

Vidyavardhini's College of Engineering and Technology Department of Artificial Intelligence & Data Science

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Roll No:	62
Class/Sem:	SE/IV
Experiment No.:	1
Title:	Implement file management and I/O management techniques.
Date of Performance:	
Date of Submission:	
Marks:	
Sign of Faculty:	



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Experiment No.:1

Aim: Explore the internal commands of Linux.

Objective:

Execute various internal commands of linux

Theory:

ps - report a snapshot of the current processes. ps displays information about a selection of the active processes.

cal — displays a calendar and the date of Easter

date - print or set the system date and time, Display the current time in the given FORMAT, or set the system date.

rm - remove files or directories

mkdir - make directories , Create the DIRECTORY(ies), if they do not already exist.rmdir - remove empty directories

cat - concatenate files and print on the standard output

wc - print newline, word, and byte counts for each file, Print newline, word, and byte counts for each FILE, and a total line if more than one FILE is specified.

ls - list directory contents

ls [OPTION]... [FILE]...



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List information about the FILEs (the current directory by default). Sort entries alphabetically.

-l:use a long listing format

chmod - change file mode bits

chmod changes the file mode bits of each given file according to mode, which can be either a symbolic representation of changes to make, or an octal number representing the bit pattern for the new mode bits.

chown - change file owner and group

chown changes the user and/or group ownership of each given file. If only an owner (a user name or numeric user ID) is given, that user is made the owner of each given file, and the files' group is not changed. If the owner is followed by a colon and a group name (or numeric group ID), with no spaces between them, the group ownership of the files is changed as well.

pwd - print name of current/working directory.

Print the full filename of the current working directory.

umask - set file mode creation mask, umask() sets the calling process's file mode creation mask (umask) to mask & 0777 (i.e., only the file permission bits of mask are used), and returns the previous value of the mask.

OUTPUT:

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buntumubuntu-HP-Elite-Tower-600-69-Desktop-PC: $ pwd
buntu@ubuntu-HP-Elite-Tower-600-G9-Desktop-PC: 5 is
buntu@ubuntu-HP-Eltte-Tower-600-G9-Desktop-PC: $ ls -1
               ubuntu ubuntu 4096 Mar
                                                   2023
drwxr-xr-x 2 ubuntu ubuntu 4096 Mar
                                                   2023
 rwxr-xr-x 2 ubuntu ubuntu 4096 Mar 8
rwxr-xr-x 2 ubuntu ubuntu 4096 Mar 8
rwxr-xr-x 3 ubuntu ubuntu 4096 Sep 25
                                                   2023
                                                   2823
  wxr-xr-x 2 ubuntu ubuntu 4096 Har
      ---- 4 ubuntu ubuntu 4096 Mar 28
drwxr-xr-x 2 ubuntu ubuntu 4096 Mar
drwxr-xr-x 2 ubuntu ubuntu 4096 Mar
                                                   2823
buntugubuntu-HP-Elite-Tower-600-G9-Desktop-PC:-$ 1s -a
    .bash_history .bashrc
                                                                                      .profile
                                                                                                          .sudo_as_admin_succes
    .bash_logout
 buntugubuntu-HP-Elite-Tower-500-G9-Desktop-PC: $ date
Wednesday 10 January 2024 02:49:21 PM IST
Jbuntu@ubuntu-HP-Elite-Tower-600-G9-Desktop-PC: $ time
real
         8m8.886s
         8m8.888s
ubuntumubuntu-HP-Ellte-Tower-600-09-Desktop-PC: $ cal
Command 'cal' not found, but can be installed with:
udo apt install ncal
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a ubuntumubunta-MP-Elite-Tower-855-G7-Decktop-PC: $ touch abc uhuntumubunta-MP-Elite-Tower-855-G9-Decktop-PC: $ is
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 TRIAL.txthitxt: command not found ubentumubants.HP Elice Tower 600 GP Decktop PC: $ TRIAL$ cat hello.txt hi.txt
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2097148 8 2097148
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 ubuntugubunta-HP-Ellte-Tower-600-69-Deaktop-PC: $ cd TRIAL
ubootugubunta-HP-Ellte-Tower-600-69-Deaktop-PC:-/mcNL$ cat hrllo.txt ht.txt
cat: hllo-kxt: No such file or directory
cat: hl.txt: No such file or directory
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ubuntupubuntu-HP-Ellte-Tower-600-G9-Desktop-PC: y cd TRIAL
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ubuntupubuntu-HP-Ellte-Tower-600-G9-Desktop-PC: / MIALS lough hello-ixt
ubuntugubunts-HP-Eite-Tower-800-09-Desktop-PC: MINA $ touc hi.txt

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convand 'touch' from deb cornutils (8.32-4.1ubuntul)

Try: sudo apt install edeb names
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ubuntugubunts-HP-Eite-Tower-800-09-Desktop-PC: MINA $ cat>>helio.txt hi.txt
ubuntugubunts-HP-Eite-Tower-800-09-Desktop-PC: MINA $ cat>>helio.txt hi.txt
ubuntugubunts-HP-Eite-Tower-800-09-Desktop-PC: MINA $ cat>>helio.txt hi.txt
ubunt@ubunt:-HP-Elite-Tower-655-GF-Decktop-PC: S mkdlr
mkdfr: missing operand
Try 'rkdir --help' for more information.
obunt@ubunt:-HP-Elite-Tower-600-GP-bestop-PC: S mkdlr doc
obunt@ubunt:-HP-Elite-Tower-600-GP-bestop-PC: S cd TRIAL
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Where are you?
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Conclusion:

What Do you mean by System calls?

System calls are fundamental interfaces between a user application and the operating system. When a program running in user mode requires access to system resources or services that only the operating system can provide, it must make a system call. This allows the program to transition from user mode tokernel mode, where the operating system resides, and request the necessary action.

System calls provide a standardized way for applications to interact with the underlying hardware and operating system functionalities. Examples of operations that typically require system calls include readingfrom or writing to files, creating new processes, allocating memory, managing hardware devices, and performing network communication.

Each operating system has its own set of system calls, and they are usually exposed to user programs through a set of functions provided by the operating system's application programming interface (API). Insummary, system calls are crucial for enabling user applications to utilize the full capabilities of the underlying operating system and hardwar