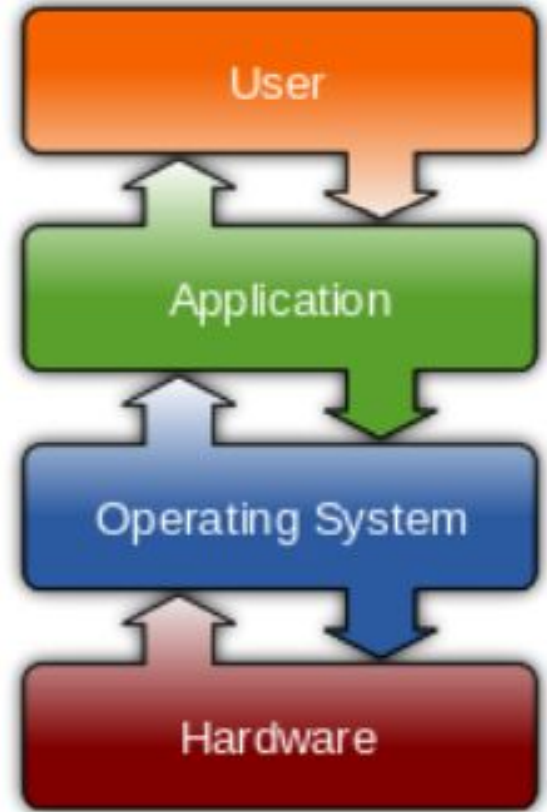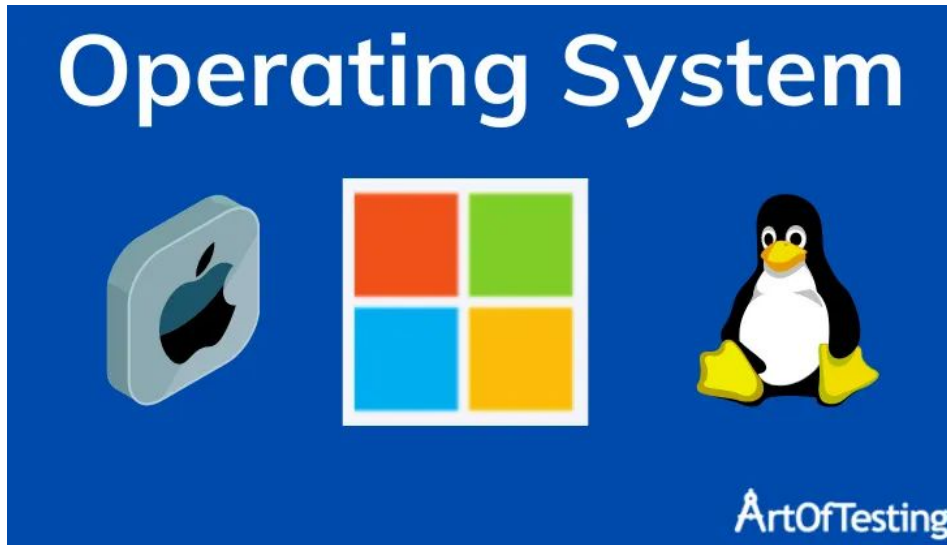# Introduction to Unix

Diego Useche - dh.useche@uniandes.edu.co

Metodos Computacionales I
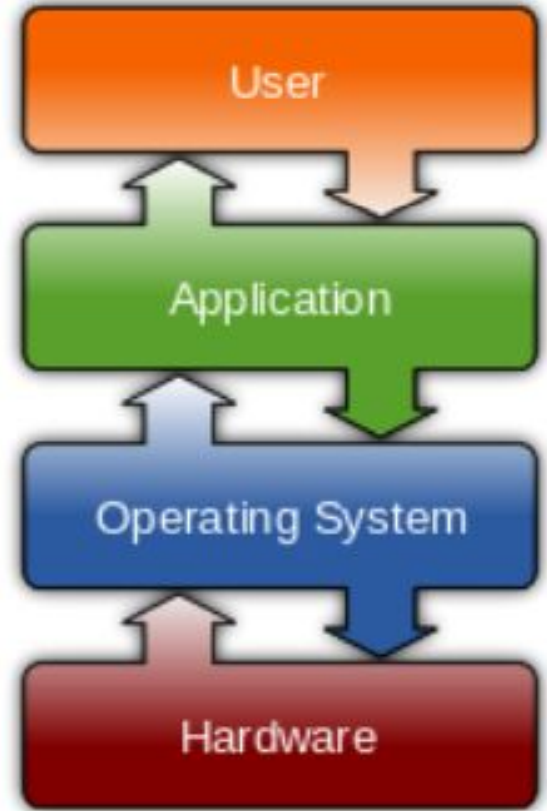Physics Department, Universidad de los Andes, Bogotá

Operating system

Operating system

Passes instructions from user to computer hardware and software

Manages RAM, Random access memory, CPU, central processing unit

Operating system tells the compiler to translate instructions to machine language.
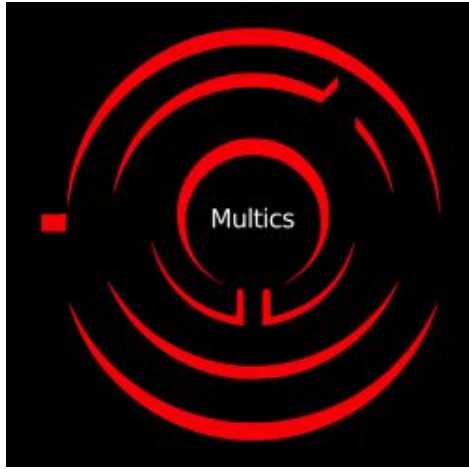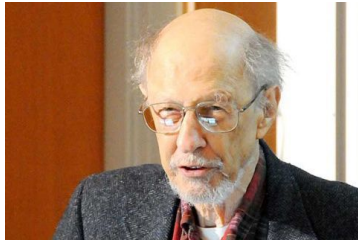
Origins of Unix

1969

Origins of Unix

Multiplexed **I**nformation and **C**omputing **S**ervice,
Fernando Corvato, MIT, 1960

Uniplexed
Operating and
Computing System

1960, creators of C compiler

Images taken from https://www.itbc.co.za/product/unix-administration-basics/
https://basketballjerseyarchive.com/es/bc-unics-kazan-2016-17-home-jersey/79180/
https://news.mit.edu/2019/mit-professor-emeritus-fernando-corby-corbato-computing-pioneer-dies-0715
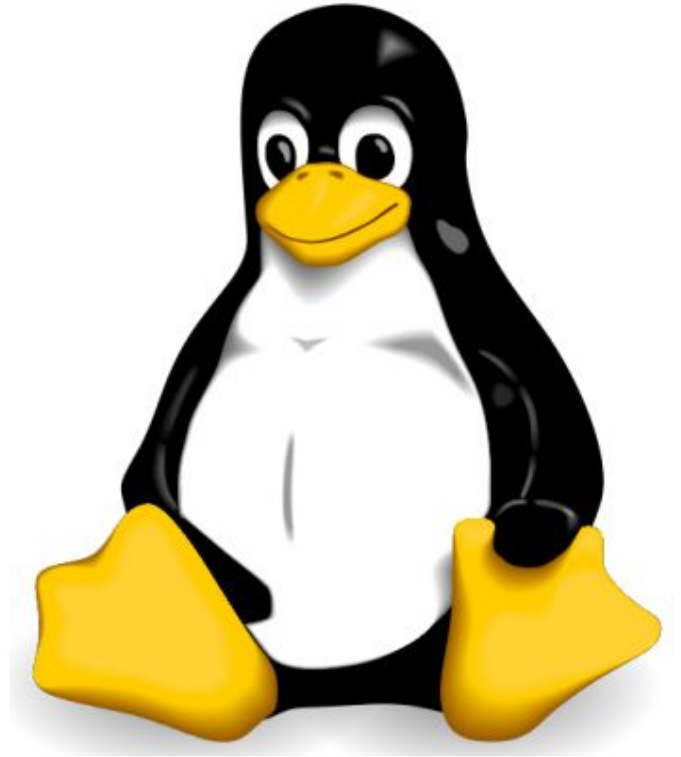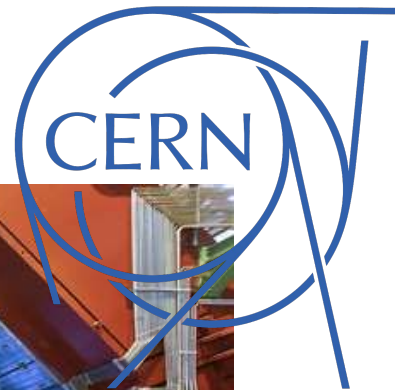
Unix family tree
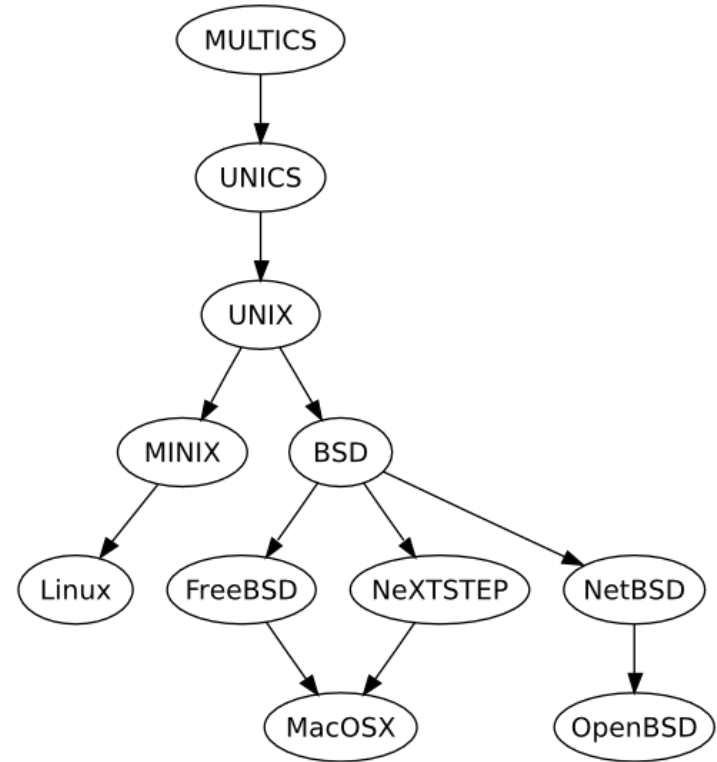
Linux

Linux Is Not Unix

Recursive acronym

Based on MINIX

Linus Trovals - 1991

Free software

Images taken from https://x5servers.com/en/que-es-apache-web-serv
https://cs3mesh4eosc.eu/use-cases/cern-high-energy-physics
https://www.expansion.com/fueradeserie/cultura/2019/11/06/5db9a003468aeb017d8b46d1.html

Linux Distros

Linux kernel with various software packages

Introduction to Unix commands

Directory structure
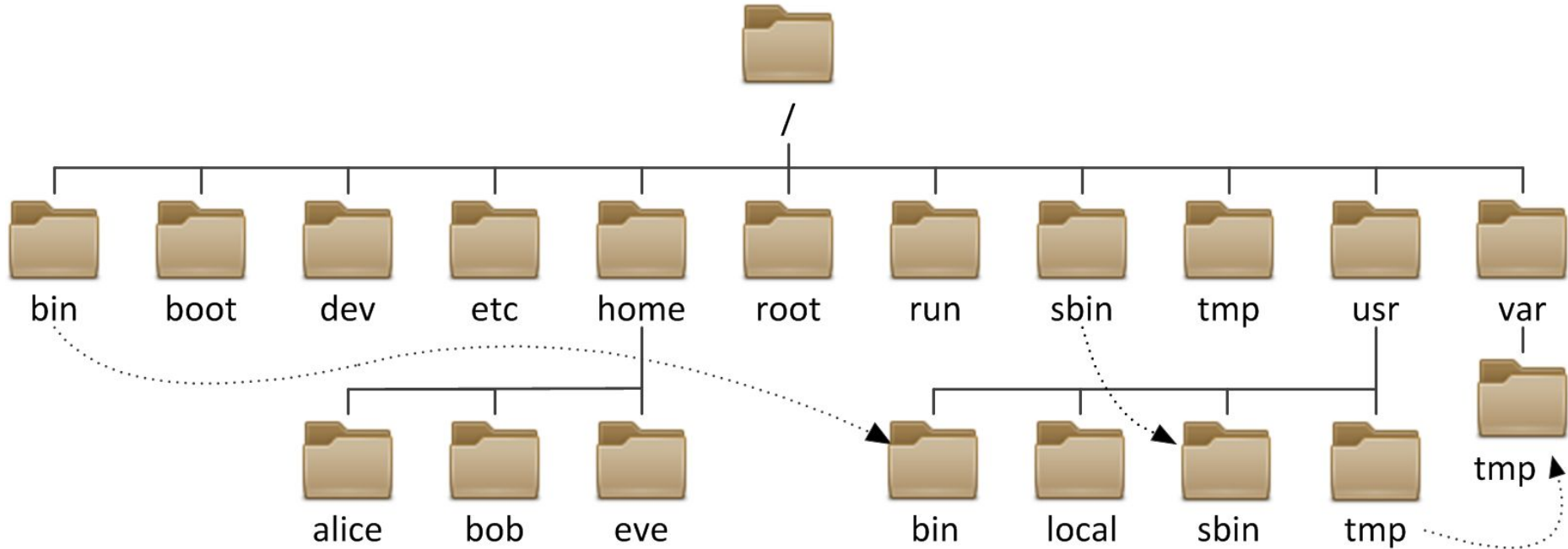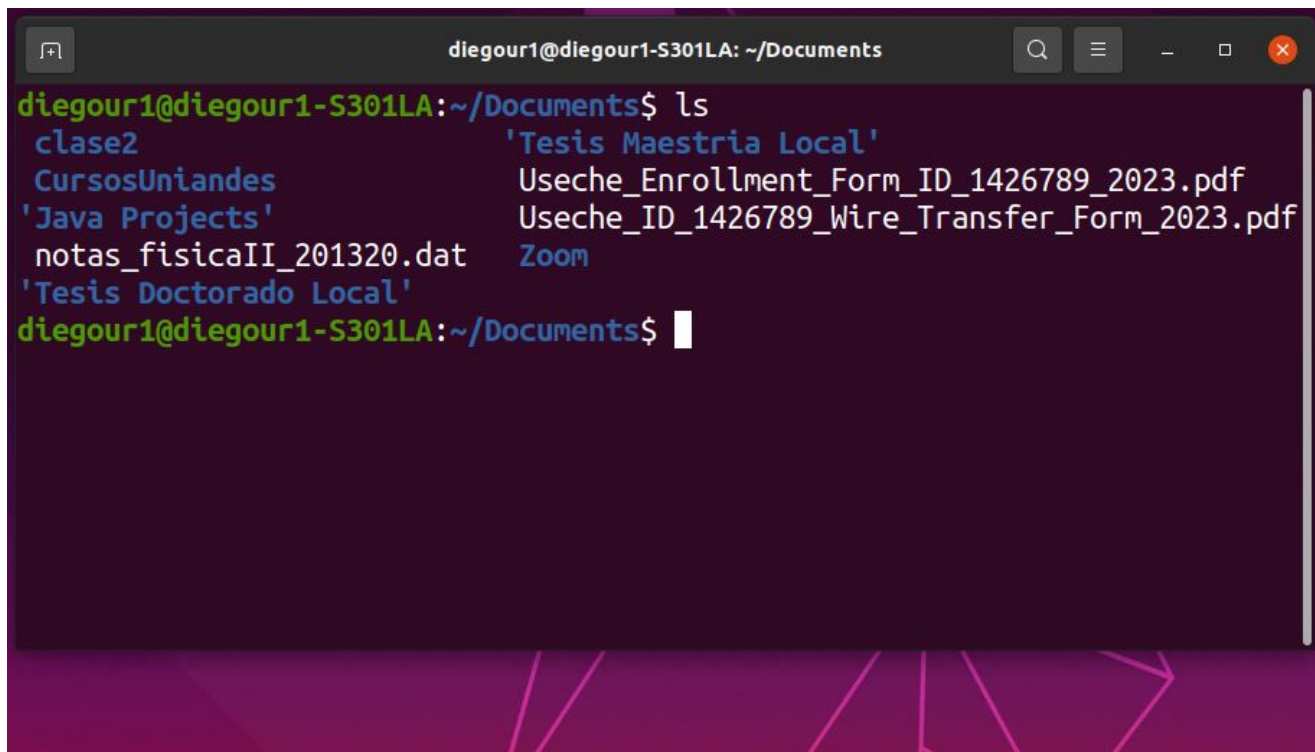
Terminal
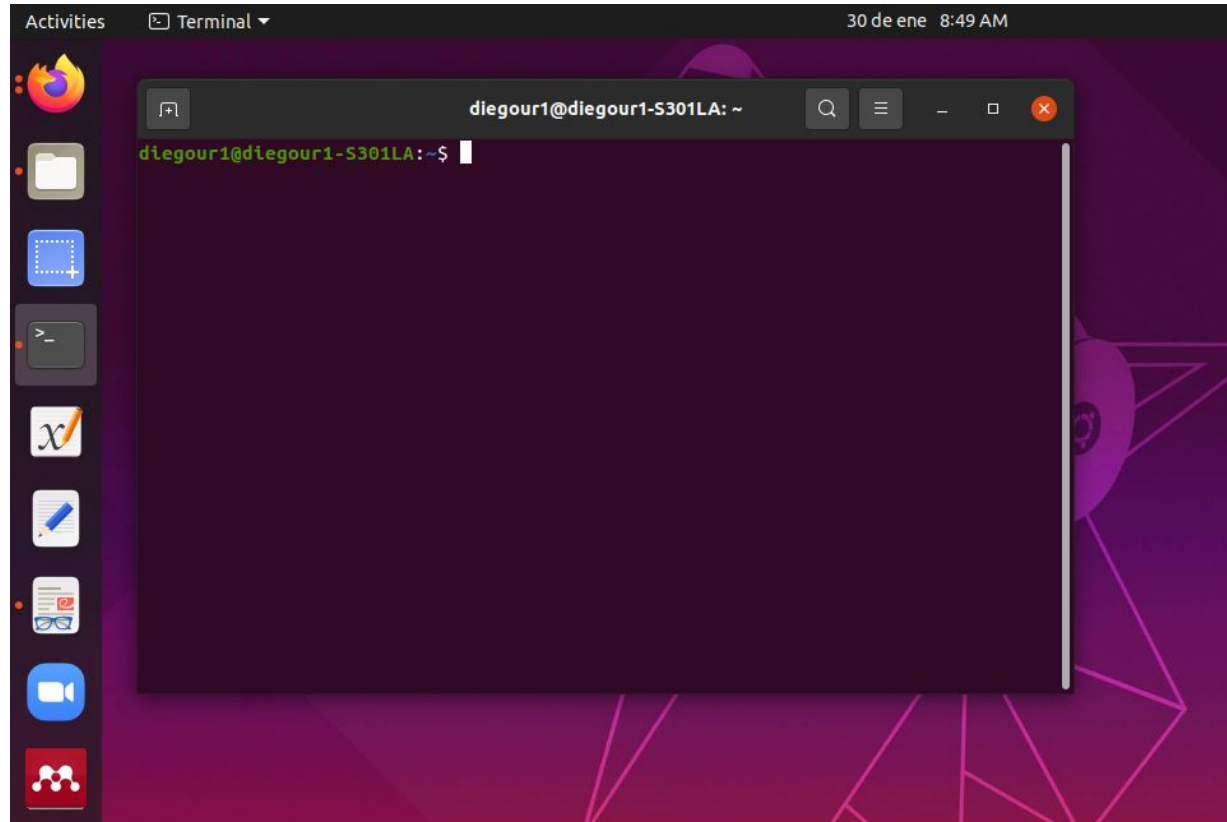
Basic commands: ls

ls

list of the files
and folders
inside a folder

Basic commands: man

man

manual to describe commands

Basic commands: cd (change directory)
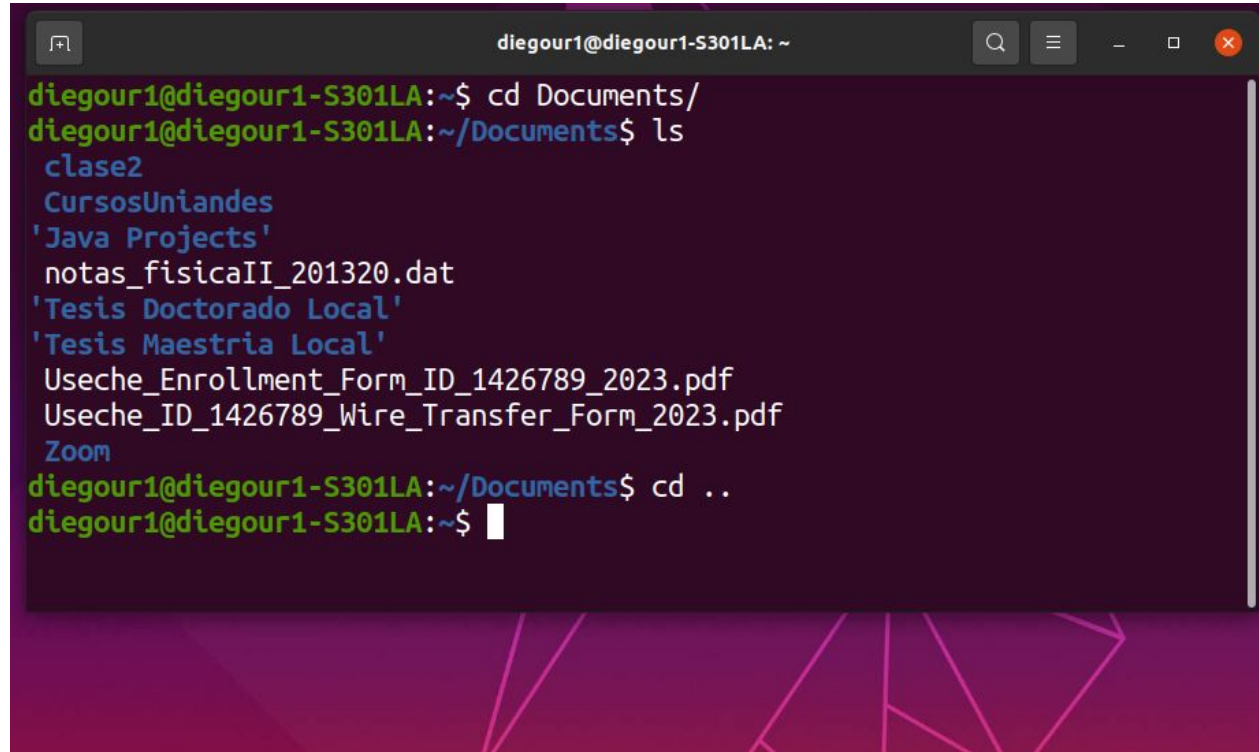
cd

cd Documents

move to Documents folder

cd ..

move to previous folder

Basic commands

mkdir Documents

make directory - creates de folder Documents

pwd

print current path directory

clear

clean current terminal screen

Basic commands

cp   ./exercise.py   /Documents/Tasks

copy file between two paths   ./   indicates current directory

mv   exercise.py   exercise_new.py

move   change the name of the file

touch   new_file.txt

create a new file from terminal

Danger zone

rm exercise.py

remove   eliminate permanently a file

rm -r Documents

eliminate permanently a folder

-r   is a flag (option of the command rm)

Basic commands: text commands

wc the_raven.txt

word count   count number of words of a text file

wc -l the_raven.txt

count number of lines of a text file thanks to the flag -l

grep "Leonore" the_raven.txt

check in which lines appear the word "Leonore" in the_raven.txt

Basic commands

who	cp	cat
whoami	mv	head
cd	mkdir	tail
pwd	touch	
ls	rm	wc
clear	wget	grep
man		

Shell scripting
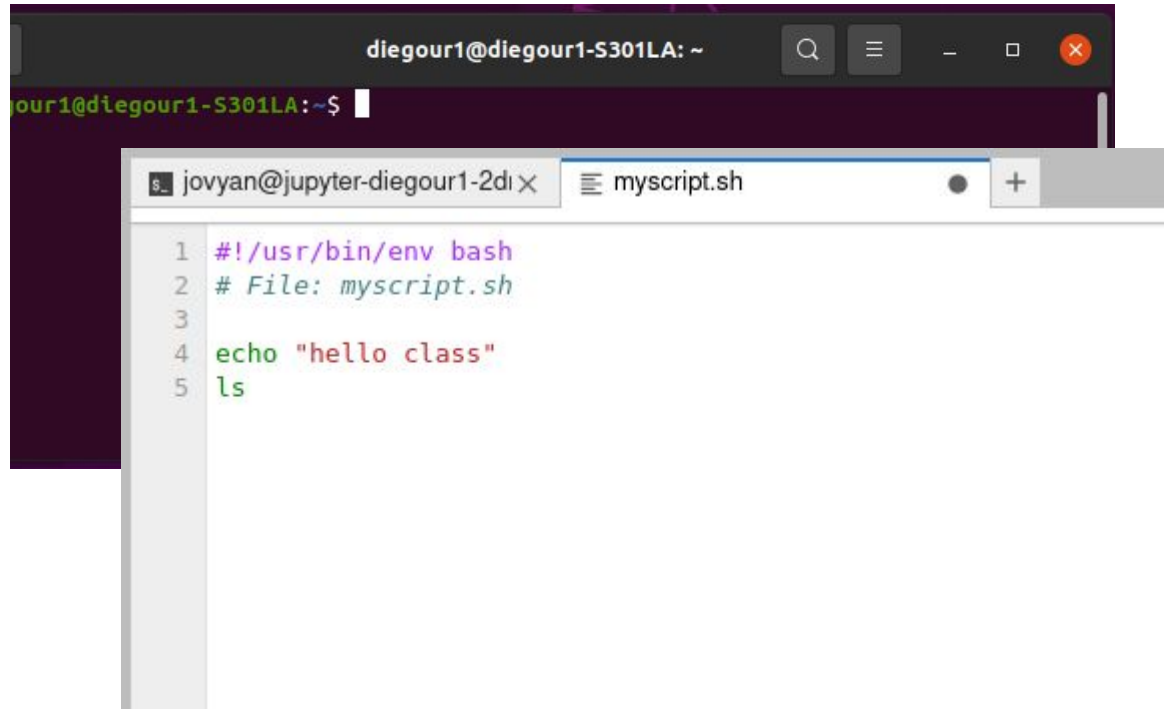
We can create a .sh file to perform various Linux commands

ls -l myscript.sh

list permission of file

chmod +x myscript.sh


```
1  #!/usr/bin/env bash
2  # File: myscript.sh
3
4  echo "hello class"
5  ls
```

diegour1@diegour1-S301LA: ~

jovyan@jupyter-diegour1-2di   myscript.sh

some files are not executable chmod -x changes the permission of the file to be executable

References

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