

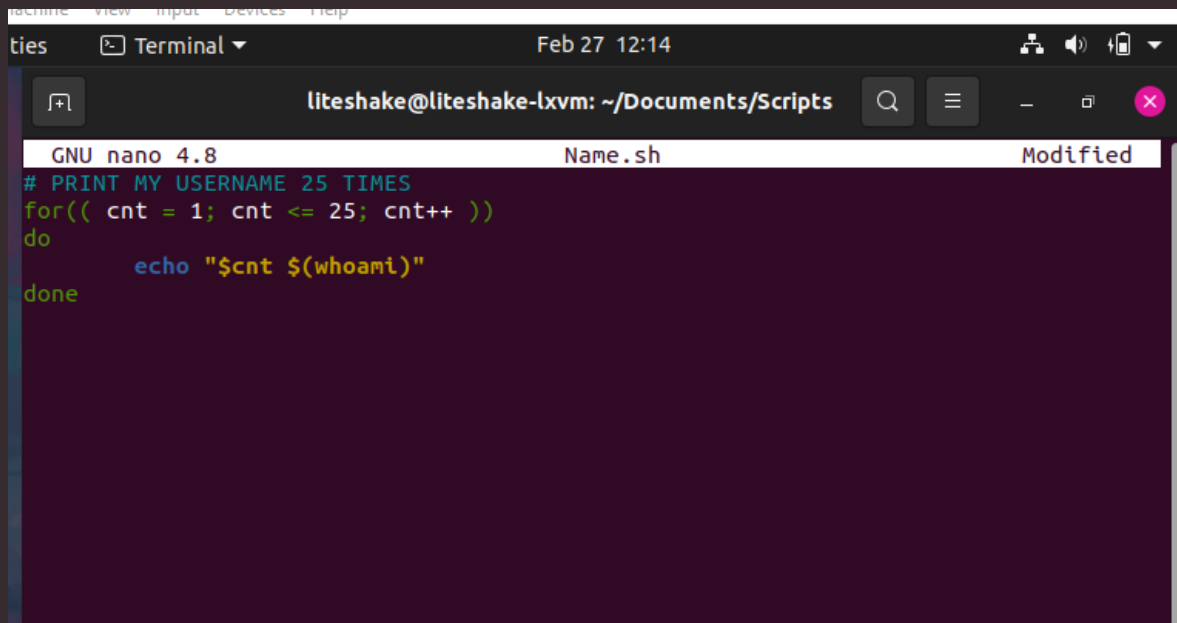
TASK-5.2

Bash Scripting

by

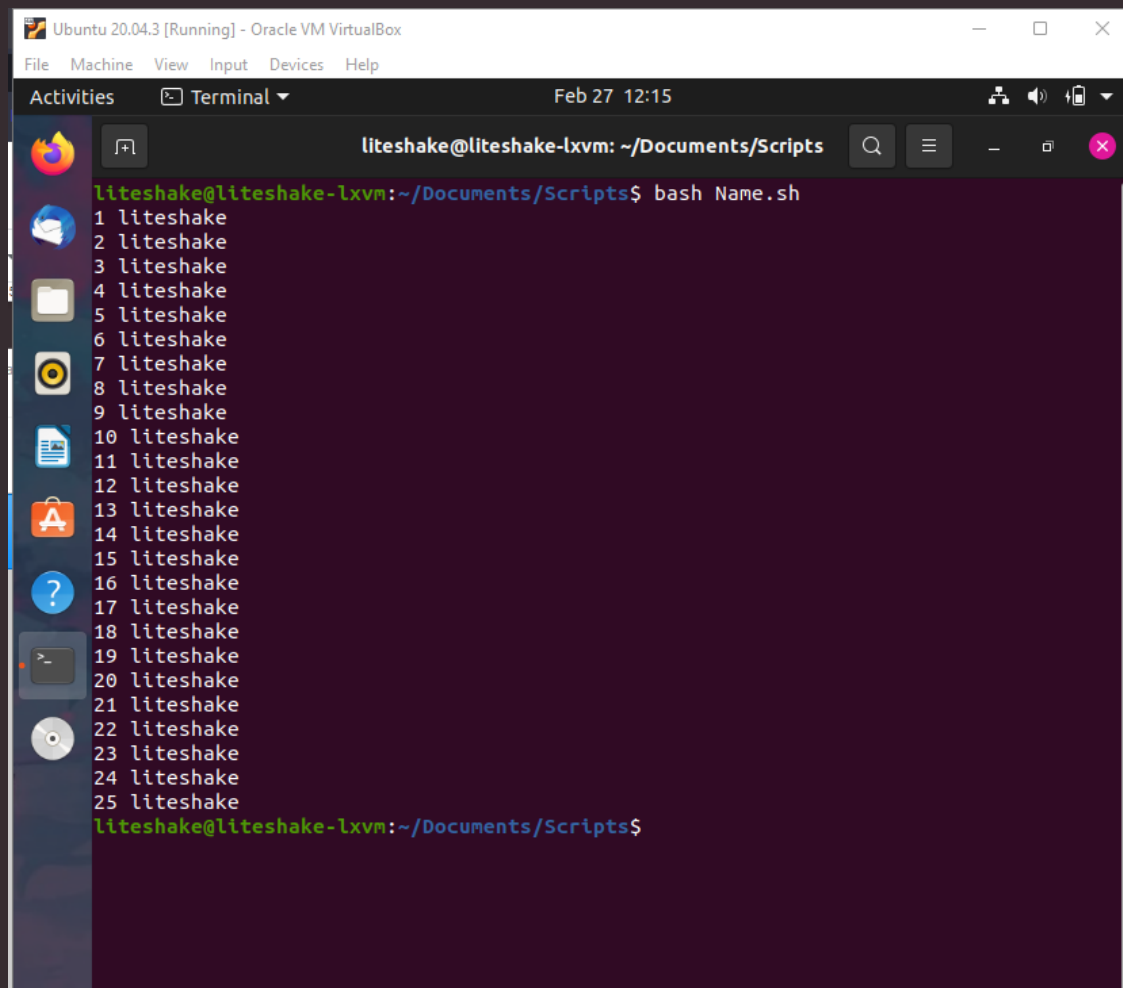
V Viswanathan

Q Write a bash script to echo your name 25 times



The screenshot shows a terminal window titled "liteshake@liteshake-lxvm: ~/Documents/Scripts". The window is running GNU nano 4.8. The script content is as follows:

```
GNU nano 4.8 Name.sh Modified
# PRINT MY USERNAME 25 TIMES
for(( cnt = 1; cnt <= 25; cnt++ ))
do
    echo "$cnt $(whoami)"
done
```



The screenshot shows the same terminal window after the script has been executed. The prompt is now "liteshake@liteshake-lxvm: ~/Documents/Scripts\$". The output of the script is displayed as a list of 25 lines, each containing the line number and the username "liteshake".

```
liteshake@liteshake-lxvm:~/Documents/Scripts$ bash Name.sh
1 liteshake
2 liteshake
3 liteshake
4 liteshake
5 liteshake
6 liteshake
7 liteshake
8 liteshake
9 liteshake
10 liteshake
11 liteshake
12 liteshake
13 liteshake
14 liteshake
15 liteshake
16 liteshake
17 liteshake
18 liteshake
19 liteshake
20 liteshake
21 liteshake
22 liteshake
23 liteshake
24 liteshake
25 liteshake
liteshake@liteshake-lxvm:~/Documents/Scripts$
```

Q What command should I use to display the first 30 entries of the syslog file ?

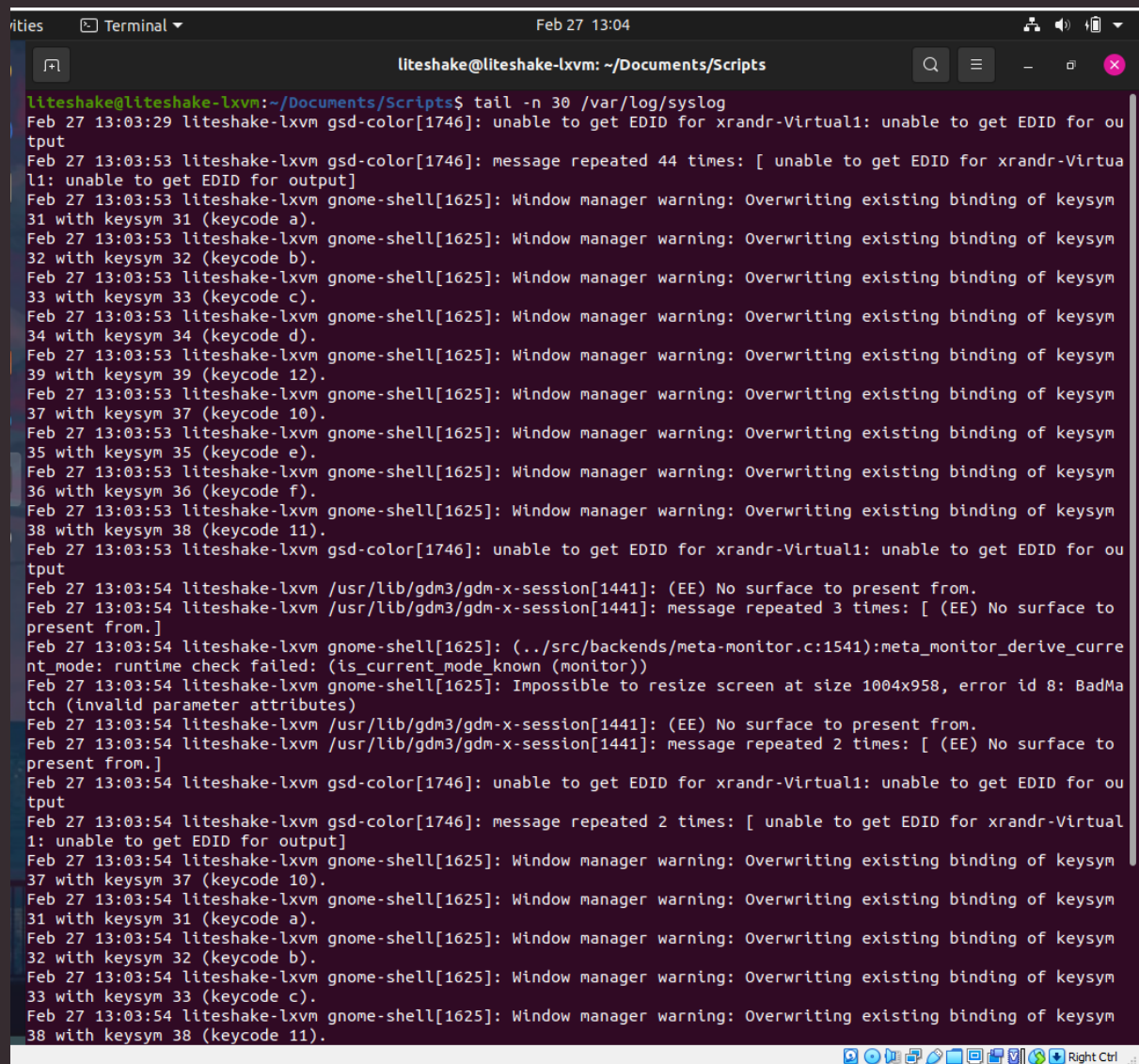
A

```
$ head -n 30 /var/log/syslog
```

```
ies Feb 27 13:03
liteshake@liteshake-lxvm: ~/Documents/Scripts
liteshake@liteshake-lxvm:~/Documents/Scripts$ head -n 30 /var/log/syslog
Feb 27 12:10:05 liteshake-lxvm rsyslogd: [origin software="rsyslogd" swVersion="8.2001.0" x-pid="619" x-info="https://www.rsyslog.com"
] rsyslogd was HUPed
Feb 27 12:10:05 liteshake-lxvm systemd[1]: Finished Save/Restore Sound Card State.
Feb 27 12:10:05 liteshake-lxvm vboxadd[629]: VirtualBox Guest Additions: Starting.
Feb 27 12:10:05 liteshake-lxvm systemd[1]: Reached target Sound Card.
Feb 27 12:10:05 liteshake-lxvm accounts-daemon[584]: started daemon version 0.6.55
Feb 27 12:10:05 liteshake-lxvm systemd[1]: logrotate.service: Succeeded.
Feb 27 12:10:05 liteshake-lxvm systemd[1]: Finished Rotate log files.
Feb 27 12:10:05 liteshake-lxvm snapd[623]: AppArmor status: apparmor is enabled and all features are available
Feb 27 12:10:05 liteshake-lxvm systemd[1]: Started Accounts Service.
Feb 27 12:10:05 liteshake-lxvm vboxadd[734]: VirtualBox Guest Additions: Building the VirtualBox Guest Additions kernel
Feb 27 12:10:05 liteshake-lxvm vboxadd[734]: modules. This may take a while.
Feb 27 12:10:05 liteshake-lxvm vboxadd[739]: VirtualBox Guest Additions: To build modules for other installed kernels, run
Feb 27 12:10:05 liteshake-lxvm ModemManager[703]: <info> ModemManager (version 1.16.6) starting in system bus...
Feb 27 12:10:05 liteshake-lxvm vboxadd[742]: VirtualBox Guest Additions: /sbin/rcvboxadd quicksetup <version>
Feb 27 12:10:05 liteshake-lxvm vboxadd[746]: VirtualBox Guest Additions: or
Feb 27 12:10:05 liteshake-lxvm vboxadd[748]: VirtualBox Guest Additions: /sbin/rcvboxadd quicksetup all
Feb 27 12:10:05 liteshake-lxvm dbus-daemon[595]: [system] Successfully activated service 'org.freedesktop.hostname1'
Feb 27 12:10:05 liteshake-lxvm systemd[1]: Started Hostname Service.
Feb 27 12:10:05 liteshake-lxvm NetworkManager[596]: <info> [1645944005.4971] hostname: hostname: using hostnameed
Feb 27 12:10:05 liteshake-lxvm NetworkManager[596]: <info> [1645944005.4971] hostname: hostname changed from (none) to "liteshake-lxv
m"
Feb 27 12:10:05 liteshake-lxvm NetworkManager[596]: <info> [1645944005.4973] dns-mgr[0x55e08eb72290]: init: dns=systemd-resolved rc-m
anager=symlink, plugin=systemd-resolved
Feb 27 12:10:05 liteshake-lxvm NetworkManager[596]: <info> [1645944005.4976] manager[0x55e08eb90030]: rfkill: Wi-Fi hardware radio se
t enabled
Feb 27 12:10:05 liteshake-lxvm NetworkManager[596]: <info> [1645944005.4976] manager[0x55e08eb90030]: rfkill: WWAN hardware radio set
enabled
Feb 27 12:10:05 liteshake-lxvm NetworkManager[596]: <info> [1645944005.5045] Loaded device plugin: NMWifiFactory (/usr/lib/x86_64-lin
ux-gnu/NetworkManager/1.22.10/libnm-device-plugin-wifi.so)
Feb 27 12:10:05 liteshake-lxvm NetworkManager[596]: <info> [1645944005.5102] Loaded device plugin: NMTeamFactory (/usr/lib/x86_64-lin
ux-gnu/NetworkManager/1.22.10/libnm-device-plugin-team.so)
Feb 27 12:10:05 liteshake-lxvm NetworkManager[596]: <info> [1645944005.5181] Loaded device plugin: NMBlueZManager (/usr/lib/x86_64-lin
ux-gnu/NetworkManager/1.22.10/libnm-device-plugin-bluetooth.so)
Feb 27 12:10:05 liteshake-lxvm NetworkManager[596]: <info> [1645944005.5189] Loaded device plugin: NMWwanFactory (/usr/lib/x86_64-lin
ux-gnu/NetworkManager/1.22.10/libnm-device-plugin-wwan.so)
Feb 27 12:10:05 liteshake-lxvm NetworkManager[596]: <info> [1645944005.5201] Loaded device plugin: NMAtmManager (/usr/lib/x86_64-linu
x-gnu/NetworkManager/1.22.10/libnm-device-plugin-adsl.so)
Feb 27 12:10:05 liteshake-lxvm NetworkManager[596]: <info> [1645944005.5204] manager: rfkill: Wi-Fi enabled by radio killswitch; enab
led by state file
Feb 27 12:10:05 liteshake-lxvm NetworkManager[596]: <info> [1645944005.5204] manager: rfkill: WWAN enabled by radio killswitch; enabl
ed by state file
liteshake@liteshake-lxvm:~/Documents/Scripts$
```

Q What command should I use to display the last 30 entries of the syslog file ?

`$ tail -n 30 /var/log/syslog`

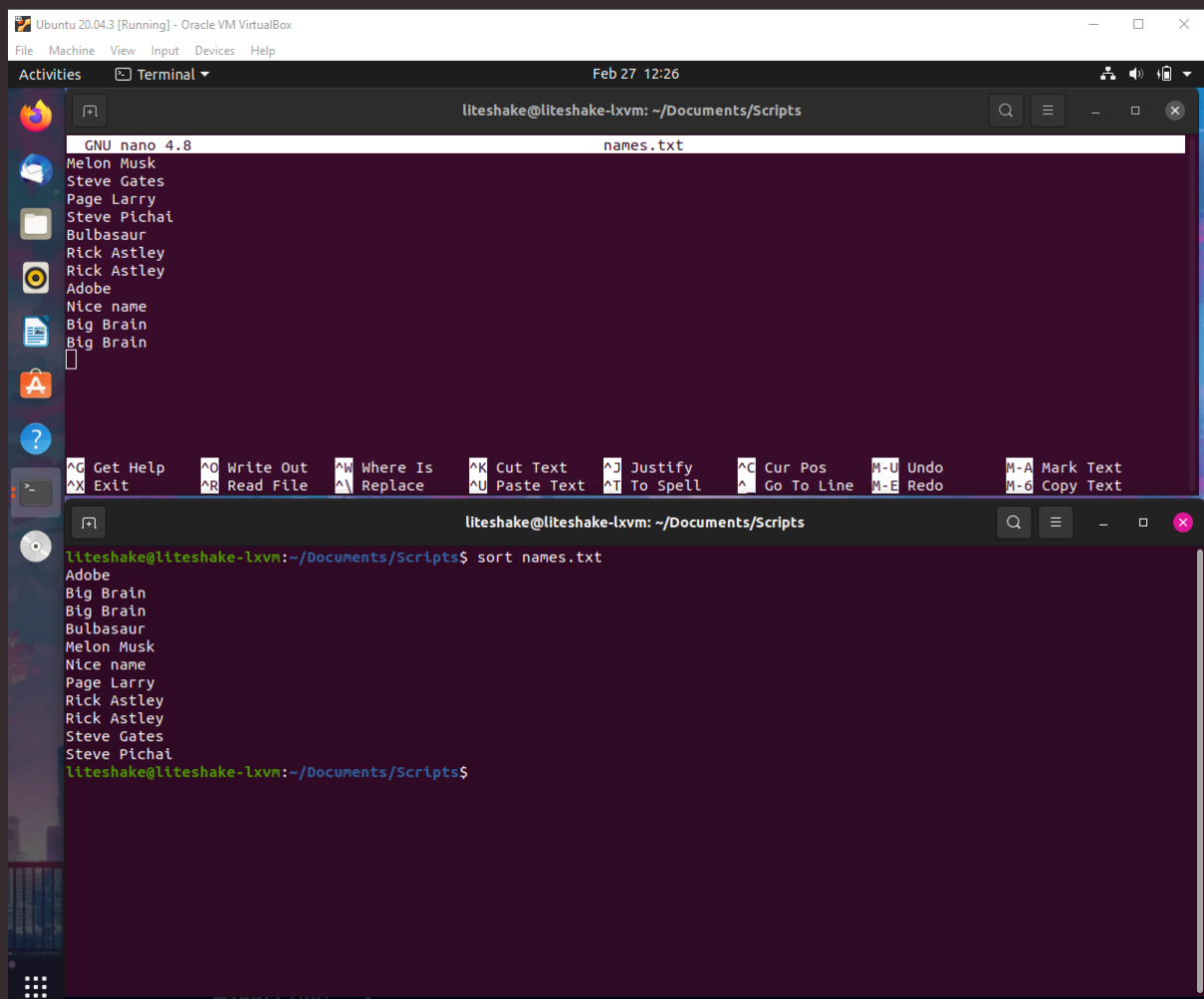


```
liteshake@liteshake-lxvm: ~/Documents/Scripts
liteshake@liteshake-lxvm:~/Documents/Scripts$ tail -n 30 /var/log/syslog
Feb 27 13:03:29 liteshake-lxvm gsd-color[1746]: unable to get EDID for xrandr-Virtual1: unable to get EDID for ou
tput
Feb 27 13:03:53 liteshake-lxvm gsd-color[1746]: message repeated 44 times: [ unable to get EDID for xrandr-Virtua
l1: unable to get EDID for output]
Feb 27 13:03:53 liteshake-lxvm gnome-shell[1625]: Window manager warning: Overwriting existing binding of keysym
31 with keysym 31 (keycode a).
Feb 27 13:03:53 liteshake-lxvm gnome-shell[1625]: Window manager warning: Overwriting existing binding of keysym
32 with keysym 32 (keycode b).
Feb 27 13:03:53 liteshake-lxvm gnome-shell[1625]: Window manager warning: Overwriting existing binding of keysym
33 with keysym 33 (keycode c).
Feb 27 13:03:53 liteshake-lxvm gnome-shell[1625]: Window manager warning: Overwriting existing binding of keysym
34 with keysym 34 (keycode d).
Feb 27 13:03:53 liteshake-lxvm gnome-shell[1625]: Window manager warning: Overwriting existing binding of keysym
39 with keysym 39 (keycode 12).
Feb 27 13:03:53 liteshake-lxvm gnome-shell[1625]: Window manager warning: Overwriting existing binding of keysym
37 with keysym 37 (keycode 10).
Feb 27 13:03:53 liteshake-lxvm gnome-shell[1625]: Window manager warning: Overwriting existing binding of keysym
35 with keysym 35 (keycode e).
Feb 27 13:03:53 liteshake-lxvm gnome-shell[1625]: Window manager warning: Overwriting existing binding of keysym
36 with keysym 36 (keycode f).
Feb 27 13:03:53 liteshake-lxvm gnome-shell[1625]: Window manager warning: Overwriting existing binding of keysym
38 with keysym 38 (keycode 11).
Feb 27 13:03:53 liteshake-lxvm gsd-color[1746]: unable to get EDID for xrandr-Virtual1: unable to get EDID for ou
tput
Feb 27 13:03:54 liteshake-lxvm /usr/lib/gdm3/gdm-x-session[1441]: (EE) No surface to present from.
Feb 27 13:03:54 liteshake-lxvm /usr/lib/gdm3/gdm-x-session[1441]: message repeated 3 times: [ (EE) No surface to
present from.]
Feb 27 13:03:54 liteshake-lxvm gnome-shell[1625]: (./src/backends/meta-monitor.c:1541):meta_monitor_derive_curre
nt_mode: runtime check failed: (is_current_mode_known (monitor))
Feb 27 13:03:54 liteshake-lxvm gnome-shell[1625]: Impossible to resize screen at size 1004x958, error id 8: BadMa
tch (invalid parameter attributes)
Feb 27 13:03:54 liteshake-lxvm /usr/lib/gdm3/gdm-x-session[1441]: (EE) No surface to present from.
Feb 27 13:03:54 liteshake-lxvm /usr/lib/gdm3/gdm-x-session[1441]: message repeated 2 times: [ (EE) No surface to
present from.]
Feb 27 13:03:54 liteshake-lxvm gsd-color[1746]: unable to get EDID for xrandr-Virtual1: unable to get EDID for ou
tput
Feb 27 13:03:54 liteshake-lxvm gsd-color[1746]: message repeated 2 times: [ unable to get EDID for xrandr-Virtual
1: unable to get EDID for output]
Feb 27 13:03:54 liteshake-lxvm gnome-shell[1625]: Window manager warning: Overwriting existing binding of keysym
37 with keysym 37 (keycode 10).
Feb 27 13:03:54 liteshake-lxvm gnome-shell[1625]: Window manager warning: Overwriting existing binding of keysym
31 with keysym 31 (keycode a).
Feb 27 13:03:54 liteshake-lxvm gnome-shell[1625]: Window manager warning: Overwriting existing binding of keysym
32 with keysym 32 (keycode b).
Feb 27 13:03:54 liteshake-lxvm gnome-shell[1625]: Window manager warning: Overwriting existing binding of keysym
33 with keysym 33 (keycode c).
Feb 27 13:03:54 liteshake-lxvm gnome-shell[1625]: Window manager warning: Overwriting existing binding of keysym
38 with keysym 38 (keycode 11).
```

Q What command should I use to arrange the entries of a file ?

Alphabetically

```
$ sort filename.txt
```



The screenshot shows a terminal window titled "Ubuntu 20.04.3 [Running] - Oracle VM VirtualBox". The terminal is running the nano text editor, editing a file named "names.txt". The initial content of the file is:

```
Melon Musk
Steve Gates
Page Larry
Steve Pichai
Bulbasaur
Rick Astley
Rick Astley
Adobe
Nice name
Big Brain
Big Brain
```

The user has executed the command `sort names.txt`. The output of the command is displayed in the terminal, showing the file's contents sorted alphabetically:

```
Adobe
Big Brain
Big Brain
Bulbasaur
Melon Musk
Nice name
Page Larry
Rick Astley
Rick Astley
Steve Gates
Steve Pichai
```

The terminal window also shows a menu bar with various editing options like "Get Help", "Exit", "Write Out", "Read File", "Where Is", "Replace", "Cut Text", "Paste Text", "Justify", "To Spell", "Cur Pos", "Go To Line", "Undo", "Redo", "Mark Text", and "Copy Text".

Reverse Order

```
$ sort filename.txt -r
```

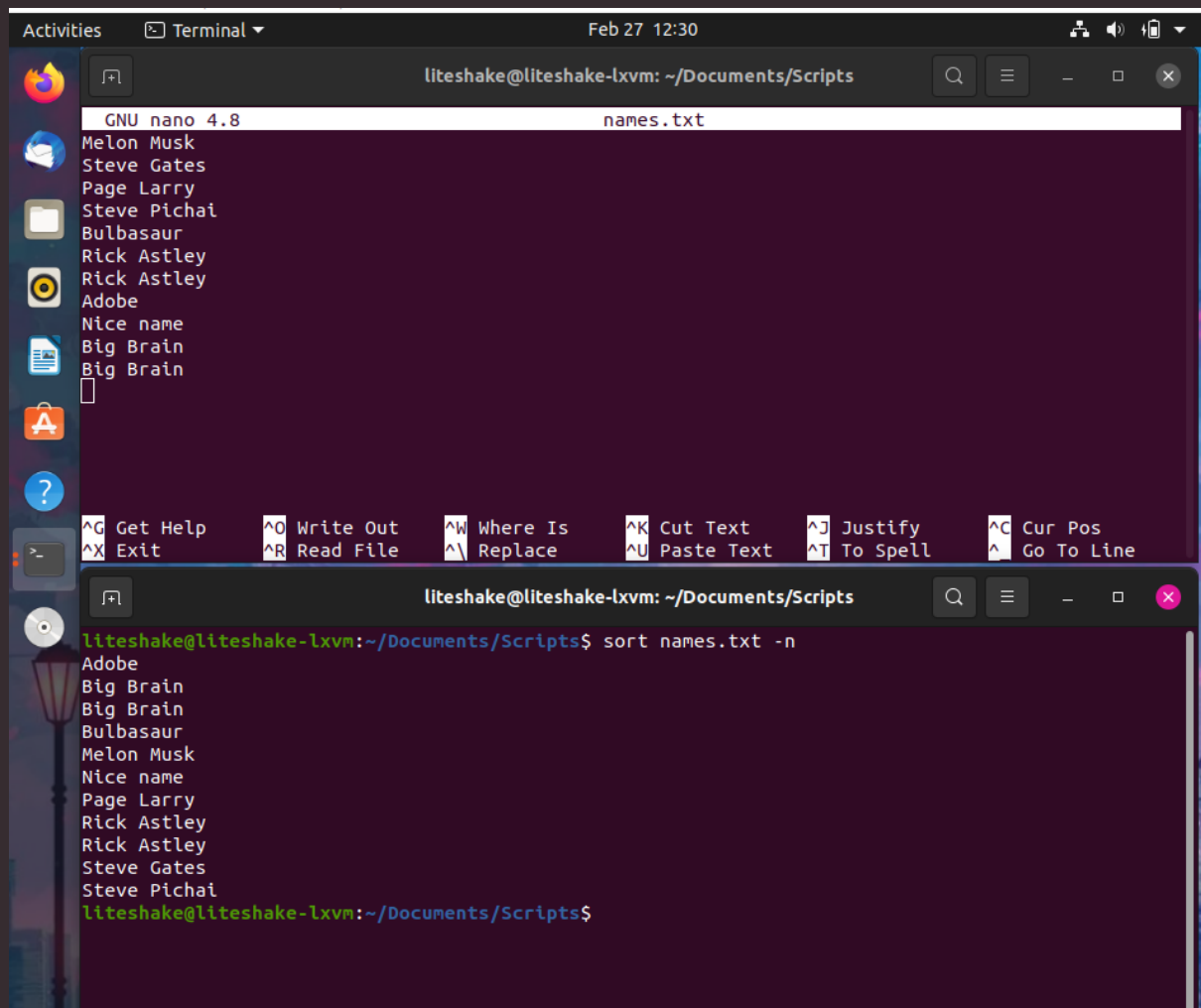
The screenshot shows a Linux desktop environment with a terminal window open. The terminal window has a title bar that reads "liteshake@liteshake-lxvm: ~/Documents/Scripts". The terminal content shows the command `sort names.txt -r` being executed. The output of the command is a list of names in reverse alphabetical order: Steve Pichai, Steve Gates, Rick Astley, Rick Astley, Page Larry, Nice name, Melon Musk, Bulbasaur, Big Brain, Big Brain, and Adobe. The terminal window also shows a nano editor window in the background with the same list of names in their original order.

```
GNU nano 4.8 names.txt
Melon Musk
Steve Gates
Page Larry
Steve Pichai
Bulbasaur
Rick Astley
Rick Astley
Adobe
Nice name
Big Brain
Big Brain
^G Get Help      ^O Write Out    ^W Where Is     ^K Cut Text     ^J Justify      ^C Cur Pos
^X Exit          ^R Read File    ^_ Replace      ^U Paste Text   ^T To Spell     ^_ Go To Line

liteshake@liteshake-lxvm: ~/Documents/Scripts$ sort names.txt -r
Steve Pichai
Steve Gates
Rick Astley
Rick Astley
Page Larry
Nice name
Melon Musk
Bulbasaur
Big Brain
Big Brain
Adobe
liteshake@liteshake-lxvm: ~/Documents/Scripts$
```

Numerical Order

```
$ sort filename.txt -n
```



The screenshot shows a Linux desktop environment with a terminal window open. The terminal title bar indicates the user is 'liteshake' on a machine named 'liteshake-lxvm', and the current directory is '~/Documents/Scripts'. The terminal content shows the execution of the 'sort' command on 'names.txt' with the '-n' flag. The output of the command is displayed, showing the contents of 'names.txt' sorted in numerical order. The original file 'names.txt' contains the following text:

```
GNU nano 4.8 names.txt
Melon Musk
Steve Gates
Page Larry
Steve Pichai
Bulbasaur
Rick Astley
Rick Astley
Adobe
Nice name
Big Brain
Big Brain
```

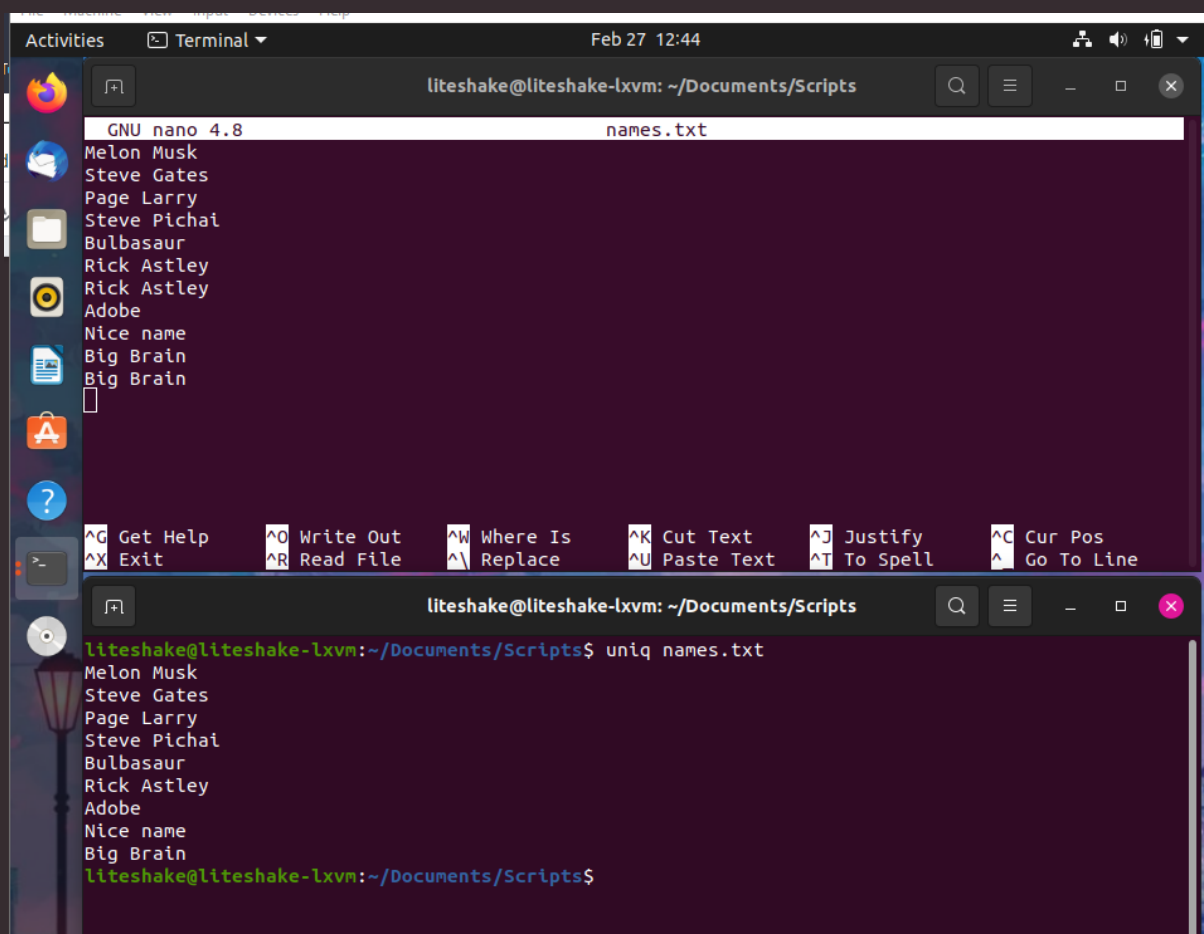
The output of the 'sort names.txt -n' command is as follows:

```
liteshake@liteshake-lxvm:~/Documents/Scripts$ sort names.txt -n
Adobe
Big Brain
Big Brain
Bulbasaur
Melon Musk
Nice name
Page Larry
Rick Astley
Rick Astley
Steve Gates
Steve Pichai
liteshake@liteshake-lxvm:~/Documents/Scripts$
```

Q Copee is a hard-working cop. He found a case and almost at the verge of cracking it. It could be his best breakthrough. He has the list of criminals but lots of duplicates are there. He needs to find the only one that is different. He sought your help. How will you sort this issue?

I'll help Mr.Copee with the magic of the *uniq* command which prints the duplicate entries only once.

```
$ uniq names.txt
```



The screenshot shows a Linux desktop environment with a terminal window open. The terminal window has a title bar that reads "liteshake@liteshake-lxvm: ~/Documents/Scripts". Inside the terminal, the GNU nano 4.8 text editor is open, editing a file named "names.txt". The file contains the following text:

```
Melon Musk
Steve Gates
Page Larry
Steve Pichai
Bulbasaur
Rick Astley
Rick Astley
Adobe
Nice name
Big Brain
Big Brain
```

Below the nano editor, the terminal shows the command `uniq names.txt` being executed. The output of the command is displayed in the terminal window:

```
Melon Musk
Steve Gates
Page Larry
Steve Pichai
Bulbasaur
Rick Astley
Adobe
Nice name
Big Brain
```

The terminal prompt is `liteshake@liteshake-lxvm:~/Documents/Scripts$`.

Q What are the three parts of file permission ?

The three parts of file permission are..

- > read : read only, no other stuff.
- > write : read and write stuff in the file
- > execute : execute commands in the file