

# Notes 7

---

## cat

### Description

- Displays the contents of a file or concatenates multiple files.

### Usage

- `cat + option + filename(s)`

### Examples

- View the contents of a file:
  - `cat file.txt`
- Combine two files into one:
  - `cat file1.txt file2.txt > combined.txt`
- Append the content of a file to another:
  - `cat file1.txt >> file2.txt`
- Display file contents with line numbers:
  - `cat -n file.txt`

## tac

### Description

- Displays the contents of a file in reverse order, line by line.

### Usage

- `tac + filename`

### Examples

- Reverse the order of lines in a file:
  - `tac file.txt`
- Combine and reverse two files:
  - `tac file1.txt file2.txt`
- Reverse a command output:
  - `echo -e "one\ntwo\nthree" | tac`

## head

### Description

- Displays the first few lines of a file (default is 10).

### Usage

- `head + option + filename`

## Examples

- Show the first 10 lines of a file:
  - `head file.txt`
- Show the first 5 lines:
  - `head -n 5 file.txt`
- Use with piped output:
  - `ls -l | head`
- View the start of multiple files:
  - `head file1.txt file2.txt`

## tail

### Description

- Displays the last few lines of a file (default is 10).

### Usage

- `tail + option + filename`

## Examples

- Show the last 10 lines of a file:
  - `tail file.txt`
- Show the last 20 lines:
  - `tail -n 20 file.txt`
- Monitor a file in real-time:
  - `tail -f /var/log/syslog`
- Use with piped output:
  - `dmesg | tail -n 5`

## cut

### Description

- Extracts specific sections from each line of input.

### Usage

- `cut + option + filename`

## Examples

- Cut the first 10 characters of each line:
  - `cut -c1-10 file.txt`
- Extract the first field in a CSV:
  - `cut -d',' -f1 file.csv`

- Use cut with piped output:
  - `cat /etc/passwd | cut -d':' -f1`
- Remove fields from output:
  - `ps aux | cut -c1-15`

## sort

### Description

- Sorts lines of text files.

### Usage

- `sort + option + filename`

### Examples

- Sort lines alphabetically:
  - `sort file.txt`
- Sort in reverse order:
  - `sort -r file.txt`
- Sort a file numerically:
  - `sort -n numbers.txt`
- Remove duplicates while sorting:
  - `sort -u file.txt`

## WC

### Description

- Counts lines, words, characters, or bytes in a file.

### Usage

- `wc + option + filename`

### Examples

- Count lines, words, and characters:
  - `wc file.txt`
- Count just lines:
  - `wc -l file.txt`
- Count just words:
  - `wc -w file.txt`
- Count characters from piped input:
  - `echo "hello world" | wc -c`

## tr

### Description

- Translates or deletes characters from input.

## Usage

- `tr + set1 + set2`

## Examples

- Convert lowercase to uppercase:
  - `echo "hello" | tr a-z A-Z`
- Delete all digits:
  - `echo "abc123" | tr -d 0-9`
- Replace spaces with underscores:
  - `echo "hello world" | tr ' ' '_'`
- Squeeze repeated characters:
  - `echo "aaabb" | tr -s 'a'`

# diff

## Description

- Compares two files line by line.

## Usage

- `diff + file1 + file2`

## Examples

- Compare two text files:
  - `diff file1.txt file2.txt`
- Ignore case differences:
  - `diff -i file1.txt file2.txt`
- Create a unified diff:
  - `diff -u file1.txt file2.txt`
- Compare directories:
  - `diff -r dir1/ dir2/`

# grep

## Description

- Searches for patterns in files using regular expressions.

## Usage

- `grep + pattern + file`

## Examples

- Search for a word in a file:

- `grep "error" logfile.txt`
- Search recursively in all files:
  - `grep -r "main" /src`
- Ignore case while searching:
  - `grep -i "hello" file.txt`
- Count matches:
  - `grep -c "user" /etc/passwd`