Notes 8

Handling Text Files 1

cat command

The **cat** command is used to display 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 ~/Documents/sample_files/:
    - `cat ~/Documents/sample_files/Code/helloworld.py`
  - Display the content of a file with line numbers:
    - `cat -n ~/Documents/sample_files/Code/helloworld.py`
  - Display the content of a file including non printing characters and line endings:
    - `cat -A ~/Documents/sample_files/Code/helloworld.py`

tac command

The **tac** command is used for 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 ~/Documents/sample_files/ in reverse order
    - `tac ~/Documents/sample_files/Code/helloworld.py`
  - Display the content of multiple files in reverse order
    - `tac ~/Documents/sample_files/Code/helloworld.py tac ~/Documents/sample_files/Code/helloworld.py`

Head command

The **head** command displays the top N number of lines of a given line. 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/AsongOficeandFire.txt`
- Display the first 5 lines of a file:
  - `head -5 ~/Documents/Book/TheHobbit.txt`

- More examples:

  - Display the first 5 lines of multiple files:
    - `head -5 ~/Documents/Book/{TheHoobit,GameofThrones}.txt`
  - Display the first line of multiple files using wildcards
    - `head -n 1 Csv/*.csv Code/*.py`
  - Display the name of a file in the output
    - `head -v -n 7 Json/joke.json`
  - Display a given number of lines of the output of a given command
    - `ls -l ~/cis106/ | head -n 2`
  - Display a given number of bytes instead of lines:
    - `head -c 50 Txt/TheHobbit.txt`

tail command

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

- Usage:

  - `tail + option + file(s)`

- Examples:

  - Display the last 10 lines of a file
    - `tail ~/Documents/sample_files/`
  - Display the last five lines of a file
    - `tail -5 ~/Documents/sample_files/`

- More examples:

  - In this section the examples are the same as head, just change the command.

cut command

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

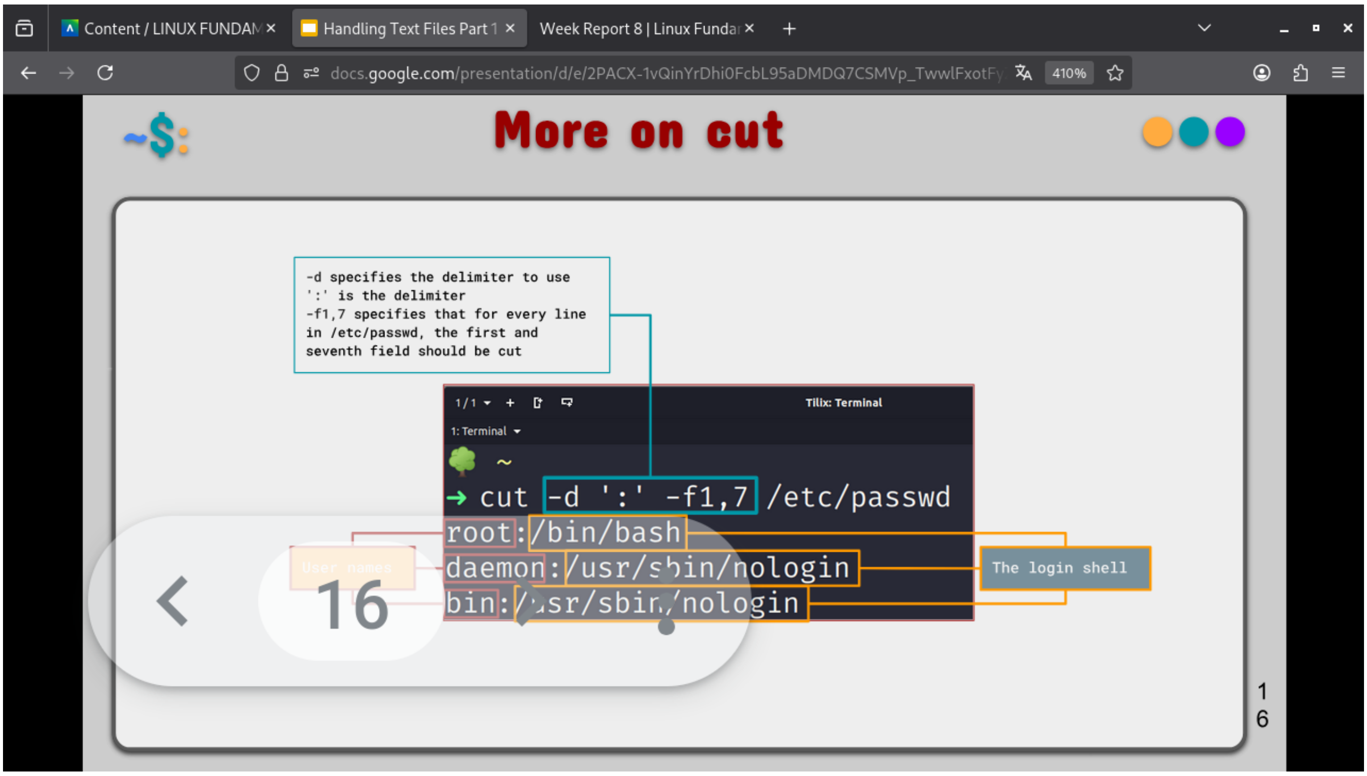
- Usage:

  - `cut + option + file(s)`

- Example:

  - 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`

- Elaborating on cut:



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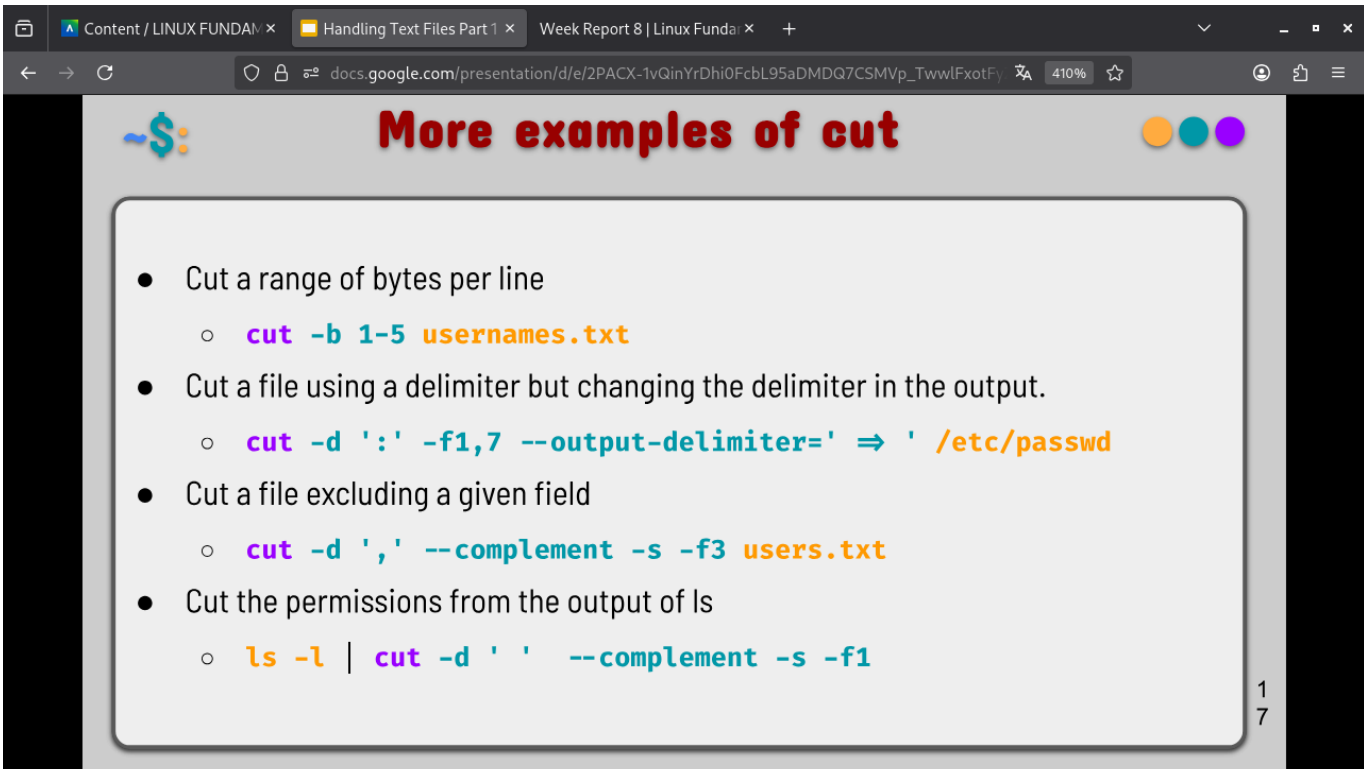
Week Report 8 | Linux Funda
docs.google.com/presentation/d/e/2PACX-1vQinYrDhi0FcbL95aDMDQ7CSMVp_TwwlFxotFy
410%
~$:
Tilix: Terminal
1: Terminal
User names
The login shell
16

More on cut

-d specifies the delimiter to use
':' is the delimiter
-f1,7 specifies that for every line
in /etc/passwd, the first and
seventh field should be cut

```
~
→ cut -d ':' -f1,7 /etc/passwd
root:/bin/bash
daemon:/usr/sbin/nologin
bin:/usr/sbin/nologin
```

- More examples on cut



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410%
~$:
17

More examples of cut

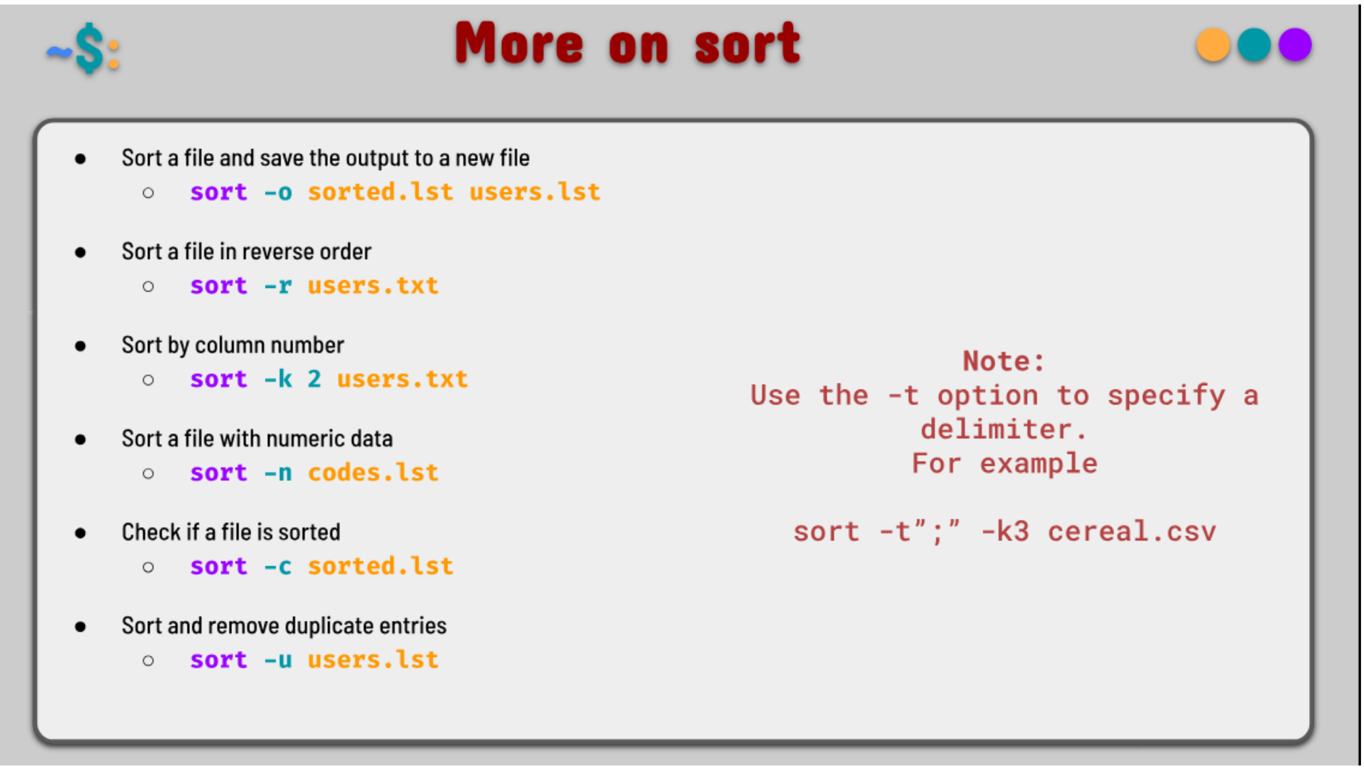
- Cut a range of bytes per line
  - `cut -b 1-5 usernames.txt`
- Cut a file using a delimiter but changing the delimiter in the output.
  - `cut -d ':' -f1,7 --output-delimiter=' ⇒ ' /etc/passwd`
- Cut a file excluding a given field
  - `cut -d ',' --complement -s -f3 users.txt`
- Cut the permissions from the output of ls
  - `ls -l | cut -d ' ' --complement -s -f1`

sort command

The **sort** command is used for sorting files. The sort command supports sorting: alphabetically, in reverse order, by number or by month. This command follows this order unless specified otherwise, like:

- Lines starting with a number will appear before lines starting with letters

- Lines starting with a letter that appears earlier in the alphabet will appear before lines starting with a letter that appears later in the alphabet.
- Lines starting with a lowercase letter will appear before lines starting with the same letter in uppercase.
- Usage:
  - `sort + option + file`
- Example:
  - Sort a file:
    - `sort users.lst`
- More on sort:



More on sort

- 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`
- Sort a file with numeric data
  - `sort -n codes.lst`
- Check if a file is sorted
  - `sort -c sorted.lst`
- Sort and remove duplicate entries
  - `sort -u users.lst`

Note:
Use the -t option to specify a delimiter.
For example

```
sort -t”;” -k3 cereal.csv
```

wc command

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

- Usage:
  - `wc + option + file(s)`
- Example:
  - 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 of words in a file:
    - `wc -w users.txt`