

## Question 4.

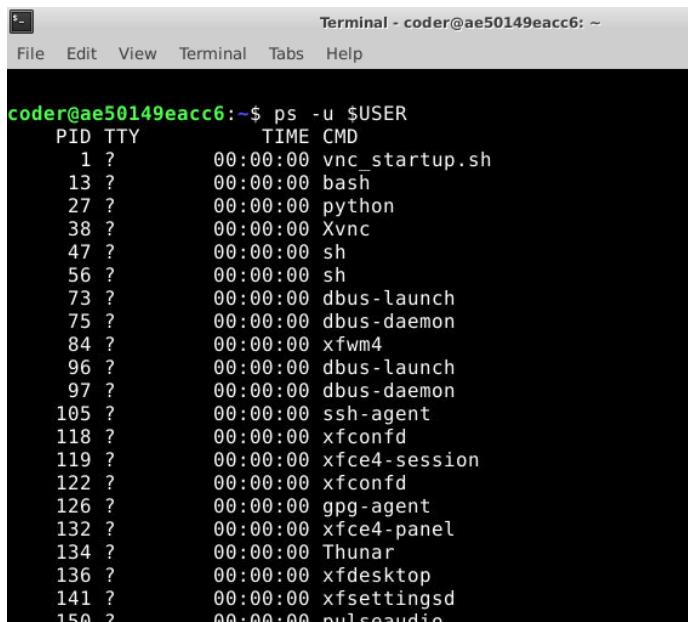
1. Command: uptime



```
Terminal - coder@ae50149eacc6: ~
File Edit View Terminal Tabs Help
coder@ae50149eacc6:~$ uptime
15:20:12 up 16 days, 7:22, 0 users, load average: 3.73, 3.00, 3.07
coder@ae50149eacc6:~$
```

Explanation: Shows how long the system has been running since last boot, current time, number of logged-in users, and load averages (lower = less busy).

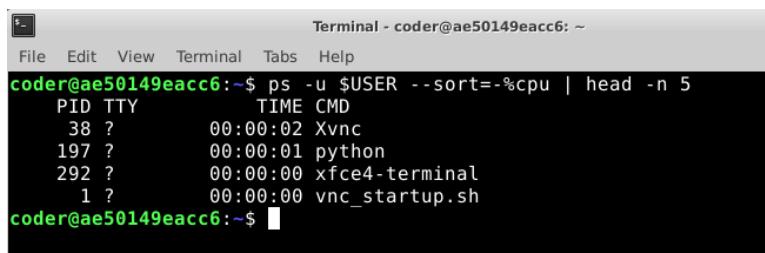
2. Command: ps -u \$USER



```
Terminal - coder@ae50149eacc6: ~
File Edit View Terminal Tabs Help
coder@ae50149eacc6:~$ ps -u $USER
 PID TTY      TIME CMD
   1 ?        00:00:00 vnc_startup.sh
  13 ?        00:00:00 bash
  27 ?        00:00:00 python
  38 ?        00:00:00 Xvnc
  47 ?        00:00:00 sh
  56 ?        00:00:00 sh
  73 ?        00:00:00 dbus-launch
  75 ?        00:00:00 dbus-daemon
  84 ?        00:00:00 xfwm4
  96 ?        00:00:00 dbus-launch
  97 ?        00:00:00 dbus-daemon
 105 ?        00:00:00 ssh-agent
 118 ?        00:00:00 xfconfd
 119 ?        00:00:00 xfce4-session
 122 ?        00:00:00 xfconfd
 126 ?        00:00:00 gpg-agent
 132 ?        00:00:00 xfce4-panel
 134 ?        00:00:00 Thunar
 136 ?        00:00:00 xfdesktop
 141 ?        00:00:00 xfsettingsd
 150 ?        00:00:00 pulseaudio
```

Explanation: Lists every process owned by your user, showing PID, terminal, cumulative CPU time, and command name.

3. Command: ps -u \$USER --sort=-%cpu | head -n 5

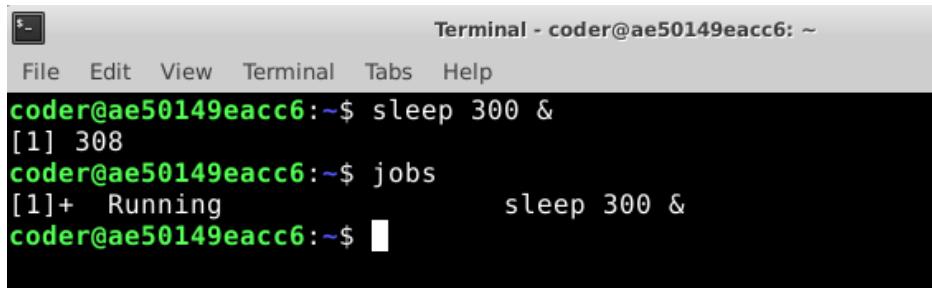


```
Terminal - coder@ae50149eacc6: ~
File Edit View Terminal Tabs Help
coder@ae50149eacc6:~$ ps -u $USER --sort=-%cpu | head -n 5
 PID TTY      TIME CMD
 38 ?        00:00:02 Xvnc
 197 ?       00:00:01 python
 292 ?       00:00:00 xfce4-terminal
   1 ?       00:00:00 vnc_startup.sh
coder@ae50149eacc6:~$
```

Explanation: Sorts your processes by current CPU usage (highest first). The top process is currently using the most CPU among your processes.

4. Command: sleep 600 & , jobs

Output: [1]+ Running sleep 300 &



```
File Edit View Terminal Tabs Help
coder@ae50149eacc6:~$ sleep 300 &
[1] 308
coder@ae50149eacc6:~$ jobs
[1]+  Running                  sleep 300 &
coder@ae50149eacc6:~$
```

Explanation: The & starts sleep 300 in the background. jobs confirms it is running as a background job controlled by your shell.

5. Command: echo \$\$

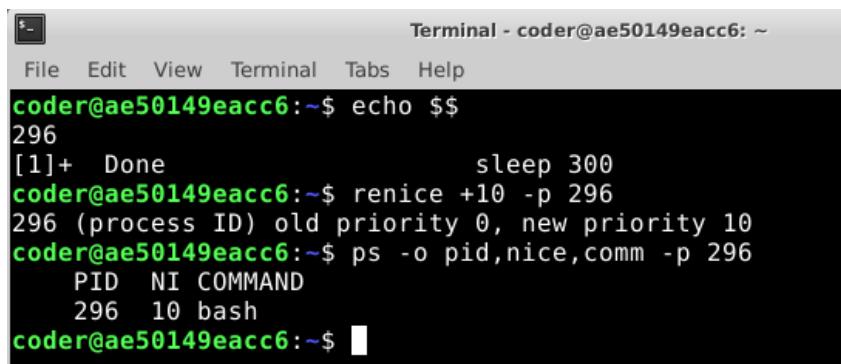
Output: 296

Change-Command: renice +10 -p 296

Verify: ps -o pid,nice,comm -p 296

Output: PID NI COMMAND

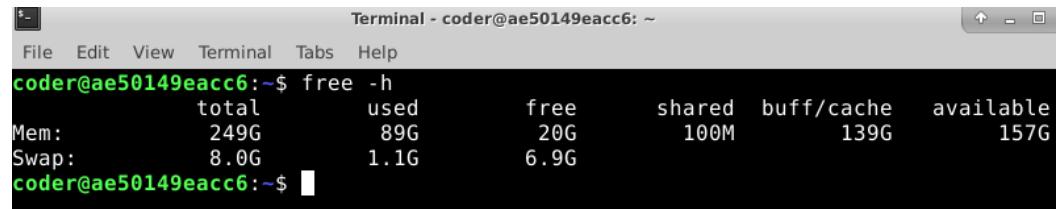
296 10 bash



```
File Edit View Terminal Tabs Help
coder@ae50149eacc6:~$ echo $$
296
[1]+ Done                  sleep 300
coder@ae50149eacc6:~$ renice +10 -p 296
296 (process ID) old priority 0, new priority 10
coder@ae50149eacc6:~$ ps -o pid,nice,comm -p 296
PID NI COMMAND
296 10 bash
coder@ae50149eacc6:~$
```

Explanation: *renice +10* lowers the priority of your shell (makes it "nicer"). NI (niceness) changes from default 0 to 10, allowing other processes more CPU time.

6. Command: free -h



```
File Edit View Terminal Tabs Help
coder@ae50149eacc6:~$ free -h
total        used         free      shared  buff/cache   available
Mem:       249G       89G       20G      100M       139G       157G
Swap:      8.0G      1.1G      6.9G
coder@ae50149eacc6:~$
```

Explanation: Displays total, used, free, and available RAM + swap in human-readable units (GiB/MiB). "available" is the most useful real free memory value.

7. Command: df -h ~

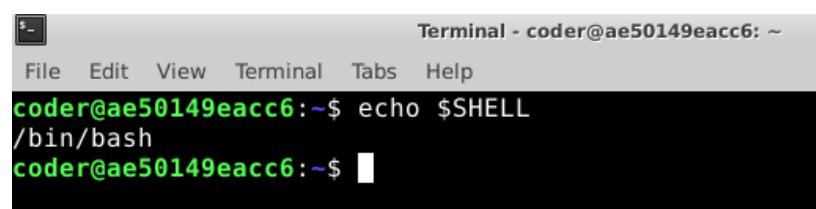


```
Filesystem      Size  Used Avail Use% Mounted on
dockerPool/1c3a5ab624f54d863697bd2a266f9e3d4caad96dd9a6561442bb6099ddd65285  13G  3.7G  9.4G  29% /
coder@ae50149eacc6:~$
```

Explanation: Shows disk space on the filesystem containing your home directory (~). Human-readable sizes, percentage used, and available space.

8. Command: echo \$SHELL

Output: /bin/bash

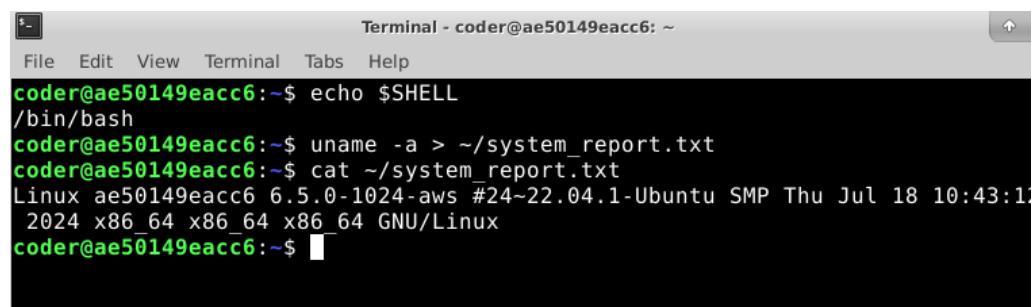


```
File Edit View Terminal Tabs Help
coder@ae50149eacc6:~$ echo $SHELL
/bin/bash
coder@ae50149eacc6:~$
```

Explanation: Displays the full path of your current login shell.

9. Command: uname -a > ~/system\_report.txt

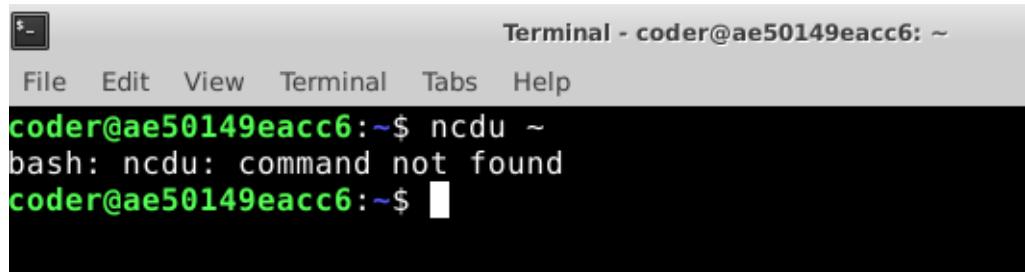
Verify: cat ~/system\_report.txt



```
File Edit View Terminal Tabs Help
coder@ae50149eacc6:~$ echo $SHELL
/bin/bash
coder@ae50149eacc6:~$ uname -a > ~/system_report.txt
coder@ae50149eacc6:~$ cat ~/system_report.txt
Linux ae50149eacc6 6.5.0-1024-aws #24~22.04.1-Ubuntu SMP Thu Jul 18 10:43:12
2024 x86_64 x86_64 x86_64 GNU/Linux
coder@ae50149eacc6:~$
```

Explanation: *uname -a* prints full system info; > redirects it into *system\_report.txt* in your home directory.

10. Command: ncdt ~



The screenshot shows a terminal window titled "Terminal - coder@ae50149eacc6: ~". The window has a menu bar with "File", "Edit", "View", "Terminal", "Tabs", and "Help". The main area of the terminal shows the command "ncdt ~" being typed by the user "coder@ae50149eacc6". The terminal responds with "bash: ncdt: command not found", indicating that the command is not installed. The terminal prompt "coder@ae50149eacc6:~\$" is visible at the bottom.

It: Launches an interactive, full-screen disk usage browser starting from your home directory.

Explanation: Many minimal systems do not have ncdt installed by default. In that case, simply report the error and note that ncdt is an excellent interactive disk usage analyzer when available.