



UNIX SHELL PROGRAMMING

FILTERS

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Do all commands use the features of standard input and output ?

Directory oriented commands : use neither standard input or output

ls,pwd,who write to standard output

lp that read standard input but do not use standard output

cat, wc, od,cmp,gzip use both standard input and output :
filters

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FILTERS -SORT

The Unix sort command is a simple command that can be used to rearrange the contents of text files line by line.

The command is a filter command that sorts the input text and prints the result to stdout. By default, sorting is done line by line, starting from the first character.

- Numbers are sorted to be ahead of letters.
- Lowercase letters are sorted to be ahead of uppercase letters.



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FILTERS -SORT

sort -b: Ignore blanks at the start of the line.

sort -r: Reverse the sorting order.

sort -o: Specify the output file.

sort -n: Use the numerical value to sort.

sort -M: Sort as per the calendar month specified.

sort -u: Suppress lines that repeat an earlier key.

sort -k POS1, POS2: Specify a key to do the sorting. POS1 and POS2 are optional parameters and are used to indicate the starting field and the ending field indices. Without POS2, only the field specified by POS1 is used.

sort -t SEP: Use the provided separator to identify the fields.



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FILTERS -UNIQ

uniq : Locate repeated and non repeated lines

Note: uniq requires a sorted file as input

Ex: `sort stulist.txt | uniq -u`



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FILTERS -UNIQU

-u : Selects only lines which are not repeated

Ex: `cut -d "|" -f3 emp.list | sort | uniq -u`

-d : Selects only one copy of the duplicated lines

Ex: `cut -d "|" -f3 emp.list | sort | uniq -d`

-c " : displays the frequency of occurrence of all lines

Ex: `cut -d "|" -f3 emp.list | sort | uniq -c`

Note: `uniq` command overwrites to the file specified



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FILTERS -HEAD

Displaying the beginning of a file

It display by default first ten lines of the file

Ex: head file.txt

Ex: head -n 3 file.txt

Find the 3 files which are recently modified:



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FILTERS -TAIL



Displaying the end of the file

Ex: `tail -n 3 emp.list`

`tail +count filename` display the contents of the file after the specified count

Ex: `tail +11 emp.list`

Extracting bytes rather than lines

`tail -c -512 foo` : last 512 bytes

`tail -c + 512 foo` :

Monitoring the growth of the file: `tail -f system.log`

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FILTERS -GREP

Searching for a Pattern : It scans its input for a pattern and display lines containing the pattern, line numbers or file names.

Ex: `grep "pattern" emp.list`

Grep works with Quotes and with out quote

Ex: `who | grep T > filename`

Ex: `grep "unix" File1 file2`



Options:

1. `grep -i 'AgArWal' filename` (ignores the case -i)
2. `grep -v 'director' Filename` (reverse the action of selection)
3. `grep -n` (Display the line numbers)
4. `grep -c "patt" file.txt` (Counts the lines containing patt)
5. `grep -l "patt"` (Display the filenames containng the patt)
6. `grep -e` (Matching multiple pattern)
7. `grep -f pat.txt file.txt` (Multiple patterns are stored in pat.txt (each pattern in separate lines))



THANK YOU

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