Ex.No: 1 **BASIC UNIX COMMANDS**
Date :03.03.2021

Aim
To understand the basic commands used to work with Unix environment.

General Command Structure

Syntax:

Command [-options] arguments

Where,

Command	name of the command
Arguments	file name, user name or some other information that the program needs.
Options	which is a option for a program. So it is put inside square brackets.

BASIC COMMANDS

1. Command : **who**
   Purpose : It is used to get the information about all the users currently working in the system.
   Syntax : who
   Example **:** $ who

2. Command : **who am i**
   Purpose : It is used to know in which terminal the user is currently logged on.
   Syntax : who am i
   Example : $ who am I

3. Command : **date**
   Purpose : It is used to display the system date and time.
   Syntax : date
   Example : $ date

4. Command : **cal**
   Purpose : It prints the calender for the specified year and month.
   Syntax :cal<month><year>
   Example : $ cal 05 2003

5. Command : **id**
   Purpose : It is used to display the login name.
   Syntax : id
   Example : $ id

6. Command : **clear**
   Purpose : It is used to clear the screen.

Syntax : clear
Example : $ clear

7. Command : **uname**
   Purpose : It is used to display the details about the OS in which we are working.
   Syntax :uname [options]
   Example : $ uname –n

8. Command : **tty**
   Purpose : It is used to know the terminal name on which we work.
   Syntax :tty
   Example : $ tty

9. Command : **pwd**
   Purpose : It is used to display the absolute pathname of current working directory.
   Syntax :pwd
   Example : $ pwd

10. Command : **bc**
    Purpose : It is used to perform simple mathematical calculations.
    Syntax :bc filename

Example : $ bcpp

11. Command :**echo**
    Purpose : It echoes the argument on the standard output textce.
    Syntax : echo [options] <string>
    Example : $ echo 'BOOM'

12. Command : **man**
    Purpose : It gives details about the unix commands.
    Syntax :man < command name >
    Example : $ man echo

FILE MANIPULATION COMMANDS

1. Command **:cat**
   Purpose **:** It is used to create a new file
   Syntax **:** cat ><file name>
   Example **:** $ cat >
   This is sample File in Unix
   Ctrl – d

   To append the content of already existing file.
   Example : $ cat>>

   It is also used to display the contents of the fileas well as used to create a new file.

Syntax **:** cat <file name >
Example **:** $ cat
This is sample File in Unix

To display the contents of two or more files, specify the filenames with the cat commands separated by a space in between them.
Example:

$cat 1 2 3
1 file
2 file
3 file

2. Command : **ls**
Purpose : It is used to display the files in the current working directory.
Syntax : ls [options] <arguments>
Options

a - to list all diretory entries
d - to list name of directories
l - to list files in long form
r - to list file in the reverse order
t - to list the files sorted by time
lrt - list content of current directory. Output will be sorted based on modification date & time.

Example : $ ls –l

3. Command : **tail**
Purpose :It is used to Prints the last several lines of the specified files.
Syntax : tail [options] <file name>
Example :$ tail -5 text

4. Command : **head**
Purpose :It is used to display the top portion of the file where top portion represents the no'sof lines.
Syntax : head [options] <file name>
Example : $ head -5 text

5. Command :**cmp**
Purpose :Compare two files, and if they differ, tells the first byte and line number where they differ.
Syntax :cmp file1 file2
Example : $ cmp a1 a2

6. Command :**diff**
Purpose :The diff command analyses line by line and displays a list of changes between two files.
Syntax :diff file1 file2

Example :$ diff a1 a2

7. Command **: wc**
   Purpose **:** It is used to count the number of lines,words and characters in a file or group of files.
   Syntax :wc [options] <file name >
   Example **:** $ wc .txt
   2 15 95 .txt
   The options used with **wc** commands are listed.

Option	Description
-c	Count number of characters in the file
-w	Counts the number of words in the file
-l	Counts number of lines in the file

   Example:

   $ wc –c .txt
   95 .txt
   $ wc –w .txt
   15 .txt
   $ wc –l .txt
   2 .txt

8. Command **: sort**
   Purpose **:** Sorts the specified files. The command has many useful arguments..
   Syntax :sort [options] <file name >
   Option-r reverse
   Example **:** $ sort .txt

9. Command : **pr**
   Purpose : It is used to display the contents of the file by separating them into pages and each page begins with the header information.
   Syntax : pr [options] <file name >
   Example : $ pr

10. Command : **cut**
    Purpose : It is used to extract selected fields or columns from each line of one or more files and display them on the standard output textce.
    Syntax : cut [options] <file name >
    Example : $ cut –c5

11. Command **: paste**
    Purpose **:** It concatenates the line from each input file column by column with tab characters in between them.
    Syntax **:** paste [options] <file name >
    Example **:** $ paste f1 f2

12. Command **: join**
    Purpose **:** It is used to extracts common lines from two sorted files and there should be the common field in both file.
    Syntax **:** join [options] <file name1 ><file name 2>
    Example **:** $ join –a1 f1 f2

13. Command **:uniq**
    Purpose **:** It compares adjacent lines in the file and displays the output by eliminating duplicate adjacent lines in it.
    Syntax **:**uniq [options] <file name >
    Example **:**$ uniq -c text

14. Command **:nl**
    Purpose **:** It is used to add the line numbers to the file.
    Syntax **:**nl [options] [filename]
    Example **:** $ nl text

15. Command **: tr**
    Purpose **:** It is used to translate or delete a character or a string from the standard input to produce the required output.
    Syntax **:**tr [options] <string1><string2>
    Example : $ tr –s ‘a’ ‘b’ < text

16. Command **:tee**
    Purpose **:** It is used to read the contents from standardinput or from output of another command and reproduces the output to both in standardoutput and direct into output to one or more files.
    Syntax **:**command | tee [options] <file name >
    Example **:** $ date | tee dat.txt

17. Command **:grep**
    Purpose **:** It is used to search the specified pattern from one or more files.
    Syntax **:**grep [options] <pattern><file name >
    Example **:** $ grep welcometext

DIRECTORY MANUPULATION COMMANDS

1. Command **:**mkdir
   Purpose **:** It is used to create new directory or more than one directory.
   Syntax **:**mkdir<directory name >
   Example **:**$ mkdirsudhan

2. Command **:**cd
   Purpose **:** It is used to change the control from oneworking directory to another specified directory.

Syntax :cd <directory name >
Example : $ cd sudhan

3. Command :rmdir
   Purpose : It is used to remove the directory if it is empty.
   Syntax :rmdir<directory name >
   Example : $ rmdirsudhan

   You can use the –r(recursive) option with the rmdir command so that it deletes the directory even when it is not empty.
   For example, $rmdir –r haran

4. Command :cp
   Purpose : It is used to copy one or more files.
   Syntax :cp<source file name ><destination file name>
   Example : $ cptexttext1

5. Command : more
   Purpose : It is used to control the information on the screen from a line to a screen full.
   Syntax : more options <file name >
   Example :$ more

   This command displays one screen full of information from the file. To display the next screen press enter key or space bar. To quit press Q.

6. Command :passwd
   Example : passwd user
   Changes the current user's password, or that of the specified user (requires root privileges). The command prompts for the new password.

7. Command : mv
   Purpose : It is used to move a file within a directory with different names and also used to move a file to different directory with its original name.
   Syntax :mv<source file name ><destination directory name>
   Example : $ mv texttext2

8. chmod command

You set the access modes of a directory or file by using the chmod command, which has the following pattern:

chmod
nnn directory-or-file

The argument *nnn* is a three-digit number, which gives the access mode for the owner, group, and other users.

For example, the argument 751 is equivalent to rwxr-x--x, which gives the owner every possible permission, gives the group read and execute permission, and gives other users execute permission.

9. Command **:** write
   Purpose **:** the write command can be used by any user to write something on someone else's terminal, provided the recipient of the message permits communication
   Syntax **:** write <user name>
   Example **:** $ write user2
   This is sample message.
   Ctrl d

   On executing this command the message would be relayed to the user whose login name is user2. He would hear a beep on his terminal, followed by the message.
   There are two prerequisites for a smooth write operation:
   1. The recipient must be logged in; else an error message is inevitable.
   2. The recipient must have given permission for messages to reach his or her terminal.

10. wall command

Prints a message to each user except those who've disabled message reception.Type **Ctrl-D** to end the message.

11. Command **:** news
Purpose **:** The system administrator is the sole person whocan make news under the Unix OS. He types the information which he wants everyone on the network to know of in different files in /usr/news directory.

Syntax **:** 1) $news filename
2) $news [-options]

Options : **:** 1) -n option only lists the names of the news items from the /usr/news directory that have not yet been read by you.
2) –s option which provides a count of the unread new items in the /usr/news directory.
3) –a shows all the news.

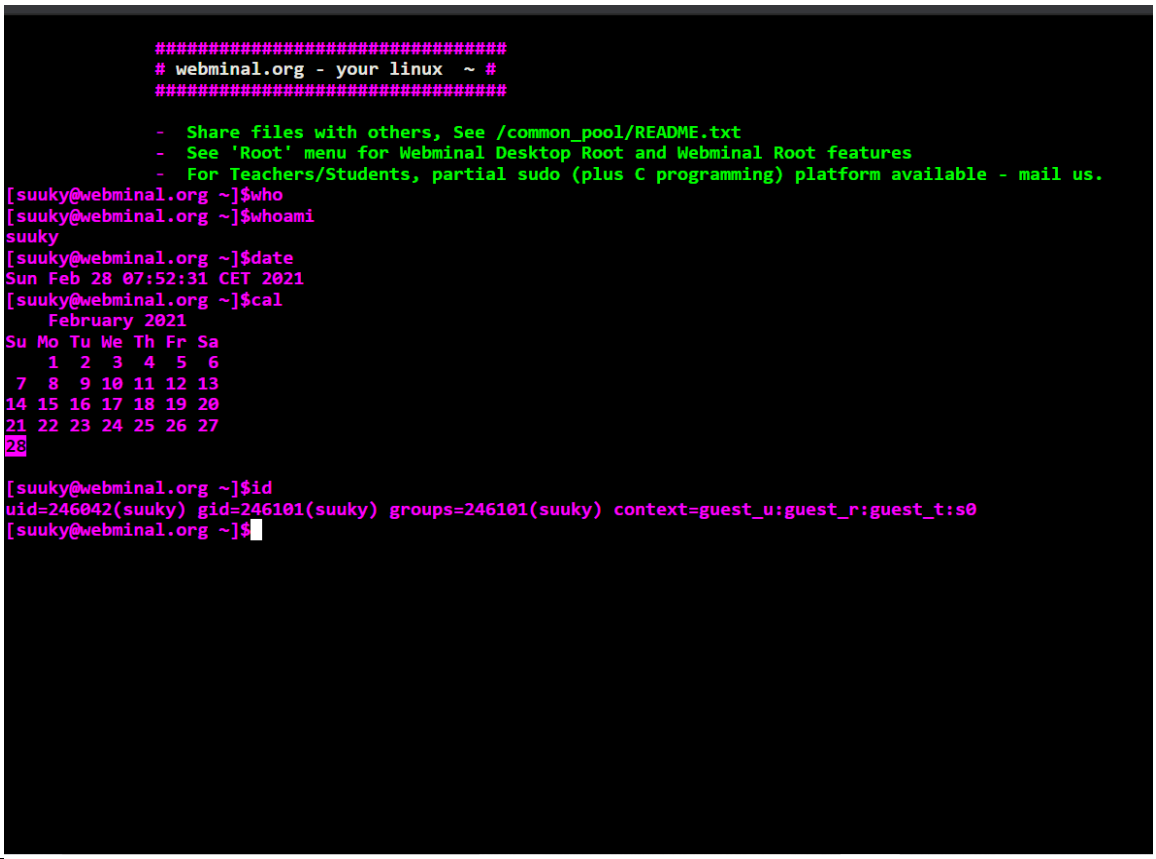
Example 1 **:** $ news sample

Where sample is the file name in which the news items are available.

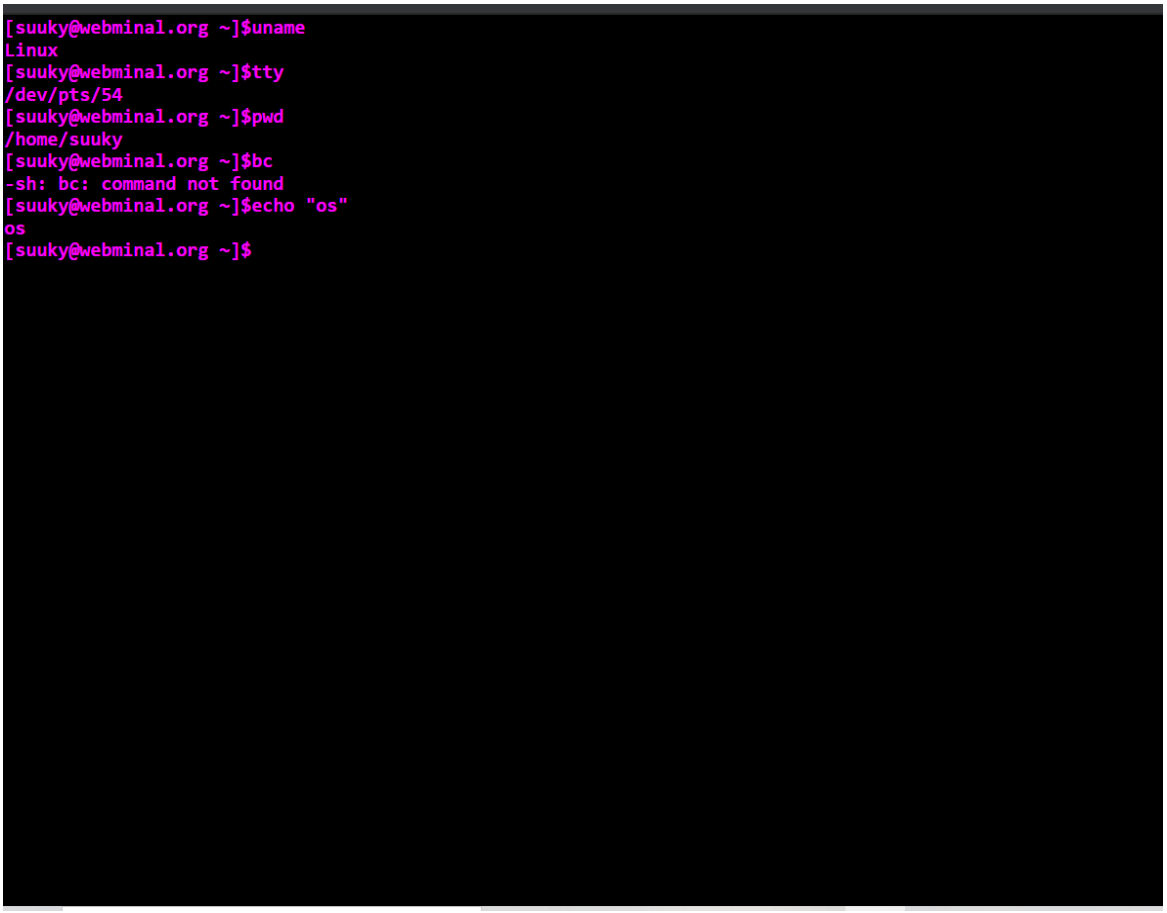
Example 2 : $news –s

It provides the count of the unread new items.

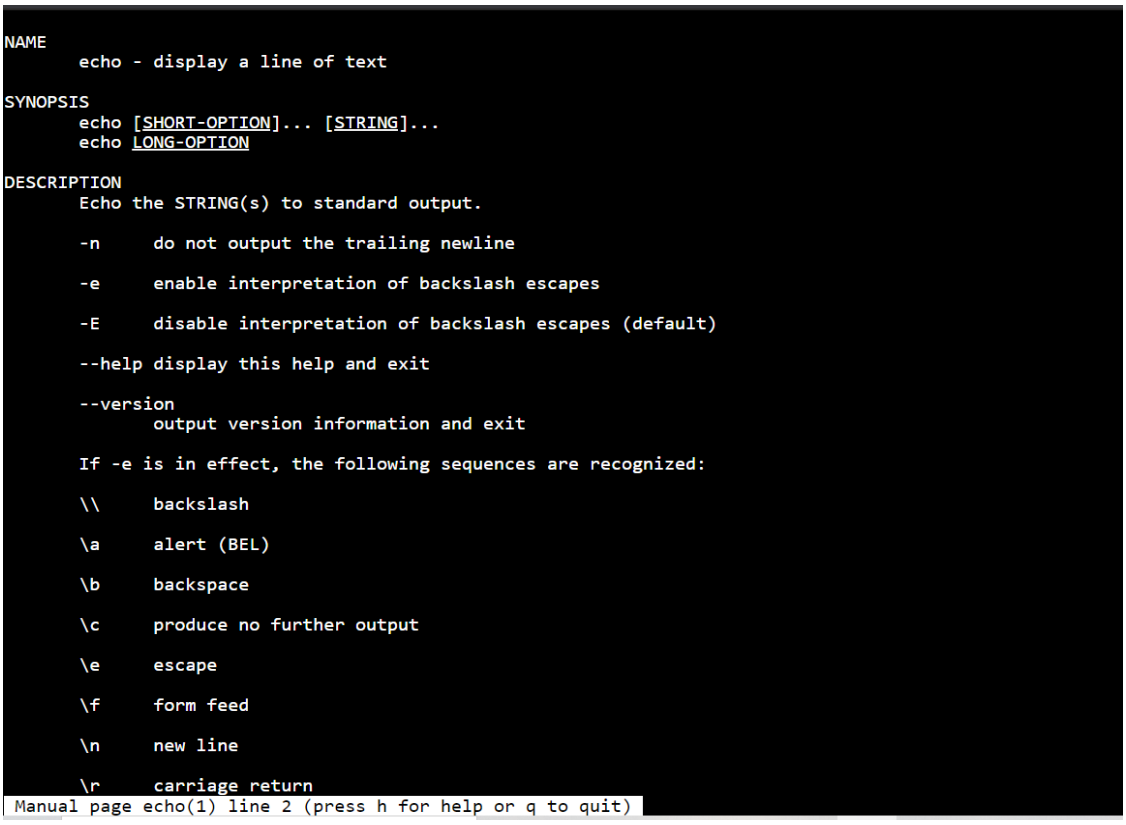
Output:



M.SUUKY
19CSE029



M.SUUKY
19CSE029



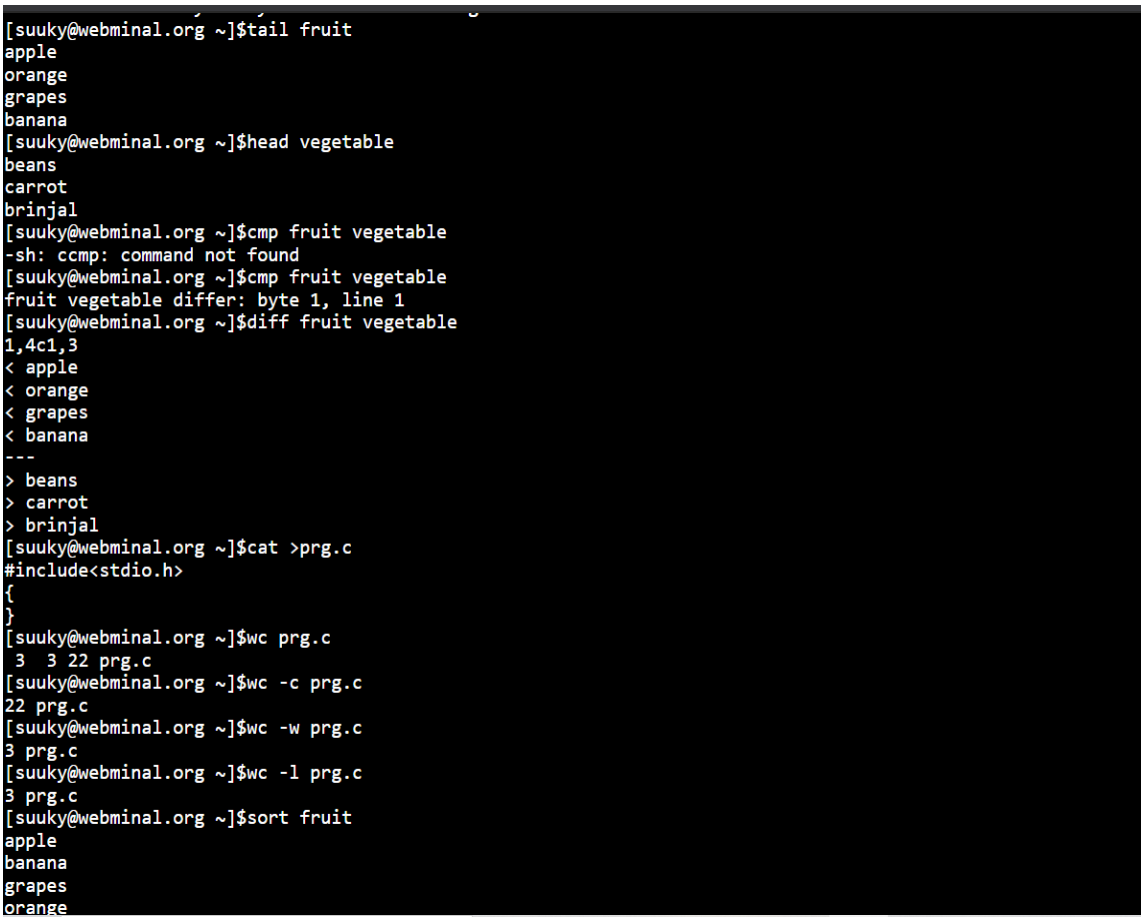
M.SUUKY
19CSE029

```
[suuky@webminal.org ~]$uname
Linux
[suuky@webminal.org ~]$tty
/dev/pts/54
[suuky@webminal.org ~]$pwd
/home/suuky
[suuky@webminal.org ~]$bc
-sh: bc: command not found
[suuky@webminal.org ~]$echo "os"
os
[suuky@webminal.org ~]$man echo
[suuky@webminal.org ~]$cat >fruit
apple
orange
grapes
[suuky@webminal.org ~]$cat >>fruit
banana
[suuky@webminal.org ~]$cat fruit
apple
orange
grapes
banana
[suuky@webminal.org ~]$ls
animal  fruit  name  subject
[suuky@webminal.org ~]$cat >vegetable
beans
carrot
brinjal
[suuky@webminal.org ~]$cat vegetable
beans
carrot
brinjal
[suuky@webminal.org ~]$cat fruit vegetable
apple
orange
grapes
banana
beans
carrot
brinjal
```

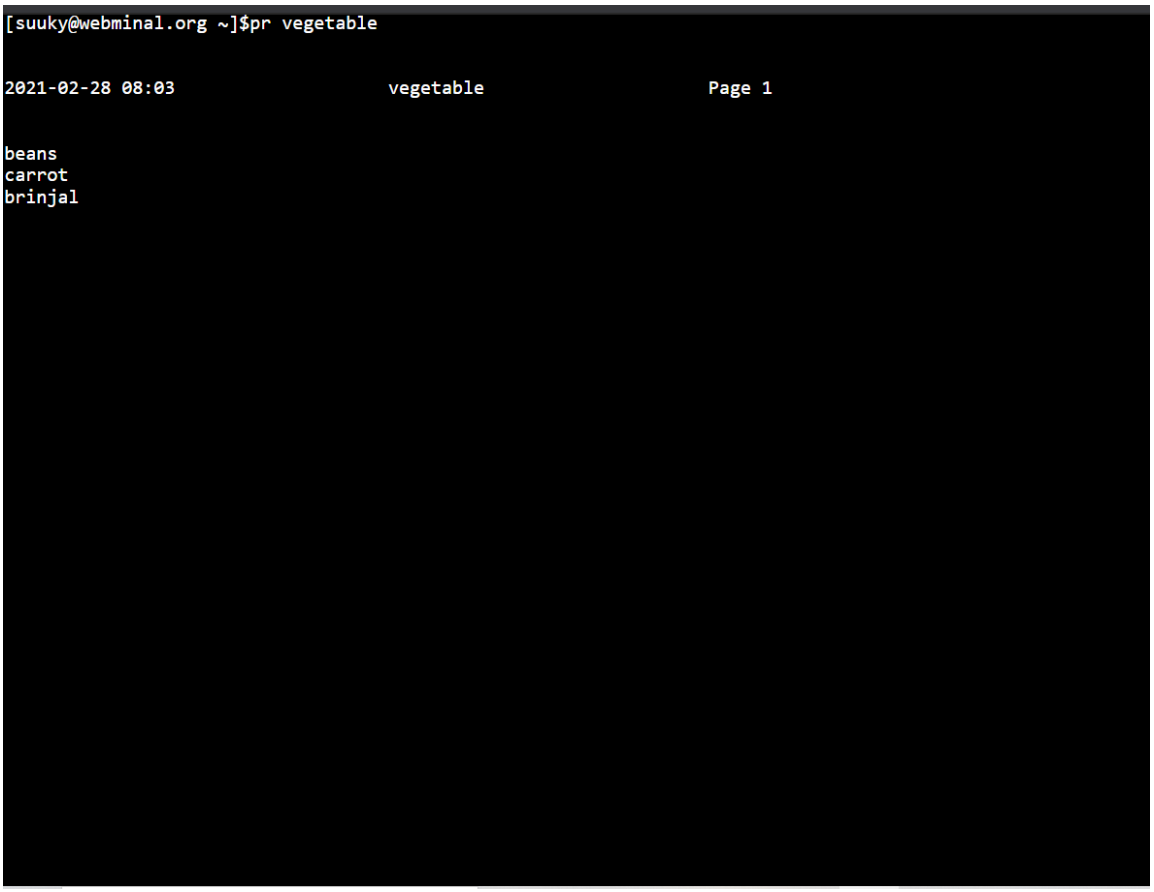
M.SUUKY
19CSE029

```
brinjal
[suuky@webminal.org ~]$ls
animal  fruit  name  subject  vegetable
[suuky@webminal.org ~]$ls -a
.   animal         .bash_logout   .bashrc  fruit              name     vegetable
..  .bash_history  .bash_profile  .emacs   .magic_string.txt  subject  .zshrc
[suuky@webminal.org ~]$ls -d
.
[suuky@webminal.org ~]$ls -l
total 20
-rw-rw-r--. 1 suuky suuky 29 Feb 28 07:06 animal
-rw-rw-r--. 1 suuky suuky 27 Feb 28 08:00 fruit
-rw-rw-r--. 1 suuky suuky 28 Feb 28 07:00 name
-rw-rw-r--. 1 suuky suuky 27 Feb 28 06:20 subject
-rw-rw-r--. 1 suuky suuky 21 Feb 28 08:03 vegetable
[suuky@webminal.org ~]$ls -r
-sh: g: command not found
[suuky@webminal.org ~]$ls -r
vegetable  subject  name  fruit  animal
[suuky@webminal.org ~]$ls -t
vegetable  fruit  animal  name  subject
[suuky@webminal.org ~]$ls -lrt
total 20
-rw-rw-r--. 1 suuky suuky 27 Feb 28 06:20 subject
-rw-rw-r--. 1 suuky suuky 28 Feb 28 07:00 name
-rw-rw-r--. 1 suuky suuky 29 Feb 28 07:06 animal
-rw-rw-r--. 1 suuky suuky 27 Feb 28 08:00 fruit
-rw-rw-r--. 1 suuky suuky 21 Feb 28 08:03 vegetable
[suuky@webminal.org ~]$tail fruit
apple
orange
grapes
banana
[suuky@webminal.org ~]$head vegetable
beans
carrot
brinjal
[suuky@webminal.org ~]$cmp fruit vegetable
-sh: ccmp: command not found
[suuky@webminal.org ~]$
```

M.SUUKY
19CSE029



M.SUUKY
19CSE029



M.SUUKY
19CSE029

```
[suuky@webminal.org ~]$cut -c2 fruit
p
r
r
a
[suuky@webminal.org ~]$paste fruit vegetable
apple   beans
orange  carrot
grapes  brinjal
banana
[suuky@webminal.org ~]$join -a1 fruit vegetable
apple
join: vegetable:3: is not sorted: brinjal
orange
join: fruit:3: is not sorted: grapes
grapes
banana
[suuky@webminal.org ~]$uniq -c vegetable
      1 beans
      1 carrot
      1 brinjal
[suuky@webminal.org ~]$nl fruit
     1  apple
     2  orange
     3  grapes
     4  banana
[suuky@webminal.org ~]$tr -s 's' 'u'
sort
uort
[suuky@webminal.org ~]$date |tee fruit
Sun Feb 28 08:38:08 CET 2021
[suuky@webminal.org ~]$grep apple fruit
[suuky@webminal.org ~]$
```

M.SUUKY
19CSE029

```
uort
[suuky@webminal.org ~]$date |tee fruit
Sun Feb 28 08:38:08 CET 2021
[suuky@webminal.org ~]$grep apple fruit
[suuky@webminal.org ~]$mkdir dir1
[suuky@webminal.org ~]$cd dir1
[suuky@webminal.org dir1]$rmdir dir1
rmdir: failed to remove ‘dir1’: No such file or directory
[suuky@webminal.org dir1]$mkdir dir2
[suuky@webminal.org dir1]$cat >fruit
morishes
mango
[suuky@webminal.org dir1]$cat >vegetable
tomato
pumpkin
[suuky@webminal.org dir1]$cp fruit vegetable
[suuky@webminal.org dir1]$cpfruitvegetable
-sh: cpfruitvegetable: command not found
[suuky@webminal.org dir1]$more
Usage: more [options] file...

Options:
  -d        display help instead of ring bell
  -f        count logical, rather than screen lines
  -l        suppress pause after form feed
  -p        do not scroll, clean screen and display text
  -c        do not scroll, display text and clean line ends
  -u        suppress underlining
  -s        squeeze multiple blank lines into one
  -NUM      specify the number of lines per screenful
  +NUM      display file beginning from line number NUM
  +/STRING  display file beginning from search string match
  -V        output version information and exit
[suuky@webminal.org dir1]$passwd user
-sh: /bin/passwd: Permission denied
[suuky@webminal.org dir1]$mv fruit vegetable
[suuky@webminal.org dir1]$chmod
chmod: missing operand
Try 'chmod --help' for more information.
[suuky@webminal.org dir1]$
```

```
Options:
  -d        display help instead of ring bell
  -f        count logical, rather than screen lines
  -l        suppress pause after form feed
  -p        do not scroll, clean screen and display text
  -c        do not scroll, display text and clean line ends
  -u        suppress underlining
  -s        squeeze multiple blank lines into one
  -NUM      specify the number of lines per screenful
  +NUM      display file beginning from line number NUM
  +/STRING  display file beginning from search string match
  -V        output version information and exit
[suuky@webminal.org dir1]$passwd user
-sh: /bin/passwd: Permission denied
[suuky@webminal.org dir1]$mv fruit vegetable
[suuky@webminal.org dir1]$chmod
chmod: missing operand
Try 'chmod --help' for more information.
[suuky@webminal.org dir1]$chmod 754 dir1
chmod: cannot access ‘dir1’: No such file or directory
[suuky@webminal.org dir1]$mkdir dir2
mkdir: cannot create directory ‘dir2’: File exists
[suuky@webminal.org dir1]$mkdir dir3
[suuky@webminal.org dir1]$hmod 754 dir3
[suuky@webminal.org dir1]$write suuky
write: suuky is not logged in
[suuky@webminal.org dir1]$wall
oops
[suuky@webminal.org dir1]$news ss
-sh: news: command not found
[suuky@webminal.org dir1]$news -n
-sh: news: command not found
[suuky@webminal.org dir1]$news -n ss
-sh: news: command not found
[suuky@webminal.org dir1]$news -s
-sh: news: command not found
[suuky@webminal.org dir1]$news -a
-sh: news: command not found
[suuky@webminal.org dir1]$
```

Observation(20)	
Record(5)	
Total(25)	
Initial	

Result:

Thus the basic unix commands were executed and outputs were noted.

M.SUUKY
19CSE029

.

M.SUUKY
19CSE029