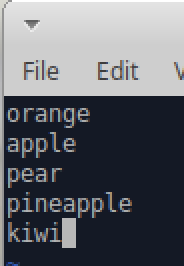
Lesson 8a worksheets – Unix Commands

1. Concatenate (cat)

The cat command is very frequently used in Linux.

It reads data from the file and gives their content as output.

* 1. Using a text editor, create a text file (e.g. fruits.txt) with some content.



* 1. Use cat command to output the content of the file.

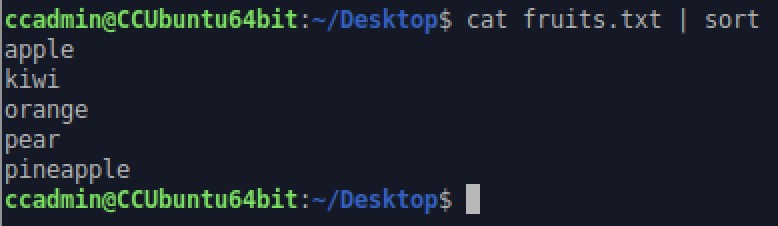


1. Piping

Pipes are UNIX features that connect several commands together. The output of one command becomes the input to the next.

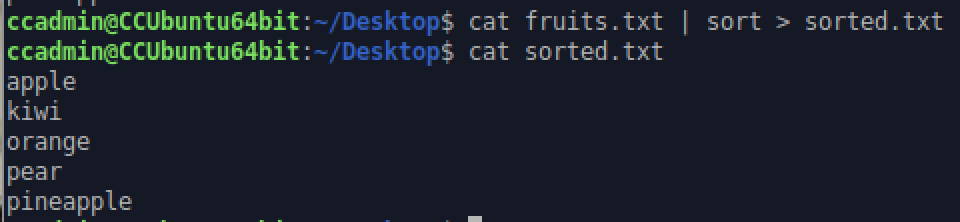
The pipe symbol “|” directs UNIX to connect output from the first command to the input of the second command.

The data present in this file is unordered.

So, to sort the data, we need to follow a piece of code here.

The output of “cat” is piped to the input of “sort”. The output current is printed on the console.

To save the output to a file, we use the “>” command



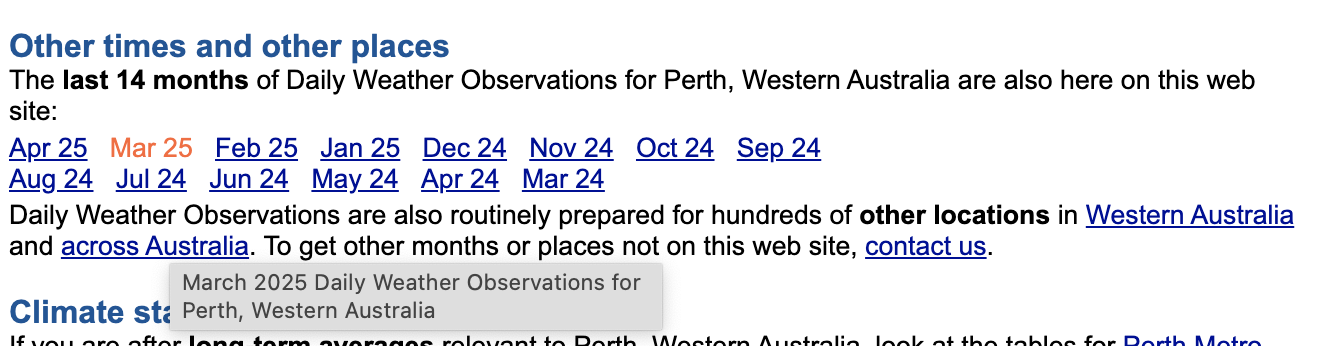
Note:

To append to an existing file, use “>>”

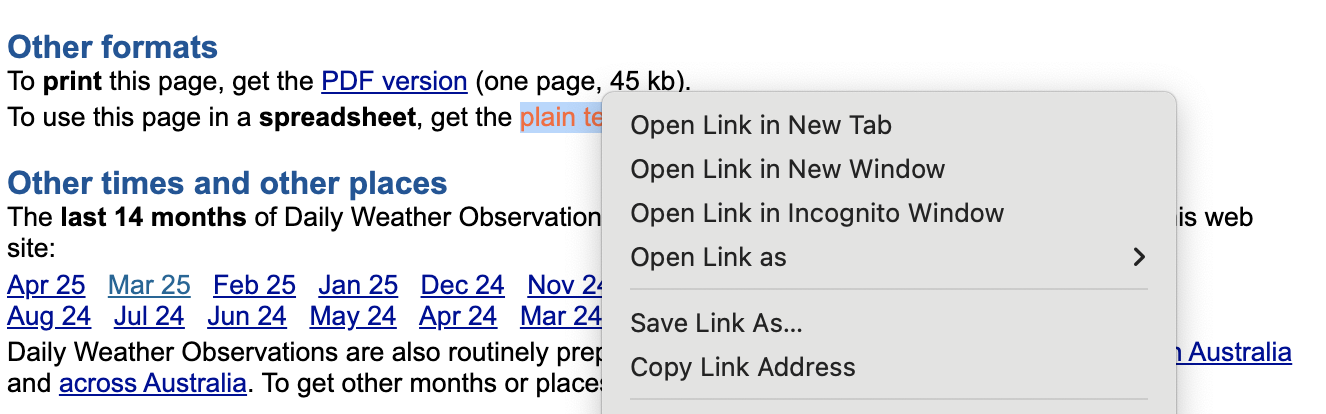
1. Web get (wget)

The wget is a command-line utility for downloading files from the web.

* 1. Go to <http://www.bom.gov.au/climate/dwo>
  2. Click on Perth, it will show you the current month weather observation.
  3. Scroll down and choose the weather for March.



* 1. Scroll down to plain text, right click to copy link



* 1. Use wget to get the csv down.

A computer screen shot of a computer program

AI-generated content may be incorrect.

wget --user-agent="Mozilla" http://www.bom.gov.au/climate/dwo/202503/text/IDCJDW6111.202503.csv

Note: wget is not supported on Mac by default.

* 1. A csv file will be downloaded.

A screenshot of a computer screen

AI-generated content may be incorrect.

1. Word count (wc)

It is used to find out number of lines, word count, byte and characters count in the files specified in the file arguments.

A screenshot of a computer screen

AI-generated content may be incorrect.

There are 39 lines, 220 words and 4306 characters in the csv file.

1. Head

It prints the top 10 lines of the file.

A screenshot of a computer screen

AI-generated content may be incorrect.

To print the first 5 times

A screenshot of a computer screen

AI-generated content may be incorrect.

1. Tail

It prints the last 10 lines of the file.

A screenshot of a computer program

AI-generated content may be incorrect.

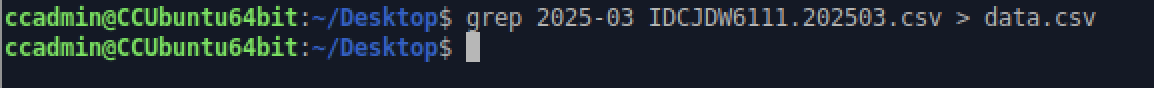
It prints the last 5 lines of the file.

A screen shot of a computer

AI-generated content may be incorrect.

1. Grep filter

The grep filter searches a file for a particular pattern of characters and displays all lines that contain that pattern. The pattern that is searched in the file is referred to as the regular expression (grep stands for global search for regular expression and print out).



Note a new data.csv file will be created with all the data lines that contains 2025-03-

A screenshot of a computer

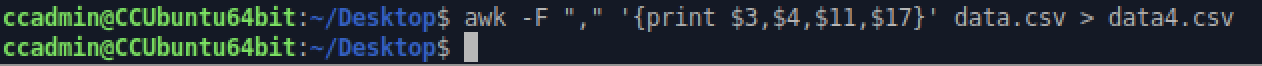
AI-generated content may be incorrect.

Note: the first column of the file is “empty”.

1. AWK

Awk is a scripting language used for manipulating data and generating reports. The awk command programming language requires no compiling and allows the user to use variables, numeric functions, string functions, and logical operators.

Awk is a utility that enables a programmer to write tiny but effective programs in the form of statements that define text patterns that are to be searched for in each line of a document and the action that is to be taken when a match is found within a line.



* reads through data.csv and prints fields 3,4,11 & 17,
* using "," as the field separator (-F ",")
  + counts fields from 1
  + redirects output to data4.csv

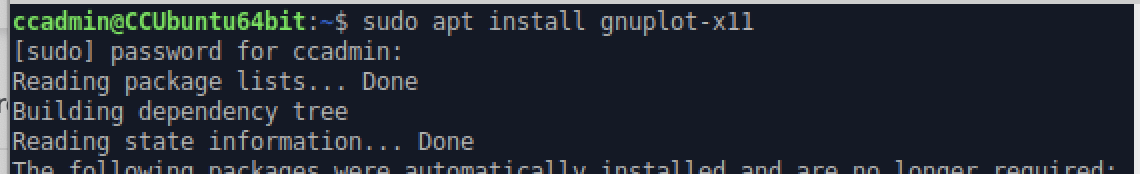
A screenshot of a computer

AI-generated content may be incorrect.

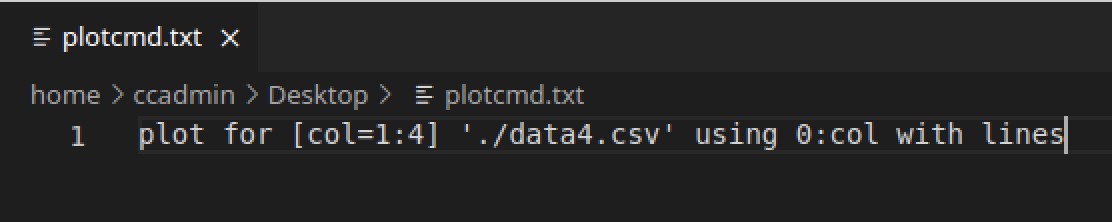
1. Plotting

Install GNU plot

sudo apt install gnuplot-x11



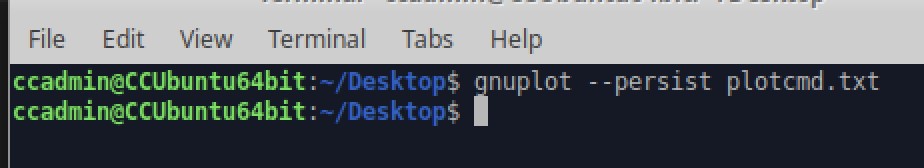
Create a plotcmd.txt file



plots four lines from columns 1 to 4 in data4.csv

- x values using defaults

Execute gnuplot with plotcmd.txt



Output from gnuplot

