SCHOOL OF COMPUTING

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

SUMMAER SEMESTER 2023-24

LAB TASK

Programme	**:**	**B. Tech (CSE)**
Category	**:**	**Program Core**
Course Code / Course Name	**:**	**10211CS304/Operating Systems Laboratory**
Year / Semester	**:**	**2023-24 / Summer**
Faculty Name	**:**	**Dr.S.Amutha Asso.Prof/CSE**
Slot	**:**	**L3 & L4**

D. Course Outcomes:

Upon the successful completion of the course, learners will be able to

CO Nos.	Course Outcomes	Level of learning domain (Based on revised Bloom's)
CO1	Develop Shell scripts& system calls	K3
CO2	Apply the process management techniques and scheduling algorithms for the given problem.	K3
CO3	Make use of Banker s algorithm to detect and avoid dead lock.	K3
CO4	Implement various memory management strategies and page replacement algorithm.	K3
CO5	Implement the various disk scheduling algorithms	K3
Knowledge Level (Based on revised Bloom's Taxonomy) K1-Remember K2-Understand K3-Apply K4-Analyze K5-Evaluate K6-Create		

BASIC COMMANDS IN UNIX

OBJECTIVE :

To study and execute the commands in Unix.

COMMANDS:

1. Date Command :

This command is used to display the current data and time.

Syntax :

$date

$date +%ch

Options : -

a = Abbrevated weekday.A = Full weekday.
b = Abbrevated month.B = Full month.
c = Current day and time.
C = Display the century as a decimal number.d = Day of the month.
D = Day in „mm/dd/yy‟ formath = Abbrevated month day.
H = Display the hour.L = Day of the year.
m = Month of the year.M = Minute.
P = Display AM or PMS = Seconds
T = HH:MM:SS formatu = Week of the year.
y = Display the year in 2 digit.Y = Display the full year.
Z = Time zone .To change the format :

Syntax :

$date +%H-%M-%S

2. Calender Command :

This command is used to display the calendar of the year or the particular month ofcalendar year.

Syntax :

$cal <year>

$cal <month> <year>

Here the first syntax gives the entire calendar for given year & the second Syntax givesthe calendar of reserved month of that year.

3. Echo Command :

This command is used to print the arguments on the screen .

Syntax :$echo <text>

Multi line echo command :

To have the output in the same line , the following commands can be used.

Syntax :$echo <text\>text

To have the output in different line, the following command can be used.

Syntax :$echo “text>line2>line3"

4. Banner Command :

It is used to display the arguments in „#‟ symbol .

Syntax : $banner <arguments>

5. 'who' Command :

It is used to display who are the users connected to our computer currently.

Syntax :$who – option ‟s

Options : -

H–Display the output with headers.
b–Display the last booting date or time or when the system was lastely rebooted.

6. 'who am i' Command :

Display the details of the current working directory.
Syntax :$who am i

7. 'tty' Command :

It will display the terminal name.
Syntax :$tty

8. 'Binary' Calculator Command :

It will change the „$" mode and in the new mode, arithematic operations such as +,-,*, /, %, n, sqrt(),length(),=, etc can be performed . This command is used to go to the binarycalculus mode.

Syntax :
$bc operations
^d
$
Base :
1 base –inputbase
0 base – outputbase are used for base conversions.

Decimal = 1 Binary= 2 Octal= 8 Hexa= 16

9. 'CLEAR' Command :

It is used to clear the screen.
Syntax :$clear

10. 'MAN' Command :

It help us to know about the particular command and its options & working.

It is like "help" command in windows .
Syntax :
$man <command name>

11. MANIPULATION Command :

It is used to manipulate the screen. **Syntax :**$tput <argument>

Arguments :
1. Clear – to clear the screen.
2. Longname – Display the complete name of the terminal.
3. SMSO – background become white and foreground become black color.
4. rmso – background become black and foreground becomes white color.
5. Cop R C – Move to the cursor position to the specified location.
6. Cols – Display the number of columns in our terminals.

12. LIST Command :

It is used to list all the contents in the current working directory.
Syntax :$ ls – options <arguments>

If the command does not contain any argument means it is working in theCurrent directory.
Options :
a– used to list all the files including the hidden files.c– list all the files column wise.
d- list all the directories.

m- list the files separated by commas.
p- list files include „/‟ to all the directories.r- list the files in reverse alphabetical order.
f- list the files based on the list modification date.x-list in column wise sorted order.

DIRECTORY RELATED COMMANDS :

1. **Present Working Directory Command :**
   To print the complete path of the current working directory.
   Syntax : $pwd

2. **MKDIR Command :**
   To create or make a new directory in a current directory .
   Syntax : $mkdir <directory name>

3. **CD Command :**
   To change or move the directory to the mentioned directory .
   Syntax :$cd <directory name.

4. **RMDIR Command :**
   To remove a directory in the current directory & not the current directory itself.
   Syntax :$rmdir <directory name>

FILE RELATED COMMANDS :

1. **CREATE A FILE :**
   To create a new file in the current directory we use CAT command.
   Syntax :
   $cat > <filename.
   The > symbol is redirectory we use cat command.

2. **DISPLAY A FILE :**
   To display the content of file mentioned we use CAT command without „>‟ operator.
   Syntax :
   $cat <filename.
   Options –s = to neglect the warning /error message.

3. **COPYING CONTENTS :**
   To copy the content of one file with another. If file does not exist, a new file is createdand if the file exists with some data then it is overwritten.
   Syntax :
   $ cat <filename source> >> <destination filename>
   $ cat <source filename> >> <destination filename>it is avoid overwriting.
   Options : -
   -n content of file with numbers included with blank lines.

   Syntax :
   $cat –n <filename>

4. **SORTING A FILE :**
   To sort the contents in alphabetical order in reverse order.
   Syntax :
   $sort <filename >

Option :$ sort –r <filename>

5. COPYING CONTENTS FROM ONE FILE TO ANOTHER :

To copy the contents from source to destination file . so that both contents are same.

Syntax :

$cp <source filename> <destination filename>

$cp <source filename path > <destination filename path>

6. MOVE Command :

To completely move the contents from source file to destination file and to remove thesource file.

Syntax :

$ mv <source filename> <destination filename>

7. REMOVE Command :

To permanently remove the file we use this command .

Syntax :

$rm <filename>

8. WORD Command :

To list the content count of no of lines , words, characters .

Syntax : $wc<filename>

Options :

-c – to display no of characters.

-l – to display only the lines.

-w – to display the no of words.

9. LINE PRINTER :

To print the line through the printer, we use lp command.

Syntax :

$lp <filename>

10. PAGE Command :

This command is used to display the contents of the file page wise & next page can beviewed by pressing the enter key.

Syntax :

$pg <filename>

11. FILTERS AND PIPES

HEAD : It is used to display the top ten lines of file.

Syntax:$head<filename>

TAIL : This command is used to display the last ten lines of file.

Syntax:$tail<filename>

PAGE : This command shows the page by page a screen full of information is displayed afterwhich the page command displays a prompt and passes for the user to strike the enter key tocontinue scrolling.

Syntax:$ls –a\p

MORE : It also displays the file page by page .To continue scrolling with more command ,press the space bar key.

Syntax:$more<filename>

GREP : This command is used to search and print the specified patterns from the file.
Sy**ntax:**$grep [option] pattern <filename>

SORT : This command is used to sort the datas in some order.
Syntax:$sort<filename>

PIPE : It is a mechanism by which the output of one command can be channeled into the inputof another command.
Syntax: $who | wc-l

TR : The tr filter is used to translate one set of characters from the standard inputs to another.
Syntax: $tr "[a-z]" "[A-Z]"

COMMUNICATION THROUGH UNIX COMMANDSMESG

Description: The message command is used to give permission to other users to sendmessage to your terminal.
Syntax: $mesg y

2. Command: **WRITE**
Description: This command is used to communicate with other users, who are logged in atthe same time.
Syntax: $write <user name>

3. Command: **WALL**
Description: This command sends message to all users those who are logged in using theunix server.

Syntax: $wall <message>

4. Command: **MAIL**
Description: It refers to textual information, that can be transferred from one user toanother
Syntax: $mail <user name>

5. Command: **REPLY**
Description: It is used to send reply to specified user.Syntax: $reply<user name>

VI EDITOR COMMANDS

The Vi editor is invoked by giving the following commands in UNIX prompt.

Syntax : $vi <filename> (or)
$vi
press i -insert mode - Inserts text before current cursor location

Three modes of operation in vi

1. Command Mode
2. Insert Mode
3. Escape Mode

SAVING AND QUITING FROM vi :-

1.<ESC> w Command :
To save the given text present in the file.
Syntax : <ESC> : w

2. <ESC> q! Command :

To quit the given text without saving.

Syntax : <ESC> :q!

3. <ESC> wq Command :

This command quits the vi editor after saving the text in the mentioned file.

Syntax : <ESC> :wq

4. <ESC> x Command :

This command is same as "wq‟ command it saves and quit.

Syntax : <ESC> :x

5. <ESC> q Command :

This command would quit the window but it would ask for again to save the file.

Syntax : <ESC> : q