Command Cheat Sheet

Reference for the lab. Each entry lists a command and a concise explanation of what it does and key flags. Use these descriptions to determine the correct command for your specific task.

Part 1–2: Navigation & File System Operations

Command	Explanation (what it does / key flags)
pwd	Prints the absolute path of the current working directory.
ls -la	Lists directory contents with details (-l) and includes hidden files (-a).
cd PATH	Changes the current directory to PATH. Use cd .. to go up one level; cd ~ to go to your home.
mkdir -p DIR[/SUBDIR...]	Creates a directory. With -p, creates parent directories as needed and does not error if they exist.
touch FILE	Creates an empty FILE or updates its modification timestamp if it exists.
cp SRC DEST	Copies files. Use -r (or -R) to copy directories recursively; -i to prompt before overwrite.
mv SRC DEST	Moves or renames files and directories. Overwrites by default; use -i to prompt.
rm FILE	Removes files. Use -r to remove directories recursively; add -i to confirm; use with care.
echo 'TEXT' >> FILE	Appends TEXT to FILE using shell redirection. Use > to overwrite, >> to append.
head -n N FILE	Shows the first N lines of FILE; defaults to 10 if N is omitted.
tail -n N -f FILE	Shows the last N lines of FILE and follows (-f) new lines as the file grows.
find START -iname PATTERN	Searches for files from START path whose names match PATTERN; -iname makes the match case-insensitive.

Part 3: Process Management

Command	Explanation (what it does / key flags)

sleep SECONDS &	Starts a simple long-lived process and puts it in the background (&) so the shell remains usable.
jobs	Lists background jobs started in the current shell and their job numbers (e.g., %1, %2).
ps aux	Displays all running processes for all users (a), in user-oriented format (u), including those without a TTY (x).
pgrep NAME	Prints the PIDs of processes whose names match NAME; add -l to include the process name.
top	Interactive, real-time view of processes and resource usage. Press q to quit; h for help.
kill PID	Sends a signal to a process by PID. Default is SIGTERM (15); use -9 for SIGKILL (force) only if needed.
killall NAME	Sends a signal (default SIGTERM) to all processes with the executable NAME.
Ctrl+Z	Suspends the current foreground job and returns to the shell with the job in "stopped" state.
bg [%job]	Resumes a stopped job in the background so it continues running without occupying the terminal.
fg [%job]	Brings a background or stopped job to the foreground; without an argument, targets the most recent job.

Part 4: System Information

Command	Explanation (what it does / key flags)
uname -a	Shows kernel name, version, and system information in one line.
hostname	Displays the system's host name.
lscpu	Summarizes CPU architecture, core/thread counts, caches, and flags.
free -h	Reports memory and swap usage; -h prints human-readable units (MiB/GiB).
df -h	Shows disk space usage for mounted filesystems; -h prints human-readable sizes.
lsblk	Lists block devices (disks/partitions), their hierarchy, and mount points.
who	Lists users logged into the system and their sessions.

w	Shows who is logged in and what they are doing, with load averages.
uptime	Displays how long the system has been running and the current load averages.

Part 5: Archiving & Verification

Command	Explanation (what it does / key flags)
tar -czvf ARCHIVE.tar.gz DIR	Creates a gzip-compressed tar archive of DIR. c=create, z=gzip, v=verbose, f=archive file name.
tar -tzvf ARCHIVE.tar.gz	Lists (t) the contents of a tar.gz archive without extracting; z=gzip, v=verbose, f=archive file.