

Note 7: Handling Text Files

Commands cover in lecture:

Cat

Definition:

The cat command is used for displaying the content of a file. Cat is short for concatenate which is the command's intended use.

Usage:

`cat+option+file(s)` to display

Examples:

- Display the content of a file located in the pwd
 - `cat todo.lst`
 - Display the content of a file using absolute path
 - `cat ~/Documents/todo.lst`
 - 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`
-

tac

Definition:

The tac command is used displaying the content of a file in reverse order. Just like cat, tac concatenates files and displays the output of the concatenation

Usage:

`tac+option+file(s)` to display

Examples:

- Display the content of a file located in the pwd
 - `tac todo.md`
 - Display the content of a file using absolute path
 - `tac ~/Documents/todo.md`
-

head

Definition:

The head command displays the top N number of lines of a given file. By Default, it prints the first 10 lines. If more than one file name is provided then data from each file is preceded by its file name.

Usage:

`head+option+file(s)`

Examples:

- Display the first 10 lines of a file
 - `head ~/Documents/Book/dracula.txt`
 - Display the first 5 lines of a file
 - `head -5 ~/Documents/Book/dracula.txt`
 - Display the first 5 lines of multiple files
 - `head -n 5 dracula.txt bible.txt war-and-peace.txt`
 - Display the first line of multiple files using wildcards
 - `head -n 1 *.csv *.py`
 - Display the name of the file in the output
 - `head -v -n 7 ~/Documents/Books/dracula.txt`
-

tail

Definition:

The tail command displays the last N number of lines of a given file. By default, it prints the first 10 lines. If more than one file name is provided then data from each file is preceded by its file name.

Usage:

`tail+option+file`

Examples:

- Display the last 10 lines of a file
 - `tail ~/Documents/Book/dracula.txt`
 - Display the last 5 lines of a file
 - `tail -5 ~/Documents/Book/dracula.txt`
 - Display the last 5 lines of multiple files
 - `tail -n 5 dracula.txt bible.txt war-and-peace.txt`
-

cut

Definition:

The cut command is used to extract a specific section of each line of a file and display it to the screen.

Usage:

`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`
-

sort

Definition:

The sort command is used for sorting files. The sort command supports sorting: alphabetically, in reverse order, by number, and by month.

Usage:

`sort+option+file`

Examples:

- Sort a file
 - `sort users.lst`
 - Sort a file and save the output to a new file
 - `sort -o sorted.lst users.lst`
 - Sort a file in reverse order
 - `sort -r users.txt`
 - Sort by column number
 - `sort -k 2 users.txt`
-

WC

Definition:

The wc command is used for printing the number of lines, characters and bytes in a file.

Usage:

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

tr

Definition:

The tr command is used for translating or deleting characters from standard output.

Usage:

`Standard | tr+option+set+set`

Examples:

- Translate one character to another 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:]" ' '`
-

diff

Definition:

The diff command compares files and displays the differences between them.

Usage:

`diff+option+file1+file2`

Examples:

- Display the difference between two files
 - `diff cars.csv cars-backup.csv`
 - Display the difference between two files in a column format:
 - `diff -y cars.csv cars-backup.csv`
-

grep

Definition:

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

Usage:

`grep+option+search criteria+file(s)`

Examples:

- Search any line that contains the word "dracula" in the given file:
 - `grep 'dracula' ~/Documents/dracula.txt`
- Search any line that contains the word 'dracula' regardless of the case
 - `grep -i 'dracula' ~/Documents/Books/dracula.txt`
- Search any line that contains the word dracula regardless of case and with number line
 - `grep -in 'dracula' ~/Documents/Books/dracula.txt`
- Search for all lines that do not contain the word 'war'
 - `grep -v 'war' ~/Documents/Books/war-and-peace.txt`
- Display how many lines contain the matched string
 - `grep -c 'dracula' ~/Documents/Books/dracula.txt`
- Search for a given strings inside file in a given directory
 - `grep -iR 'conf' /etc/`
- Search for all lines that start with a capital letter
 - `grep -n '^[A-Z] ~/Documents/Books/war-and-peace.txt`
- Search for more than one word per line
 - `grep -Ewn 'horror|love|scare' ~/Documents/Books/dracula.txt`