Study Guide

date

Description

displays the date

Syntax

date

Examples

date

uname

Description

prints system information

Syntax

uname (option)

Examples

uname Display all information uname -a Display Kernal version uname -r

du

Description

Show disk usage of a set of files or directories

Syntax

du (option) (file)

Examples

Write counts for all files du -a Show the total du -c Print in human readable formant du -h

free

Description

Display amount of free and used memory in the system

Syntax

Free (option)

Examples

Display in bytes free -b display in gigabytes free -g

echo

Description

displays a line of text

Syntax

echo (option) (string)

Examples

Standard output echo Hello

apt

Description

used for installing updating, and removing software

Syntax

apt (option)

Examples

command to update ubuntu sudo apt update; sudo apt upgrade -y

pwd

Description

sudo apt update; sudo apt upgrade -y

Syntax

pwd (option)

Examples

Current directory Pwd

cd

Description

changing the current working directory

Syntax

cd (destination)

Examples

change to home directory cd previous directory cd - Change to downloads directory from anywhere cd ~/Downloads

ls

Description

listing the content of a given directory or file

Syntax

ls (options)

Examples

Show present working directory ls list all files inside the working directory ls -a List all the files inside a given directory ls -a ~/Pictures

tree

Description

list contents of directories in a tree-like format

Syntax

tree (options)

Examples

list directories only tree -d Print the full path prefix for each file tree -f

man

Description

Manual shows documentation that describe the commands

Syntax

man (command)

Examples

man ls man tree man date

mkdir

Description

Creates directories

Syntax

mkdir + (option) + (directories)

Examples

Make a directory mkdir Cats

Make 2 directories mkdir Dogs Cats

Make a parent and child directory mkdir -p Pets/Dogs/

touch

Description

Creates files

Syntax

touch + file

Examples

create a file called list touch list

create many files touch list_of_cars.txt script.py names.csv

create a file using absolute path touch ~/Downloads/games.txt

rm

Description

removes files

Syntax

rm + file

Examples

remove a file rm list remove all files inside a directory rm Downloads/games/*

remove an empty directory rmdir Downloads/games

Remove a non-empty directory rm -r Downloads/games

cp

Description

copies files/directors from a source to a destination

Syntax

cp + files to copy + destination cp -r + directory to copy + destination

Examples

copy a file cp Downloads/wallpapers.zip Pictures/

copy a directory using absolute path cp -r ~/Downloads/wallpapers ~/Pictures/

copy the content of a directory to another directory cp Downloads/wallpapers/* ~/Pictures/

Copy multiple files in a single command sudo cp -r script.sh program.py home.html assets/ /var/www/html/

mv

Description

moves and renames directories

Syntax

mv + source + destination To rename mv + file/directory to rename + new name

Examples

from a directory to a relative path mv Downloads/homework.pdf Documents/

Move from one directory to another using absolute path sudo mv ~/Downloads/theme /usr/share/themes

move multiple directories/files to a different directory mv games/ wallpapers/ rockmusic/ /media/student/flashdrive/

Rename a file mv homework.docx cis106homework.docx

Rename using absolute path mv ~/Downloads/homework.docx ~/Downloads/cis106homework.docx

move and rename a file in the same command mv Downloads/cis106homework.docx Documents/new_cis106homework.docx

stat

Description

display file or system status

Syntax

stat + option + file

Examples

display a files inode data stat script.sh

Wildcards (*,?,[])

Description

Letters and characters used to specify a file name for searches

Syntax

*Wildcard ls *.file type

? Wildcard match one character ls + character + ?

[] Wildcard match a single character in range ls +[character]

Examples

-

match a file ending in .txt ls *.txt

List all files inside a directory that contain the word random ls Downloads/ *random*

List all csv and txt files ls Downloads/*.txt Downloads/*.csv

List all markdown files that start with the word random ls random*.md

? list all files that start with a . or .. and have any character after it ls .??*

List all hidden files ls ./.??*

List all files that have a single character between letter f and l ls f?l*

List all files that have a 3 letter file extension ls *.???

[] Match all files that have a vowel after letter f ls f[aeiou]*

Match all files thats name has a least one number ls*[!0-9]*

Match all files whose name begins with any of these two sets of characters letters from a-f or p-z ls [a-fp-z]*

Brace expansion

Description

allows you to generate arbitrary strings to use with commands

Syntax

command + file{character}

Examples

To create a whole directory structure in a single command mkdir -p music/{jazz,rock}/{mp3files,videos,oggfiles}/new{1..3}

Remove multiple files in a single directory rm -r {dir1,dir2,dir3,fiile.txt,file,py}

To create a N number of files touch file{A..Z}.txt touch file{{a..z},{0..10}}.js

cat

Description

used for display the content of a file

Syntax

cat + option + files to display

Examples

Display the content of a file located in the pwd cat todo.md

Display the content of a file using absolute path cat ~/Documents/todo.md

Display the content of a file with line numbers cat -n ~/Documents.todo.md

Display the content of a file with line numbers excluding empty lines cat -b ~/Documents/todo.md

Display the content of a file a $ at the end of every line

cat -E ~/Documents/todo.md

head

Description

displays the top N number of lines of a given file. It prints the first 10 lines by default

Syntax

head + option + file(s)

Examples

Display the first 10 lines of a file head ~/Documents/book/dracula.txt

Display the first 5 lines head -5 ~/Documents/book/dracula.txt

tail

Description

Displays the last N number of lines of a give file. It prints the last 10 lines by default

Syntax

tail + option + file

Examples

Display the last 10 lines of a file tail ~/Documents/Book/dracula.txt

Displays the last 5 lines of a file tail -5 ~/Documents/Book/dracula.txt

cut

Description

Used to extract a specific section of each line of a file and display it to the screen

Syntax

cut + option + file(s)

Examples

Display a list of all the users in your system cut -d ':' -f1 /etc/passwd

Display a list of all the users in your system with their login shell cut -d ':' -f1,7 /etc/passwd

Cut a range of bytes per line cut -b 1-5 usernames.txt

Cut a file excluding a given field cut -d ',' --complement -s -f3 users.txt

tr

Description

Used for translating or deleting characters from standard output

Syntax

Standard output | tr + option + set + set

Examples

Translate one character to another (For example a period with a comma) cat file.txt | tr '.' ','

Translate white space into tabs cat program.py | tr "[:space:]" '\t'

Translate tabs into space cat file.py | tr -s "[:space:]" ' '

paste

Description

Joining files horizontally in columns

Syntax

paste + option + files

Examples

Merge two files paste user.lst ip_address.lst

Merge two files using a different delimiter paste -d ":" users1.lst ip_addresses.lst

wc

Description

Used for printing the numbers of lines characters and bytes in a file

Syntax

wc + option + file(s)

Examples

Display the number of characters in a file wc -m users.txt

Display the number of lines in a file wc -l users.txt

Display the number words in a file wc -w users.txt

grep

Description

Used to search text in given file. Grep works line by line basis

Syntax

grep + option + search criteria + files

Examples

Search any line that contains the word "dracula" in the given file grep 'dracula ~/Documents/dracula.txt

Search for a given strings inside files in a given directory grep -iR 'conf' /etc/

Search for more than one word per line grep -Ewn 'horror|love|scare' ~/Documents/Books/Dracula.txt

output redirection

Description

The pipe allows you to redirect the standard output of a command to the standard input of another

Syntax

command_1 | command_2 | command_3 | .... | command_N

Examples

Use grep to look for a string in a particular man page man ls | grep "human-readable"

Display only the options of the command from its man page man ls| grep "^[[:space:]]*[[:punct:]]"

Display only the 2nd line in a file head -2 file.lst | tail -1

Saving the output of a command

Description

Syntax

command output + > + file

Examples

save the output of a command to a file ls -lA ~ > all-files-in-home.txt

Save the error generated by a command to a file ls -lA downloads/ 2> error-of-ls

Save the error and success to the same file ls -lA downloads/ Pictures &> alloutput.txt

vim or nano (basic stuff: open a file, close a file, edit a file)

Description

Vi command-line text editor

Syntax

Examples

start vim vim Save a file w: filename

tar

Description

Creates archives by combing files and directories into a single file

Syntax

Create an archive tar + options + archive name + files to add to archive

To extract an archive tar + options + files to extract

Examples

Create archive tar -cf example.tar file1 file2 file3

extract archive tar -xf example.tar

Extract an specifics file tar -xf example.tar file3

gz, bzip2, or xz

Description

Compress files in place meaning the original file is deleted after compression

Syntax

gzip + file

Examples

Compress a single file gzip File.txt

Compress multiple files gzip file1.txt file2.txt file3.txt

compress files recursively gzip -r schoolfiles

chmod

Description

used to change permissions on files and directories

Syntax

chmod permissions file/directory

Examples

Add execute permission to file 3 chmod u+x file3

Remove read permission for others in all 3 files chmod o-r file{1..3}