12-1985 500**

**310 Megha Menon 14-10-1985 550**

**311 Vikrant Mahkal 12-5-1985 500**

**312 Sankalp Naik 11-5-1985 550**

**(ii) Sort the data on first names only**

[tybsc308@linserver tybsc308]$ **sort +1 -2 Stud308**

RollNo FirstName LastName DateOfBirth Marks

308 Megha Menon 14-10-1985 550

308 Mildred D'mello 9-12-1985 500

308 Sankalp Naik 11-5-1985 550

308 Shweta Choudhary 7-12-1985 450

308 Vikrant Mahkal 12-5-1985 500

**(iii) Sort the data on the Marks only**

[tybsc308@linserver tybsc308]$ **sort +4 -5 Stud308**

308 Shweta Choudhary 7-12-1985 450

308 Mildred D'mello 9-12-1985 500

308 Vikrant Mahkal 12-5-1985 500

308 Megha Menon 14-10-1985 550

308 Sankalp Naik 11-5-1985 550

RollNo FirstName LastName DateOfBirth Marks

**7) Construct the commands and execute them to**

**(i) Create a file named fsp<seat\_no> having of atleast 50 lines**

[tybsc308@linserver tybsc308]$ touch fsp308

[tybsc308@linserver tybsc308]$ **head -50 /etc/mime.types > fsp308**

[tybsc308@linserver tybsc308]$ **cat fsp308**

# This is a comment. I love comments.

# This file controls what Internet media types are sent to the client for

# given file extension(s). Sending the correct media type to the client

# is important so they know how to handle the content of the file.

# Extra types can either be added here or by using an AddType directive

# in your config files. For more information about Internet media types,

# please read RFC 2045, 2046, 2047, 2048, and 2077. The Internet media type

# registry is at <http://www.iana.org/assignments/media-types/>.

# MIME type Extension

application/EDI-Consent

...

application/news-message-id

application/news-transmission

application/ocsp-request

application/ocsp-response

**(ii) Display first two lines of fsp<seat\_no> and convert all the characters into capital letters**

[tybsc308@linserver tybsc308]$ **head -2 fsp308 | tr '[a-z]' '[A-Z]'**

# THIS IS A COMMENT. I LOVE COMMENTS.

**(iii) Display the last 15 lines of fsp<seat\_no>**

[tybsc308@linserver tybsc308]$ **tail -15 fsp308**

application/iotp

application/ipp

application/isup

application/font-tdpfr

application/mac-binhex40 hqx

application/mac-compactpro cpt

application/macwriteii

application/marc

application/mathematica

application/mathematica-old

application/msword doc

application/news-message-id

application/news-transmission

application/ocsp-request

application/ocsp-response

**(iv) Display the lines starting with a vowel**

[tybsc308@linserver tybsc308]$ **grep ^[aeiouAEIOU] fsp308**

application/EDI-Consent

application/EDI-X12

application/EDIFACT

application/activemessage

application/andrew-inset ez

application/applefile

application/atomicmail

application/batch-SMTP

application/beep+xml

application/cals-1840

application/commonground

application/cybercash

application/dca-rft

application/dec-dx

application/dvcs

application/eshop

application/http

application/hyperstudio

application/iges

application/index

application/index.cmd

. . .

application/mathematica-old

application/msword doc

application/news-message-id

application/news-transmission

application/ocsp-request

application/ocsp-response

**(v) Split a file fsp<seat\_no> into subparts each having at most 20 lines and display the contents of these subparts and count the number of lines in them**

[tybsc308@linserver tybsc308]$ **split -20 fsp308**

[tybsc308@linserver tybsc308]$ ls

+1 date1 fcmp3\_308 line t4 10000 dir1 fcut1 login ashwini dir2 fcut2 loop product\_308 try2 bdata308 dir3 fex1 masterdata result tryTime check doll file2 merit308 result1 xaa emp fod1 month pract7.18 Shweta308 xab empdata308 foreg names pract7.3 ss1 xac commandline fact fsed1 newsed ss2 yellow copy1 fcmp1 fsp308 newsedclear ss3 cutlist1 fcmp1\_308 gre1 pract

cutlist2 fcmp2 gre2 pract7.1 pract7.6 prime1.c

date fcmp2\_308 green pract7.10 pract7.7 prime1.out Student308

[tybsc308@linserver tybsc308]$ **cat xaa | wc -l**

**20**

[tybsc308@linserver tybsc308]$ cat xab | wc -l

20

[tybsc308@linserver tybsc308]$ cat xac | wc -l

10

**(vi) Split the files fsp<seat\_no> into three subparts named fspaa, fspab, fspac and display the contents of these files and count the number of lines in them**

[tybsc308@linserver tybsc308]$ **split -20 fsp308 fsp**

[tybsc308@linserver tybsc308]$ ls

+1 date1 fcmp3\_308 line t4 10000 dir1 fcut1 login ashwini dir2 fcut2 loop product\_308 try2 bdata308 dir3 fex1 masterdata result tryTime check doll file2 merit308 result1 xaa emp fod1 month pract7.18 Shweta308 xab empdata308 foreg names pract7.3 fspaa xac commandline fact fsed1 newsed fspab yellow copy1 fcmp1 fsp308 newsedclear fspac cutlist1 fcmp1\_308 gre1 pract

cutlist2 fcmp2 gre2 pract7.1 pract7.6 prime1.c

date fcmp2\_308 green pract7.10 pract7.7 prime1.out Student308

[tybsc308@linserver tybsc308]$ cat fspaa | wc -l

20

[tybsc308@linserver tybsc308]$ cat fspab | wc -l

20

[tybsc308@linserver tybsc308]$ cat fspac | wc -l

10

Practical No. 5

1. **od, cmp, comm, diff, uniq:**

**Create a file named fod1 with some contentshaving the following contents and display it in (i) octal form only and (ii) octal form along with its text contents.**

1. Construct the commands to
2. Create a file fcmp1<seat\_no> with six lines containing six names.
3. Add two more names and save the contents in fcmp2<seat\_no>.
4. Sort the contents of file fcmp1<seat\_no> .
5. Display the names, which are common to fcmp1 <seat\_no>, and

fcmp2<seat\_no>.

1. Display the difference between fcmp1 <seat\_no> and fcmp2<seat\_no>.
2. Append the contents of fcmp1 <seat\_no> to fcmp2<seat\_no> and store it in

the file fcmp3<seat\_no>.

1. Sort the contents of fcmp3<seat\_no> and display the contents without any

duplicate lines.

1. **Create two files named fcmp1 and fcmp2 which consists of at least five lines with two or three similar lines. Construct the commands**
2. using cmp

(i) to check whether the files differ

(ii) to compare the two files byte by byte.

1. using diff

(i) to display the lines which are common to both , the lines which are not

common and to display the lines, which are common to both

(ii) to display the difference in context output format

(iii) to display the unified output format.

1. Using comm

(i) To compare the files fcmp1 and fcmp2

(ii) To display the lines which are unique to fcmp1 and fcmp2

(iii) To display the lines which are common to the fcmp1 and fcmp2.

1. Using nl to give the line numbers to lines in fcmp1.
2. Using cp to append the fcmp1 to fcmp2 and sort this appended fcmp2 and store it in a file named funiq1.
3. Using uniq

(i) to remove the duplicate lines in funiq1.

(ii) to count the duplications and prepend number to

each line

(iii) to display the duplicate lines only

(iv) to display unique lines only.

**Write down the commands and attach the printout of the**

**commands and their the corresponding output in your answer sheet.**

1. **Create a file named name<roll\_no> with fields (first name,**

**second name, last name, salary) separated by “ : ”.Insert at least five appropriate records in above file.**

**Perform following sort operations:**

1. Sort on first names only.
2. Display only those records whose first names start

with a vowel.

1. Sort on last names only.
2. Display the names with salary above 10000 and add two more records and redirect the output to the file named namenew<roll\_no>.

**Write the commands in the answer sheet, execute and attach**

**the printout of the commands with their output.**

5. Cut, paste, tr

Create two files with at least three fields(columns) each with the names fcut1, fcut2 and do the following:

1. Cut first two columns from fcut1 and store the contents in the file cutlist1 and cut the second and the third column from the fcut2 and store it in cutlist2.
2. Paste the contents of cutlist2 to contents of cutlist1.

Translate the first three lines into capital letters using tr command.**Practical No.5**

**1) od,cmp,comm.,diff,uniq:**

Create a file named fod1 with some contents having the following contents and display it in

**(i) octal form only**

[tybsc308@linserver tybsc308]$ od -b fod1

0000000 124 150 151 163 040 151 163 040 160 162 141 143 164 151 143 141

0000020 154 040 156 165 155 142 145 162 040 065 012 123 150 167 145 164

0000040 141 040 103 150 157 165 144 150 141 162 171 012 124 131 102 163

0000060 143 012

0000062

**(ii) octal form along with its text contents.**

[tybsc308@linserver tybsc308]$ od -b -c fod1

0000000 124 150 151 163 040 151 163 040 160 162 141 143 164 151 143 141

T h i s i s p r a c t i c a

0000020 154 040 156 165 155 142 145 162 040 065 012 123 150 167 145 164

l n u m b e r 5 \n S h w e t

0000040 141 040 103 150 157 165 144 150 141 162 171 012 124 131 102 163

a C h o u d h a r y \n T Y B s

0000060 143 012

c \n

0000062

**2) Construct the commands to**

**(a) Create a file fcmp1<seat\_no> with six lines containing six names.**

[tybsc308@linserver tybsc308]$ vi fcmp1\_308

[tybsc308@linserver tybsc308]$ cat fcmp1\_308

**Shweta**

**Megha**

**Mildred**

**Sonal**

**Nikita**

**Nisha**

**(b) Add two more names and save the contents in fcmp2<seat\_no>.**

[tybsc308@linserver tybsc308]$ **cp fcmp1\_308 fcmp2\_308 && cat >> fcmp2\_308**

**Minal**

**Ankit**

[tybsc308@linserver tybsc308]$ cat fcmp2\_308

**Shweta**

**Megha**

**Mildred**

**Sonal**

**Nikita**

**Nisha**

**Minal**

**Ankit**

**(c) Sort the contents of file fcmp1<seat\_no>.**

[tybsc308@linserver tybsc308]$ sort fcmp1\_308

Ankit

Megha

Mildred

Minal

Nikita

Nisha

Shweta

Sonal

**(d) Display the names, which are common to fcmp1<seat\_no>, and fcmp2<seat\_no>.**

[tybsc308@linserver tybsc308]$ **comm fcmp1\_308 fcmp2\_28**

Shweta

Megha

Mildred

Sonal

Nikita

Nisha

Minal

Ankit

**(e) Display the difference between fcmp1<seat\_no> and fcmp2<seat\_no>.**

[tybsc308@linserver tybsc308]$ **cat >> fcmp1\_308**

**Abhishek**

[tybsc308@linserver tybsc308]$ diff fcmp1\_308 fcmp2\_308

9d8

< Abhishek

**(f) Append the contents of fcmp1<seat\_no> to fcmp2<seat\_no> and store it in the file fcmp3<seat\_no>.**

[tybsc308@linserver tybsc308]$ **cat fcmp1\_308 fcmp2\_308 >fcmp3\_308**

**[tybsc308@linserver tybsc308]$ cat fcmp3\_308**

Shweta

Megha

Mildred

Sonal

Nikita

Nisha

Minal

Ankit

Shweta

Megha

Mildred

Sonal

Nikita

Nisha

Minal

Ankit

Abhishek

**(g) Sort the contents of fcmp3<seat\_no> and display the contents without and duplicate lines.(FYCS)**

[tybsc308@linserver tybsc308]$ **sort -u fcmp3\_308**

Abhishek

Ankit

Megha

Mildred

Minal

Nikita

Nisha

Shweta

Sonal

**3) Create two files named fcmp1 and fcmp2 which consists of at least five lines with two or three similar lines. Construct the commands.**

[tybsc308@linserver tybsc308]$ **cat fcmp1**

**This is fcmp1**

**This is fcmp2**

**This is unix practical**

**Practical on od**

**Practical no 5**

[tybsc308@linserver tybsc308]$ cat fcmp2

This is fcmp1

This is fcmp2

This is 3rd line

Goodbye

Practical no 5

**A)**

**(i) To check whether the files differ.**

[tybsc308@linserver tybsc308]$ cmp fcmp1 fcmp2

fcmp1 fcmp2 differ: byte 37, line 3

**(ii) To compare the two files byte to byte.**

[tybsc308@linserver tybsc308]$ cmp -l fcmp1 fcmp2

37 165 63

38 156 162

39 151 144

40 170 40

41 40 154

42 160 151

43 162 156

44 141 145

45 143 12

. . .

59 141 151

60 154 143

61 40 141

62 157 154

63 156 40

64 40 156

66 144 40

67 12 65

68 120 12

cmp: EOF on fcmp2

**B) Using diff**

**(i) To display the lines which are common to both, the lines which are not common and to display the lines, which are common to both.**

[tybsc308@linserver tybsc308]$ diff fcmp1 fcmp2

3,4c3,4

< This is unix practical

< Practical on od

---

> This is 3rd line

> Goodbye

**(ii) To display the difference in context output format.**

[tybsc308@linserver tybsc308]$ diff -c fcmp1 fcmp2

\*\*\* fcmp1 2006-01-24 09:30:21.000000000 +0530

--- fcmp2 2006-01-24 09:35:02.000000000 +0530

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\* 1,5 \*\*\*\*

This is fcmp1

This is fcmp2

! This is unix practical

! Practical on od

Practical no 5

--- 1,5 ----

This is fcmp1

This is fcmp2

! This is 3rd line

! Goodbye

Practical no 5

**(iii) To display the unified output format.**

[tybsc308@linserver tybsc308]$ diff -u fcmp1 fcmp2

--- fcmp1 2006-01-24 09:30:21.000000000 +0530

+++ fcmp2 2006-01-24 09:35:02.000000000 +0530

@@ -1,5 +1,5 @@

This is fcmp1

This is fcmp2

-This is unix practical

-Practical on od

+This is 3rd line

+Goodbye

Practical no 5

**C) Using comm**

**(i) To compare the files fcmp1 and fcmp2**

[tybsc308@linserver tybsc308]$ comm fcmp1 fcmp2

This is fcmp1

This is fcmp2

This is 3rd line

Goodbye

Practical no 5

This is unix practical

Practical on od

Practical no 5

**(ii) To display the lines which are unique to fcmp1 and fcmp2**

[tybsc308@linserver tybsc308]$ comm -3 fcmp1 fcmp2

Goodbye

Practical no 5

This is unix practical

Practical on od

Practical no 5

**(iii) To display the lines which are common to fcmp1 and fcmp2**

[tybsc308@linserver tybsc308]$ comm -12 fcmp1 fcmp2

This is fcmp1

This is fcmp2

This is 3rd line

**D) Using n1 to give the line numbers to lines in fcmp1.**

[tybsc308@linserver tybsc308]$ nl fcmp1

1 This is fcmp1

2 This is fcmp2

3 This is unix practical

4 Practical on od

5 Practical no 5

**E) Using cat to append the fcmp1 to fcmp2 and sort this appended fcmp2 and store it in a file named funiq1**

[tybsc297@linserver tybsc297]$ cat fcmp1

**Hello**

**Hi**

**GoodMorning**

**GoodNight**

**Good Bye**

[tybsc297@linserver tybsc297]$ **cat fcmp2**

**Hello**

**Hi**

**GoodMorning**

**GoodNight**

**Good Bye**

**Hello**

**Hi**

**GoodMorning**

**GoodNight**

**Good Bye**

[tybsc297@linserver tybsc297]$

**cat fcmp1 fcmp2 |sort > funiq1**

**[tybsc297@linserver tybsc297]$ cat funiq1**

Good Bye

Good Bye

Good Bye

GoodMorning

GoodMorning

GoodMorning

GoodNight

GoodNight

GoodNight

Hello

Hello

Hello

Hi

Hi

Hi

**F) Using uniq**

**(i) To remove the duplicate lines in funiq1**

[tybsc297@linserver tybsc297]$ **uniq funiq1**

Good Bye

GoodMorning

GoodNight

Hello

Hi

**(ii) To count the duplications and prepend number to each line**

[tybsc297@linserver tybsc297]$ uniq -c funiq1

3 Good Bye

3 GoodMorning

3 GoodNight

3 Hello

3 Hi

**(iii) To display the duplicate lines only**

[tybsc297@linserver tybsc297]$ **uniq -d funiq1**

Good Bye

GoodMorning

GoodNight

Hello

Hi

**(iv) To display unique lines only**

[tybsc297@linserver tybsc297]$ uniq funiq1

Good Bye

GoodMorning

GoodNight

Hello

Hi

**4)Create a file name<roll\_no> with fields(first name, second name, last name, salary)separated by “:”. Insert at least five appropriate records in above file**

[tybsc308@linserver tybsc308]$ vi Shweta308

[tybsc308@linserver tybsc308]$ **cat Shweta308**

**Shweta:Naresh:Choudhary:20000**

**Anu:Chandu:Menon:30800**

**Nisha:Suresh:Choudhary:2500**

**Mildred:Felix:D'mello:40000**

**Dilip:Chandu:Mehra:60000**

**(i) Sort on first names only.**

[tybsc308@linserver tybsc308]$ **sort +1 -2 Shweta308**

Anu:Chandu:Menon:30800

Dilip:Chandu:Mehra:60000

Mildred:Felix:D'mello:40000

Nisha:Suresh:Choudhary:2500

Shweta:Naresh:Choudhary:20000

**(ii) Display only those records whose first names start with a vowel.**

[tybsc308@linserver tybsc308]$ **grep ^[AEIOU] Shweta308**

Anu:Chandu:Menon:30800

**(iii) Sort on last names only.**

[tybsc308@linserver tybsc308]$ **sort -t “:” +2 -3 Shweta308**

Shweta:Naresh:Choudhary:20000

Nisha:Suresh:Choudhary:2500

Mildred:Felix:D'mello:40000

Dilip:Chandu:Mehra:60000

Anu:Chandu:Menon:30800

**(iv) Display the names with salary above 10000 and add two more records and redirect the output to the file namednew<roll\_no>.**

[tybsc308@linserver tybsc308]$ grep '[1-9][0-9][0-9][0-9][0-9]' Shweta308

Shweta:Naresh:Choudhary:20000

Anu:Chandu:Menon:30800

Mildred:Felix:D'mello:40000

Dilip:Chandu:Mehra:60000

**5) Cut,paste,tr**

**Create two files with at least three fields(columns) each with the names fcut1, fcut2 and do the following:**

[tybsc308@linserver tybsc308]$ cat fcut1

Akshay Das 256

Allen Disuza 121

Hari Kutian 231

Mahesh Deshpande 234

Naresh Nair 431

[tybsc308@linserver tybsc308]$ cat fcut2

This is fcmp1

This is fcmp2

This is 3rd line

Goodbye

Practical no 5

**(i) Cut first two columns from fcut1 and store the contents in the file cutlist1 and cut the second and third columns from the fcut2 and store it in cutlist2.**

[tybsc308@linserver tybsc308]$ cut -c 1-2 fcut1 > cutlist1

[tybsc308@linserver tybsc308]$ cat cutlist1

Ak

Al

Ha

Ma

Na

[tybsc308@linserver tybsc308]$ cut -c 2-3 fcut2 > cutlist2

[tybsc308@linserver tybsc308]$ cat cutlist2

hi

hi

hi

oo

ra

**(ii) Paste the contents of cutlist2 to contents of cutlist1.**

[tybsc308@linserver tybsc308]$ paste cutlist2 cutlist1

[tybsc308@linserver tybsc308]$ cat cutlist1

Ak

Al

Ha

Ma

Na

hi

hi

hi

oo

ra

**Translate the first three lines into capital letters using tr command.**

[tybsc308@linserver tybsc308]$ head -3 fcut1 fcut2 |

tr '[a-z]' '[A-Z]'

==> FCUT1 <==

AKSHAY DAS 256

ALLEN DISUZA 121

HARI KUTIAN 231

==> FCUT2 <==

THIS IS FCMP1

THIS IS FCMP2

THIS IS 3RD LINE

**Practical No. 6**

**Grep, egrep, fgrep……**

A) Create the file with the name gre1 and the following contents:

This is a first line.

This is a second line.

Please type the third line.

Do you wish to continue?

Simply type the fourth line.

B) Create the file with the name gre2 and the following contents:

The grep is an acronym for ‘globally search a regular expression and print it’. The command searches the specified input globally for a match with the specified pattern and displays it. While forming the pattern to be searched we can use shell metacharacters, or regular expressions as professional unix users call them.

C)Do the following:

1. Search for the word ‘line’ and display the lines containing it.
2. Search for the word ‘the or ‘The’ in both the files gre1 and gre2 and display the lines containing it.
3. Search for 4 letter words in gre1 and gre2 whose first character is ‘r’ and last character is ‘r’ .
4. Display the lines, which end with the characters from s to z from gre1 and gre2.

D) Create a file empdata<seatno>, which contains following fields.

Fieldname Datatype Value

Employee last name character

Employee first name character

Employee code numeric Starts with letter ‘E’

Permanent address character

Department code character MKT, HRD, PUR

Grade character A-C

Years of experience numeric

Date of birth dd-mm-yy

Basic pay numeric

Insert at least *five* records in above file.

Character fields in each record may not be in the same case. '~' is used as a field separator. Give commands to

1. Display all employees who are not in department MKT. Display the output sorted on department code and grade.
2. Display all employees whose years of service are more than 5.
3. Store employee name and date of birth in a file bdata<seatno>.
4. Count total number of employees whose department code is HRD.

Write down the commands in the answer sheet, execute them and show them to the examiner.

E) Create a file student<seatno> with following fields

Field Name Datatype Values

Student code character

#### Student name character

Batch code character Q11 - Q15

No. of modules Numeric 1 - 5

Average marks Numeric

Fields 7are separated by ":" (colon). Insert at least *five* appropriate records and give the commands to

1. Display the details of student in order of their name ignoring case.
2. Display the details of student whose number of modules is

greater than 3.

1. Store the list of first 5 rank holders in merit<seatno> file.
2. Count number of students in Batch Q13.
3. Display the list of students with same names.

Write down the commands in the answer sheet, execute them and show them to the examiner.

**Practical No 6**

**Grep,egrep,fgrep:**

**A) Create the file with the name gre1 and the following contents:**

[tybsc308@linserver tybsc308]$ **cat gre1**

**This is a first line.**

**This is a second line.**

**Please type the third line.**

**Do you wish to continue?**

**Simply type the fourth line.**

**B)**  **Create the file with the name gre2 and the following contents:**

[tybsc308@linserver tybsc308]$ **cat gre2**

**The grep is an acronym for 'globally search a regular expression and print it'.**

**The command searches the specified input globally for a match with the specified pattern and displays it.While forming the pattern to be searched we can use shell metacharacters, or regular expressions as professional unix users call them.**

**C) Do the following:**

**1) Search the word ‘line’ and display the lines containing it.**

[tybsc308@linserver tybsc308]$ grep line gre1

This is a first line.

This is a second line.

Please type the third line.

Simply type the fourth line.

**2) Search the word ‘the or The’ in both the files gre1 and gre2 and**

**display the lines containing it.**

[tybsc308@linserver tybsc308]$ grep the gre1 gre2

gre1:Please type the third line.

gre1:Simplt type the fourth line.

gre2:The command searches the specified inpyt globally for a match with the specified p

attern and displays it.While forming the pattern to be searched we can use shell metach

aracters, or regular expressions as professional unix users call them.

[tybsc308@linserver tybsc308]$ grep The gre1 gre2

gre2:The grep is an acronym for 'globally search a regular expression and print it'.

gre2:The command searches the specified inpyt globally for a match with the specified p

attern and displays it.While forming the pattern to be searched we can use shell metach

aracters, or regular expressions as professional unix users call them.

**3) Search for 4 letters in gre1 and gre2 whose first character is ‘r’and last character is ‘r’**

[tybsc308@linserver tybsc308]$ grep r......r gre1 gre2

gre2:The command searches the specified inpyt globally for a match with the spec

ified pattern and displays it.While forming the pattern to be searched we can us

e shell metacharacters, or regular expressions as professional unix users call t

hem.

**4) Display the lines, which end with the characters from s to z from gre1 and gre2**

[tybsc308@linserver tybsc308]$ grep '[s-z]$' gre1 gre2

gre1:This is a first line from a to z

gre2:The grep is an acronym for globally search a regular expression and print it

**D) Create a file empdata<seatno>, which contains the following fields.**

[tybsc308@linserver tybsc308]$ cat empdata308

**Menon~Reena~E01~Mumbai~MKT~A~1~07-12-74~10000**

**Rao~Leena~E02~Madras~HRD~B~2~08-09-78~1000**

**Nair~Anu~E03~Dadar~PUR~A~6~10-12-85~50000**

**Shah~Meena~E04~Mahim~HRD~B~5~16-11-85~2500**

**Naik~Rupa~E05~Bandra~MKT~A~1~15-05-89~30800**

1. **Display all employees who are not in department MKT.Display the output sorted on department code and grade.**

[tybsc308@linserver tybsc308]$ grep -v MKT empdata308 | sort +5 -7

Nair~Anu~E03~Dadar~PUR~A~6~10-12-85~50000

Rao~Leena~E02~Madras~HRD~B~2~08-09-78~1000

Shah~Meena~E04~Mahim~HRD~B~5~16-11-85~2500

**(ii) Display the employees whose years of service are more than 5.**

[tybsc308@linserver tybsc308]$ grep '~[5-9\*]~' empdata308

Nair~Anu~E03~Dadar~PUR~A~6~10-12-85~50000

Shah~Meena~E04~Mahim~HRD~B~5~16-11-85~2500

**(iii) Display employee(s) who get higheast salary**

**(iv) Store employee name and date of birth in a file bdata<seatno>.**

[tybsc308@linserver tybsc308]$ **cut -f 1,2,8 -d"~" empdata308 > bdata308**

[tybsc308@linserver tybsc308]$ cat bdata308

Menon~Reena~07-12-74

Rao~Leena~08-09-78

Nair~Anu~10-12-85

Shah~Meena~16-11-85

Naik~Rupa~15-05-89

**(v) Count total number of employees whose department code is HRD.**

[tybsc308@linserver tybsc308]$ grep -c HRD empdata308

2

**E) Create a file student<saetno> with the following fields:**

[tybsc308@linserver tybsc308]$ cat Student308

S01:Shweta:Q11:5:500

S02:Megha:Q12:1:400

S03:Milu:Q13:3:200

S04:Anu:Q11:2:100

S05:Ankit:Q15:4:308

**(i) Display the details of student in order of their name ignoring case.**

[tybsc308@linserver tybsc308]$ sort -i -t":" +1 -2 Student308

S05:Ankit:Q15:4:308

S04:Anu:Q11:2:100

S02:Megha:Q12:1:400

S03:Milu:Q13:3:200

S01:Shweta:Q11:5:500

**(ii) Display the details of student whose number of modules is greater than 3.**

[tybsc308@linserver tybsc308]$ grep ':[4-5]:' Student308

S01:Shweta:Q11:5:500

S05:Ankit:Q15:4:308

**(iii) Store the list of first 5 rank holders in merit<saetno> file.**

[tybsc308@linserver tybsc308]$ **sort -t":" -r +4 Student308 | head -n 5 > merit2**

89

[tybsc308@linserver tybsc308]$ cat merit308

S01:Shweta:Q11:5:500

S02:Megha:Q12:1:400

S05:Ankit:Q15:4:308

S03:Milu:Q13:3:200

S06:Anu:Q12:2:100

**(iv) Count number of students in Batch Q13.**

[tybsc308@linserver tybsc308]$ grep -c Q13 Student308

1

**(v) Display the list of students with same names.**

[tybsc308@linserver tybsc308]$ grep Anu Student308

S04:Anu:Q11:2:100

S06:Anu:Q12:2:100

**Practical No. 7**

Advanced Shell Programming I

**Practical No 7**

# Q1)Advanced Shell Programming I

**1) To find the sum and product of integers.**

[tybsc308@linserver tybsc308]$ cat calc

a=30

b=20

expr $a + $b

expr $a \\* $b

echo

**Output**

[tybsc308@linserver tybsc308]$ bash calc

50

600

2) To read the basic salary and find the gross salary.

[tybsc308@linserver tybsc308]$ cat pract7.3

echo Enter your basic salary

read basic

echo da

da= expr \( $basic \\* 20 / 100 \)

echo hra

hra= expr \( $basic \\* 30 / 100 \)

echo Taxes

Taxes= expr \( $basic \\* 20 / 100 \)

echo Your gross salary is

expr $basic + \( $basic \\* 20 / 100 \) + \( $basic \\* 30 / 100 \) \($basic \\* 20 / 100 \)

## Output

[tybsc308@linserver tybsc308]$ bash pract7.3

Enter your basic salary

1000

da

200

hra

308

Taxes

200

Your gross salary is

1308

3) To check whether the file with he name entered exists or not.

[tybsc308@linserver tybsc308]$ vi fileexists

**echo enter filename**

**read filename**

**if [ -s $filename ]**

**then**

**echo file exists**

**else**

**echo does not exists**

**fi**

## Output

[tybsc308@linserver tybsc308]$ bash fileexits

enter filename

greenapple

file exists

4) To compare the two strings.

[tybsc308@linserver tybsc308]$ cat stringcompare

echo enter a string1:

**read string1**

**echo enter another string2:**

**read string2**

**if [ $string1 = $string2 ]**

**then**

**echo strings match**

**else**

**echo strings do not match**

**fi**

# Output

[tybsc308@linserver tybsc308]$ bash stringcompare

enter a string1:

Unix

enter another string2:

Unix

strings match

5) To check whether the file has a permission to write.

[tybsc308@linserver tybsc308]$ cat filepermission

**echo enter an existing file name**

**read filename**

**if [ -w $filename ]**

**then**

**echo yes, the file has a write permission**

**else**

**echo no write permission**

**fi**

**Output**

[tybsc308@linserver tybsc308]$ bash filepermission

enter an existing file name

greenapple

no write permission

6) To give grades using multiple if’s.

[tybsc308@linserver tybsc308]$ cat grades

**echo enter your marks**

**read marks**

**if [ $marks -ge 75 -a $marks -lt 100 ]**

**then**

**echo Your grade is A**

**elif [ $marks -ge 60 -a $marks -lt 75 ]**

**then**

**echo Your grade is B**

**elif [ $marks -ge 50 -a $marks -lt 60 ]**

**then**

**echo Your grade is C**

**elif [ $marks -ge 35 -a $marks -lt 50 ]**

**then**

**echo Your grade is Pass**

**elif [ $marks -gt 0 -a $marks -lt 35 ]**

**then**

**echo You have failed**

**elif [ $marks -gt 100 ]**

**then**

echo enter below 100

elif [ $marks -lt 0 ]

then

echo Invalid entry

fi

**Output**

[tybsc308@linserver tybsc308]$ bash grades

enter your marks

158

enter below 100

7)To check whether the number is +ve or –ve using if…elif.

**[tybsc308@linserver tybsc308]$ cat 10nos**

**echo enter a number**

**read a**

**if [ $a -lt 0 ]**

**then**

**echo $a is negative**

**elif [ $a -gt 0 ]**

**then**

**echo $a is positive**

**else**

**echo number is neither positive nor negative**

**fi**

## Output

[tybsc308@linserver tybsc308]$ bash 10nos

enter a number

55

55 is positive

**8) To print the day of week using case …in**

[tybsc308@linserver tybsc308]$ cat pract7.9

**echo enter a value for a day**

**read d**

**case $d in**

**1) echo "Monday"**

**;;**

**2) echo "Tuesday"**

**;;**

**3) echo "Wednesday"**

**;;**

**4) echo "Thursday"**

**;;**

**5) echo "Friday"**

**;;**

**6) echo "Saturday"**

**;;**

**7) echo "Sunday"**

**;;**

**\*) echo "Invalid Day Number"**

**esac**

# Output

[tybsc308@linserver tybsc308]$ bash pract7.9

enter a value for a day

6

Saturday

**Write a shell script,which acceptes a month number , and print corresponding month name.**

[tybsc308@linserver tybsc308]$ cat month1

echo enter month number

read n

case $n in

1)echo January

;;

2)echo February

;;

3)echo March

;;

4)echo April

;;

5)echo May

;;

6)echo June

;;

7)echo July

;;

8)echo August

;;

9)echo September

;;

10)echo October

;;

11)echo November

;;

12)echo December

;;

\*)

echo Invalid Month

;;

Esac

**Output**

[tybsc308@linserver tybsc308]$ bash month1

enter month number

1

January

**Practical No. 8**

EDITORS IN LINUX

**Part I**

**sed editor**

**Create a file with five records with the name fsed1 and do the following using sed command:**

[tybsc308@linserver tybsc308]$ cat fsed1

This is file fsed1

this is cat command.

hello.

hi.

tybsc.

**1) Display first three lines**

[tybsc308@linserver tybsc308]$ sed -n '1,3p' fsed1

This is file fsed1

this is cat command.

hello.

**2) Display the last line**

[tybsc308@linserver tybsc308]$ sed -n '$p' fsed1

tybsc.

**3) Display the third and fourth line**

[tybsc308@linserver tybsc308]$ sed -n '3,4p' fsed1

hello.

hi.

**4) Insert two more records and save the new file as newsed**

[tybsc308@linserver tybsc308]$ sed '2i\This is the 6th line\' fsed1 > newsed

[tybsc308@linserver tybsc308]$ cat newsed

This is file fsed1

This is the 6th line

this is cat command.

hello.

hi.

tybsc.

[tybsc308@linserver tybsc308]$ sed '3i\This is the 3th line\' fsed1 > newsed

[tybsc308@linserver tybsc308]$ cat newsed

This is file fsed1

this is cat command.

This is the 3th line

hello.

hi.

tybsc.

**5) Delete the last two records from the file newsed**

[tybsc308@linserver tybsc308]$ cat newsed

1

2

3

4

5

6

7

[tybsc308@linserver tybsc308]$ sed '$d' newsed | sed '$d'

1

2

3

4

5

Practical 8

**1) Link to the file :ln**

**A) Create two files with some contents with name ln1.**

[tybsc308@linserver tybsc308]$ vi ln1

[tybsc308@linserver tybsc308]$ cat ln1

This is file ln1

Practical no 10

**B) Copy ln1 to ln2.**

[tybsc308@linserver tybsc308]$ cp ln1 ln2

[tybsc308@linserver tybsc308]$ cat ln2

This is file ln1

Practical no 10

**C) Create a hard link to as “hardln1” and a soft link as “softln1” to ln1**

[tybsc308@linserver tybsc308]$ ln ln1 Hardln1

[tybsc308@linserver tybsc308]$ ln -s ln1 Softln1

[tybsc308@linserver tybsc308]$ ls

+1 emp fspab newsedclear pract8.1 **Softln1**

10000 empdata308 fspac pract pract8.11.2 ss1

ashwini fact gre1 pract7.1 pract8.12.3 ss2

bdata308 fcmp1 gre2 pract7.10 pract8.14 ss3

check fcmp1\_308 green pract7.11 pract8.3 Stud308

checkgrade fcmp2 **Hardln1** pract7.12 pract8.5 Student

date1 fod1 merit308 pract7.4 prime.out xab

dir1 foreg month pract7.5 product\_308 xac

dir2 fsed1 names pract7.6 result yellow

dir3 fsp308 newBC pract7.7 result1

doll fspaa newsed pract7.9 Shweta308

**D) Construct the command to find the file permissions and inode numbers of the above three files.**

[tybsc308@linserver tybsc308]$ ls -i Hardln1 Softln1

1137795 Hardln1 1137795 Softln1

**E) Remove file ln1.**

[tybsc308@linserver tybsc308]$ rm ln1

**F)Type the contents of “hardln1” and “softln1”.**

[tybsc308@linserver tybsc308]$ cat Hardln1

This is file ln1

Practical no 10

[tybsc308@linserver tybsc308]$ cat Softln1

This is file ln1

**G) What is your conclusion?**

Hard link ‘Hardln1’ shows the content as deleting the file ‘ln1’.

But Soft link ‘Softln1’ does not shows the content as original file is deleted.