ANNEX A · PRACTICAL 5.2 · THE SAME TEN TASKS IN TWO SHELLS

Name: _____ **Date:** _____

You need: `deb-lab` (Bash) and `win11` (PowerShell), and `staff.csv` from Classroom in a new folder `p41` inside your home folder **in both machines**. Work inside `p41`. Each task in Bash, then in PowerShell: same result. Draft the commands here; the report goes in Markdown.

Job	Bash	PowerShell
Where / list / new folder	`pwd` · `ls` · `mkdir -p`	`Get-Location` · `Get-ChildItem` · `New-Item -ItemType Directory`
Write / append / read	`echo "x" > f` · `>>` · `cat`	`Set-Content` · `Add-Content` · `Get-Content`
Copy / rename / delete	`cp` · `mv` · `rm -r`	`Copy-Item` · `Rename-Item` · `Remove-Item -Recurse`
Find files / search text	`find -name` · `grep`	`Get-ChildItem -Recurse -Filter` · `Select-String`
Sort / first n / count	`sort` · `head` · `wc -l`	`Sort-Object` · `Select-Object -First` · `Measure-Object`
Repeated values / CSV	`sort | uniq -c` · `cut -d, -f2`	`Group-Object` · `Import-Csv`
Processes / help	`ps` · `man`, `--help`	`Get-Process` · `Get-Help`, `Get-Member`

TASK 1 **Show the folder you are in and the user you are.**

BASH _____

PS _____

DONE WHEN both paths end in `p41`.

TASK 2 **Create the folders `tramuntana/dev`, `tramuntana/design` and `tramuntana/admin` with one command.**

BASH _____

PS _____

DONE WHEN listing `tramuntana` shows three folders.

TASK 3 **Create `tramuntana/readme.txt` with the line `Tramuntana Apps`. Add a second line `Palma, Mallorca` without deleting the first. Show the file.**

BASH _____

PS _____

DONE WHEN the file shows exactly two lines.

TASK 4 **Copy `readme.txt` into `dev`. Rename the copy to `notes.txt`.**

BASH _____

PS _____

DONE WHEN `dev` contains `notes.txt` and no `readme.txt`.

TASK 5 **List every `.txt` file under `tramuntana`, subfolders included.**

BASH _____

PS _____

DONE WHEN two files appear: `readme.txt` and `notes.txt`.

TASK 6 **Show the lines of `staff.csv` that contain `DESIGN`, written like that, in capitals.**

BASH _____

PS _____

DONE WHEN three lines appear (joan, laia, xisca).

TASK 7 **Count the people in each department.**

BASH _____

PS _____

DONE WHEN dev 7, design 3, admin 2 — and no department called `dept`.

TASK 8 **Show the user and the year of the three people who joined first.**

BASH _____

PS _____

DONE WHEN aina 2018, marta 2019, tomeu 2019.

TASK 9 **Show the three processes that use the most memory: name and process ID.**

BASH _____

PS _____

DONE WHEN three processes, the biggest first.

TASK 10 **Keep today's date (like `2027-01-12`) in a variable. Create `report-<date>.txt` containing `Report <date>: 12 people`, where 12 is counted from `staff.csv`, not typed. Then delete the folder `tramuntana` with everything inside and prove it is gone.**

BASH _____

PS _____

DONE WHEN the report file exists with the right text, and `tramuntana` does not.

HAND IN `practical-5.2-surname.md` on Classroom, by **Thursday 25/02, 23:59**. Per task: both commands in code blocks and the output as text. At the end, 4–6 lines: which shell for which job, with one example. **Marking (10):** tasks 8 (0.4 per shell: right command and output shown) · reflection 1 · report format 1. Late: maximum 5; over 48 h late: 0. AI: only cs50.ai as a tutor.

EXIT TICKET **Alone, no terminal. Tick one answer.**

1. Which PowerShell cmdlet does the job of `grep`?

- ☐ a) `Get-Content`
- ☐ b) `Select-String`
- ☐ c) `Where-Object`
- ☐ d) `Get-ChildItem`

2. `Import-Csv staff.csv | Group-Object dept` replaces which Bash pipeline?

- ☐ a) `grep dept staff.csv`
- ☐ b) `sort staff.csv | head`
- ☐ c) `wc -l staff.csv`
- ☐ d) `cut -d, -f2 staff.csv | sort | uniq -c`

3. Why does `Group-Object` not need a `sort` before it, when `uniq -c` does?

- ☐ a) it groups equal values wherever they are
- ☐ b) CSV files are always sorted
- ☐ c) PowerShell sorts every pipeline
- ☐ d) it only looks at the first line

4. `grep design staff.csv` and `Select-String design staff.csv` are run on a line that says `DESIGN`. Who finds it?

- ☐ a) both
- ☐ b) only `grep`
- ☐ c) only `Select-String`
- ☐ d) neither

5. Someone adds a new first column to `staff.csv`. Which command still gives the departments?

- ☐ a) `cut -d, -f2 staff.csv`
- ☐ b) `(Import-Csv staff.csv).dept`
- ☐ c) both
- ☐ d) neither