Test Lab

# Command line/Environment variables/User permissions

## In the bash prompt, what is the meaning of the character ~?

Le caractère ~ correspond à l’emplacement initial du bash, il se situe sur le dossier home du user.

## Explain the behavior of running successively VV=3, export VV, bash, unset VV, exit, echo $VV?

On initialise VV = 3

On exporte VV pour pouvoir y accéder partout

On ouvre une nouvelle instance de bash

Dans le nouveau bash on supprime la variable VV

On quitte le nouveau bash

On affiche la valeur de VV (qui est toujours égale à 3)

Si la valeur VV est toujours set c’est parce qu’on l’a supprimé uniquement dans une autre instance de bash, elle est toujours présente en globale.

## How to run /home/user/ls instead of /usr/bin/ls automatically by typing ls without changing the behavior of the other commands?

## How to provide file.txt as input of the command flex, and copy its stderr to resu.txt?

## Propose a command (in one line) that displays the third line after the middle one in /etc/passwd?

## How to change the owner and the group of a given file resp. to the owner and the group of a second one by using command substitution and the commands ls and cut?

# The commands grep/sed and regular expressions

## Propose a grep command that displays user names in /etc/passwd whom UID is multiple of 2, and included in the interval ]102, 3998]?

## Propose a grep command that displays, from the output of ifconfig, the WiFi IP address?

# Shell script

# System calls fork(), kill(), wait(), and signal()

Write a C code where a parent process creates a son process using the system call fork().

## SIGUSR1 causes by default the termination of the receiver; how this behavior can be changed to print a message upon the reception of the signal;

## how the parent process sends the signal SIGUSR1 to the son using kill() and wait() for the son.

## how to exchange messages between the two processes using pipe(), read() and write();

## don’t forget to handle error cases defensively.

# GNU Make

# GNU debugger