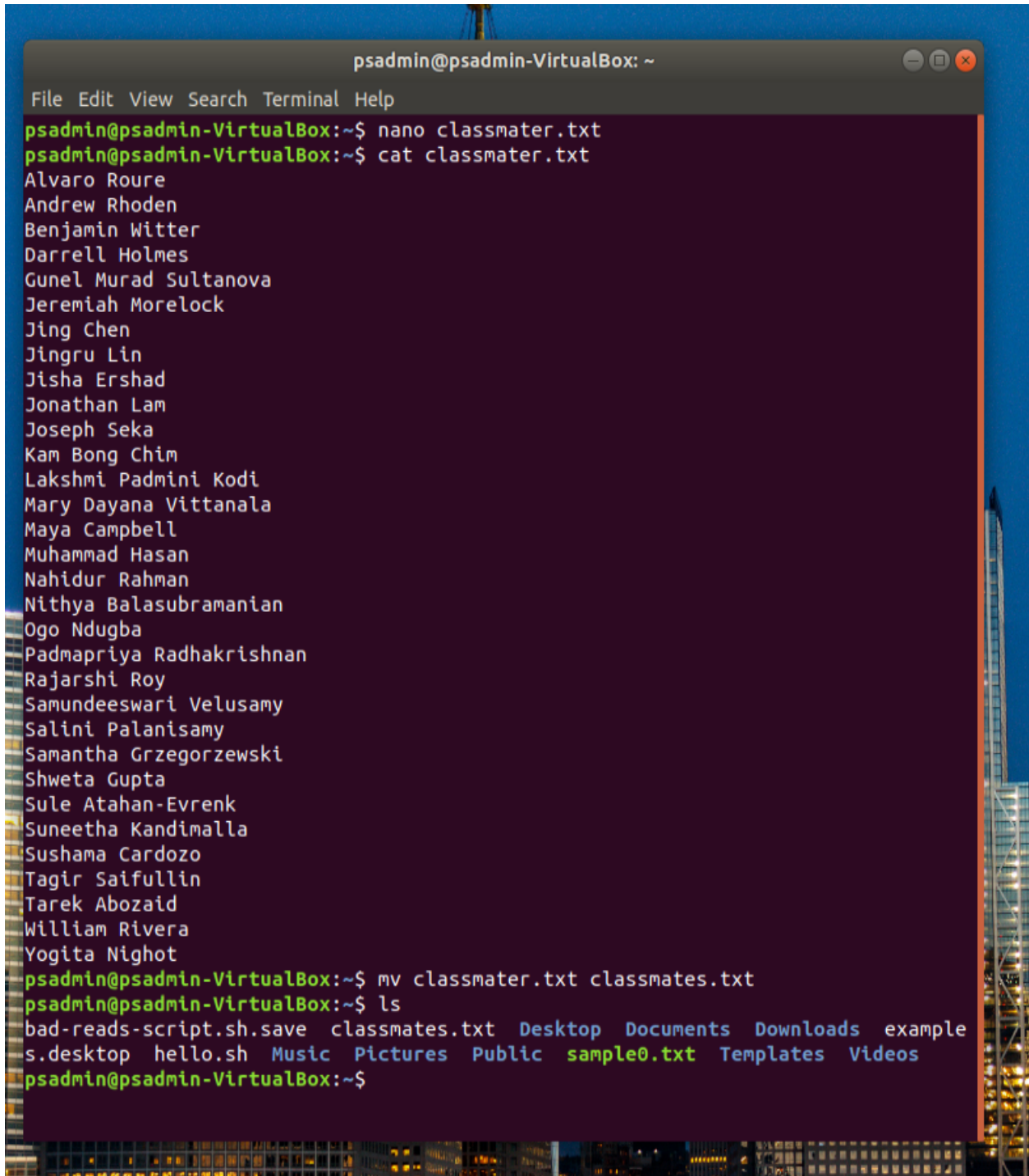


## Section A [100]

1. Create a file with the first and last names of all your classmates

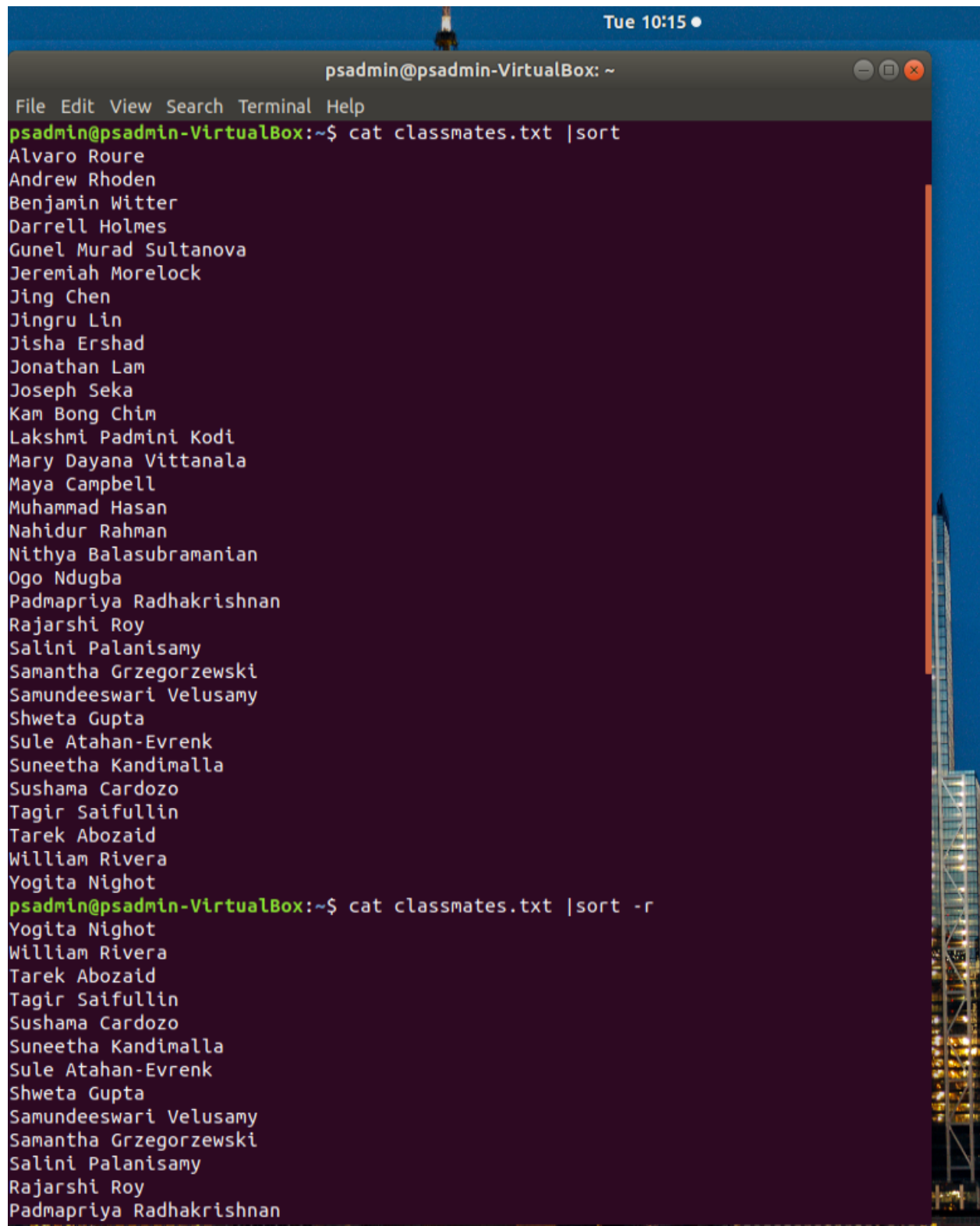


```
psadmin@psadmin-VirtualBox: ~  
File Edit View Search Terminal Help  
psadmin@psadmin-VirtualBox:~$ nano classmater.txt  
psadmin@psadmin-VirtualBox:~$ cat classmater.txt  
Alvaro Roure  
Andrew Rhoden  
Benjamin Witter  
Darrell Holmes  
Gunel Murad Sultanova  
Jeremiah Morelock  
Jing Chen  
Jingru Lin  
Jisha Ershad  
Jonathan Lam  
Joseph Seka  
Kam Bong Chin  
Lakshmi Padmini Kodi  
Mary Dayana Vittanala  
Maya Campbell  
Muhammad Hasan  
Nahidur Rahman  
Nithya Balasubramanian  
Ogo Ndugba  
Padmapriya Radhakrishnan  
Rajarshi Roy  
Samundeeswari Velusamy  
Salini Palanisamy  
Samantha Grzegorzewski  
Shweta Gupta  
Sule Atahan-Evrenk  
Suneetha Kandimalla  
Sushama Cardozo  
Tagir Saifullin  
Tarek Abozaid  
William Rivera  
Yogita Nighot  
psadmin@psadmin-VirtualBox:~$ mv classmater.txt classmates.txt  
psadmin@psadmin-VirtualBox:~$ ls  
bad-reads-script.sh.save classmates.txt Desktop Documents Downloads example  
s.desktop hello.sh Music Pictures Public sample0.txt Templates Videos  
psadmin@psadmin-VirtualBox:~$
```

2. Sort the file alphabetically - `cat classmates.txt | sort`

But since my file was already sorted or I used -r to reverse sort and sort it back.

3. Take a screenshot of this file- ( look down )



The screenshot shows a terminal window titled "psadmin@psadmin-VirtualBox: ~" with a menu bar (File, Edit, View, Search, Terminal, Help) and a system clock (Tue 10:15). The terminal displays the command `cat classmates.txt |sort` and its output, which is a list of 30 names sorted alphabetically. Below this, the command `cat classmates.txt |sort -r` is entered, and the output shows the same 30 names sorted in reverse alphabetical order.

```
psadmin@psadmin-VirtualBox: ~  
File Edit View Search Terminal Help  
psadmin@psadmin-VirtualBox:~$ cat classmates.txt |sort  
Alvaro Roure  
Andrew Rhoden  
Benjamin Witter  
Darrell Holmes  
Gunel Murad Sultanova  
Jeremiah Morelock  
Jing Chen  
Jingru Lin  
Jisha Ershad  
Jonathan Lam  
Joseph Seka  
Kam Bong Chim  
Lakshmi Padmini Kodi  
Mary Dayana Vittanala  
Maya Campbell  
Muhammad Hasan  
Nahidur Rahman  
Nithya Balasubramanian  
Ogo Ndugba  
Padmapriya Radhakrishnan  
Rajarshi Roy  
Salini Palanisamy  
Samantha Grzegorzewski  
Samundeeswari Velusamy  
Shweta Gupta  
Sule Atahan-Evrenk  
Suneetha Kandimalla  
Sushama Cardozo  
Tagir Saifullin  
Tarek Abozaid  
William Rivera  
Yogita Nighot  
psadmin@psadmin-VirtualBox:~$ cat classmates.txt |sort -r  
Yogita Nighot  
William Rivera  
Tarek Abozaid  
Tagir Saifullin  
Sushama Cardozo  
Suneetha Kandimalla  
Sule Atahan-Evrenk  
Shweta Gupta  
Samundeeswari Velusamy  
Samantha Grzegorzewski  
Salini Palanisamy  
Rajarshi Roy  
Padmapriya Radhakrishnan
```

Tue 10:15 ●

psadmin@psadmin-VirtualBox: ~

File Edit View Search Terminal Help

Lakshmi Padmini Kodi

Kam Bong Chim

Joseph Seka

Jonathan Lam

Jisha Ershad

Jingru Lin

Jing Chen

Jeremiah Morelock

Gunel Murad Sultanova

Darrell Holmes

Benjamin Witter

Andrew Rhoden

Alvaro Roure

psadmin@psadmin-VirtualBox:~\$ cat classmates.txt |sort

Alvaro Roure

Andrew Rhoden

Benjamin Witter

Darrell Holmes

Gunel Murad Sultanova

Jeremiah Morelock

Jing Chen

Jingru Lin

Jisha Ershad

Jonathan Lam

Joseph Seka

Kam Bong Chim

Lakshmi Padmini Kodi

Mary Dayana Vittanala

Maya Campbell

Muhammad Hasan

Nahidur Rahman

Nithya Balasubramanian

Ogo Ndugba

Padmapriya Radhakrishnan

Rajarshi Roy

Salini Palanisamy

Samantha Grzegorzewski

Samundeeswari Velusamy

Shweta Gupta

Sule Atahan-Evrenk

Suneetha Kandimalla

Sushama Cardozo

Tagir Saifullin

Tarek Abozaid

William Rivera

Yogita Nighot

psadmin@psadmin-VirtualBox:~\$

## Section B [100]

4. Use the commands `find` or `locate` to identify location of `syslog` file in your computer. - **locate sys log** was too long so i took last files and up arrowed the comment to show.

```
/var/log/journal/815be814f4f34308b32aeb0f587b410e/user-1001.journal
/var/log/journal/815be814f4f34308b32aeb0f587b410e/user-1002.journal
/var/log/journal/815be814f4f34308b32aeb0f587b410e/user-1003.journal
/var/log/journal/815be814f4f34308b32aeb0f587b410e/user-1004.journal
/var/log/unattended-upgrades/unattended-upgrades-dpkg.log
/var/log/unattended-upgrades/unattended-upgrades-shutdown.log
/var/log/unattended-upgrades/unattended-upgrades.log
/var/log/unattended-upgrades/unattended-upgrades.log.1.gz
/var/snap/gnome-logs
/var/snap/gnome-system-monitor
/var/snap/gnome-logs/115
/var/snap/gnome-logs/81
/var/snap/gnome-logs/common
/var/snap/gnome-logs/current
/var/snap/gnome-system-monitor/127
/var/snap/gnome-system-monitor/181
/var/snap/gnome-system-monitor/common
/var/snap/gnome-system-monitor/current
/var/tmp/systemd-private-39a4c0f6161544f0ae282b529ede74cf-ModemManager.service-Cx1hWn
/var/tmp/systemd-private-39a4c0f6161544f0ae282b529ede74cf-bolt.service-MoZ85X
/var/tmp/systemd-private-39a4c0f6161544f0ae282b529ede74cf-colord.service-vadEm8
/var/tmp/systemd-private-39a4c0f6161544f0ae282b529ede74cf-rtkit-daemon.service-f6omJJ
/var/tmp/systemd-private-39a4c0f6161544f0ae282b529ede74cf-systemd-resolved.service-4rKVgR
psadmin@psadmin-VirtualBox:~$ locate sys log
```

5. What command would you use to see the last: `tail /var/log/syslog`

```
psadmin@psadmin-VirtualBox:~$ tail /var/log/syslog
Nov 15 10:01:30 psadmin-VirtualBox org.gnome.Shell.desktop[10043]: [Child 10982, MediaDecoderStateMachine #1] WARNING: Decoder=7f5a04861c00 Decode error: NS_ERROR_DOM_MEDIA_FATAL_ERR (0x806e0005) - Error no decoder found for video/avc: file /build/firefox-6YxsMz/firefox-106.0.5+build1/dom/media/MediaDecoderStateMachineBase.cpp:151
Nov 15 10:03:41 psadmin-VirtualBox systemd[1]: Started Run anacron jobs.
Nov 15 10:03:41 psadmin-VirtualBox anacron[11260]: Anacron 2.3 started on 2022-11-15
Nov 15 10:03:41 psadmin-VirtualBox anacron[11260]: Normal exit (0 jobs run)
Nov 15 10:05:53 psadmin-VirtualBox rtkit-daemon[1147]: Supervising 1 threads of 1 processes of 1 users.
Nov 15 10:08:12 psadmin-VirtualBox rtkit-daemon[1147]: message repeated 9 times: [ Supervising 1 threads of 1 processes of 1 users.]
Nov 15 10:09:45 psadmin-VirtualBox pulseaudio[9258]: [alsa-sink-Intel ICH] alsa-sink.c: ALSA woke us up to write new data to the device, but there was actually nothing to write.
Nov 15 10:09:45 psadmin-VirtualBox pulseaudio[9258]: [alsa-sink-Intel ICH] alsa-sink.c: Most likely this is a bug in the ALSA driver 'snd_intel8x0'. Please report this issue to the ALSA developers.
Nov 15 10:09:45 psadmin-VirtualBox pulseaudio[9258]: [alsa-sink-Intel ICH] alsa-sink.c: We were woken up with POLLOUT set -- however a subsequent snd_pcm_avail() returned 0 or another value < min_avail.
Nov 15 10:17:01 psadmin-VirtualBox CRON[11538]: (root) CMD ( cd / && run-parts --report /etc/cron.hourly)
```

6. Save all the entries with the word 'error' in `syslog` file to a new file called `error.txt` in your home directory. : `sudo cp syslog ~/error.txt`



```

psadmin@psadmin-VirtualBox:/var/log$ ls
alternatives.log      auth.log.2.gz        gdm3                  syslog                vboxadd-setup.log
alternatives.log.1    boot.log             gpu-manager.log       syslog.1              vboxadd-setup.log.1
apport.log            bootstrap.log        hp                    syslog.2.gz           vboxadd-setup.log.2
apport.log.1          bttmp               installer            syslog.3.gz           vboxadd-setup.log.3
apport.log.2.gz       bttmp.1             journal              syslog.4.gz           vboxadd-setup.log.4
apport.log.3.gz       cups                kern.log              syslog.5.gz           vboxadd-uninstall.log
apport.log.4.gz       dist-upgrade         kern.log.1            syslog.6.gz           wtmp
apport.log.5.gz       dpkg.log            kern.log.2.gz         syslog.7.gz           wtmp.1
apt                   dpkg.log.1          lastlog               tallylog
auth.log              faillog              openvpn               unattended-upgrades
auth.log.1            fontconfig.log       speech-dispatcher     vboxadd-install.log
psadmin@psadmin-VirtualBox:/var/log$

```

```

psadmin@psadmin-VirtualBox:~$ ls
bad-reads-script.sh.save  Desktop  Downloads  examples.desktop  Music  Public  Templates
classmates.txt            Documents  error.txt  hello.sh          Pictures  sample0.txt  Videos
psadmin@psadmin-VirtualBox:~$

```

```

navailable) on X server :2.
Nov 15 08:41:00 psadmin-VirtualBox gsd-power[4827]: gsd-power: Fatal IO error 11 (Resource temporarily u
navailable) on X server :2.
Nov 15 08:41:00 psadmin-VirtualBox gsd-xsettings[4845]: gsd-xsettings: Fatal IO error 11 (Resource tempo
rarily unavailable) on X server :2.
Nov 15 08:41:00 psadmin-VirtualBox at-spi-bus-launcher[4683]: XI0: fatal IO error 11 (Resource temporar
ily unavailable) on X server ":2"
Nov 15 08:41:00 psadmin-VirtualBox gnome-shell[4709]: gnome-shell: Fatal IO error 0 (Success) on X serve
r :2.
Nov 15 08:41:00 psadmin-VirtualBox firefox[6439]: firefox: Fatal IO error 0 (Success) on X server :2.
Nov 15 08:41:01 psadmin-VirtualBox org.gnome.Shell.desktop[4709]: Exiting due to channel error.
Nov 15 08:41:01 psadmin-VirtualBox org.gnome.Shell.desktop[4709]: message repeated 2 times: [ Exiting du
e to channel error.]
Nov 15 08:41:01 psadmin-VirtualBox pulseaudio[9236]: [pulseaudio] client-conf-x11.c: xcb_connection_has_
error() returned true
Nov 15 08:41:02 psadmin-VirtualBox gnome-software[1875]: shell-extensions did not set error for gs_plugi
n_refresh
Nov 15 08:41:27 psadmin-VirtualBox pulseaudio[9258]: [pulseaudio] bluez5-util.c: GetManagedObjects() fai
led: org.freedesktop.DBus.Error.NoReply: Did not receive a reply. Possible causes include: the remote ap
plication did not send a reply, the message bus security policy blocked the reply, the reply timeout exp
ired, or the network connection was broken.
Nov 15 09:54:39 psadmin-VirtualBox org.gnome.Shell.desktop[1115]: libinput error: client bug: timer even
t5 debounce short: offset negative (-1ms)
Nov 15 09:54:48 psadmin-VirtualBox /usr/lib/gdm3/gdm-x-session[9911]: #011(WW) warning, (EE) error, (NI)
not implemented, (??) unknown.
Nov 15 09:54:49 psadmin-VirtualBox /usr/lib/gdm3/gdm-x-session[9911]: VBoxClient: error: No service spec
ified. Quitting because nothing to do!
Nov 15 09:54:51 psadmin-VirtualBox gsd-xsettings[10107]: Failed to get current display configuration sta
te: GDBus.Error:org.freedesktop.DBus.Error.NameHasNoOwner: Name "org.gnome.Mutter.DisplayConfig" does no
t exist
Nov 15 09:54:51 psadmin-VirtualBox gsd-sharing[10099]: Failed to StopUnit service: GDBus.Error:org.freed
esktop.systemd1.NoSuchUnit: Unit gnome-user-share-webdav.service not loaded.
Nov 15 09:54:51 psadmin-VirtualBox gsd-sharing[10099]: Failed to StopUnit service: GDBus.Error:org.freed
esktop.systemd1.NoSuchUnit: Unit rygel.service not loaded.
Nov 15 09:54:51 psadmin-VirtualBox gsd-sharing[10099]: Failed to StopUnit service: GDBus.Error:org.freed
esktop.systemd1.NoSuchUnit: Unit gnome-remote-desktop.service not loaded.
Nov 15 09:54:52 psadmin-VirtualBox vboxclient.desktop[10247]: VBoxClient: error: No service specified. Q
uitting because nothing to do!
Nov 15 09:54:53 psadmin-VirtualBox gnome-shell[10043]: Error looking up permission: GDBus.Error:org.free
desktop.portal.Error.NotFound: No entry for geolocation
Nov 15 10:01:29 psadmin-VirtualBox org.gnome.Shell.desktop[10043]: [2022-11-15T15:01:29Z ERROR mp4parse]
Found 2 nul bytes in "\0\0"
Nov 15 10:01:30 psadmin-VirtualBox org.gnome.Shell.desktop[10043]: [Child 10982, MediaDecoderStateMachin
e #1] WARNING: Decoder=7f5a04861c00 Decode error: NS_ERROR_DOM_MEDIA_FATAL_ERR (0x806e0005) - Error no d
ecoder found for video/avc: file /build/firefox-6YxsMz/firefox-106.0.5+build1/dom/media/MediaDecoderStat
eMachineBase.cpp:151

```

```

ecoder found for video/avc: file /build/firefox-6YxsMz/firefox-106.0.5+build1/dom/media/MediaDecoderStateMach
ineBase.cpp:151
psadmin@psadmin-VirtualBox:~$ sudo grep -i 'error' cat error.txt

```

7. Create a new user called test. Use su to login as test : sudo adduser test

```
psadmin@psadmin-VirtualBox:~$ sudo adduser test
Adding user `test' ...
Adding new group `test' (1007) ...
Adding new user `test' (1005) with group `test' ...
Creating home directory `/home/test' ...
Copying files from `/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for test
Enter the new value, or press ENTER for the default
    Full Name []: test
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n] Y
```

```
psadmin@psadmin-VirtualBox:~$ su test
Password:
test@psadmin-VirtualBox:/home/psadmin$ cd ~
test@psadmin-VirtualBox:~$
```

8. Copy the error.txt file from your user directory into the test user's home directory

```
psadmin@psadmin-VirtualBox:~$ sudo cp error.txt /home/test
[sudo] password for psadmin:
psadmin@psadmin-VirtualBox:~$ su test
Password:
```

ls -ll

9. Take a screenshot as user test to display first 10 lines of this file.

```

test@psadmin-VirtualBox:~$ ls -ll
total 500
-rwxr-x--x 1 root root 498802 Nov 15 11:28 error.txt
-rw-r--r-- 1 test test 8980 Nov 15 10:54 examples.desktop
test@psadmin-VirtualBox:~$ head error.txt
head: cannot open 'error.txt' for reading: Permission denied
test@psadmin-VirtualBox:~$ su psadmin
Password:
psadmin@psadmin-VirtualBox:/home/test$ head error.txt
Nov 15 00:08:48 psadmin-VirtualBox rsyslogd: [origin software="rsyslogd" swVersion="8.32.0" x-pid="512" x-info="http://www.rs
yslog.com"] rsyslogd was HUPed
Nov 15 00:08:49 psadmin-VirtualBox anacron[8792]: Job 'cron.daily' terminated
Nov 15 00:08:49 psadmin-VirtualBox anacron[8792]: Normal exit (1 job run)
Nov 15 01:06:35 psadmin-VirtualBox systemd[1]: Started Run anacron jobs.
Nov 15 01:06:35 psadmin-VirtualBox kernel: [59739.116575] 06:06:35.899071 timesync vgsvctimeSyncWorker: Radical host time chan
ge: 3 456 983 000 000ns (HostNow=1 668 492 395 479 000 000 ns HostLast=1 668 488 938 496 000 000 ns)
Nov 15 01:06:35 psadmin-VirtualBox kernel: [59739.116613] 06:06:35.899160 timesync vgsvctimeSyncWorker: Radical guest time cha
nge: 3 458 709 232 000ns (GuestNow=1 668 492 395 884 523 000 ns GuestLast=1 668 488 937 175 291 000 ns fSetTimeLastLoop=false)
Nov 15 01:06:35 psadmin-VirtualBox rtkit-daemon[1147]: The canary thread is apparently starving. Taking action.
Nov 15 01:06:35 psadmin-VirtualBox rtkit-daemon[1147]: Demoting known real-time threads.
Nov 15 01:06:35 psadmin-VirtualBox rtkit-daemon[1147]: Successfully demoted thread 6585 of process 6439 (n/a).
Nov 15 01:06:35 psadmin-VirtualBox rtkit-daemon[1147]: Successfully demoted thread 4734 of process 4732 (n/a).
psadmin@psadmin-VirtualBox:/home/test$

```

## Section C [100]

10. Elevate your user privilege to be the root/superuser on this system.

```

root@psadmin-VirtualBox: ~
File Edit View Search Terminal Tabs Help
test@psadmin-VirtualBox: ~ x root@psadmin-VirtualBox: ~ x
psadmin@psadmin-VirtualBox:~$ sudo -s
[sudo] password for psadmin:
root@psadmin-VirtualBox:~# ls -ll
total 548
-rw----- 1 psadmin psadmin 53 Nov 8 22:33 bad-reads-script.sh.save
-rw-rw-r-- 1 psadmin psadmin 521 Nov 15 10:03 classmates.txt
drwxr-xr-x 2 psadmin psadmin 4096 Mar 21 2021 Desktop
drwxr-xr-x 2 psadmin psadmin 4096 Mar 21 2021 Documents
drwxr-xr-x 2 psadmin psadmin 4096 Nov 15 10:08 Downloads
-rwxr-x--x 1 root root 498802 Nov 15 10:33 error.txt
-rw-r--r-- 1 psadmin psadmin 8980 Mar 21 2021 examples.desktop
-rw-rw-r-- 1 psadmin psadmin 228 Nov 14 13:15 hello.sh
drwxr-xr-x 2 psadmin psadmin 4096 Mar 21 2021 Music
drwxr-xr-x 2 psadmin psadmin 4096 Mar 21 2021 Pictures
drwxr-xr-x 2 psadmin psadmin 4096 Mar 21 2021 Public
-rwxrwxr-x 1 psadmin psadmin 13 Nov 11 16:53 sample0.txt
drwxr-xr-x 2 psadmin psadmin 4096 Nov 14 14:44 Templates
drwxr-xr-x 2 psadmin psadmin 4096 Mar 21 2021 Videos
root@psadmin-VirtualBox:~# whoami
root
root@psadmin-VirtualBox:~# sudo -i
root@psadmin-VirtualBox:~# grep root /etc/group
root:x:0:slee
root@psadmin-VirtualBox:~# sudo usermod -aG root psadmin
root@psadmin-VirtualBox:~# grep root /etc/group
root:x:0:slee,psadmin
root@psadmin-VirtualBox:~#

```

11. Check which process is consuming the max memory resources on your ubuntu system: (top) root pid is 10043

```
psadmin@psadmin-VirtualBox:~$ top

top - 12:03:08 up 1 day, 3:32, 2 users, load average: 0.52, 0.37, 0.21
Tasks: 392 total, 2 running, 357 sleeping, 0 stopped, 0 zombie
%Cpu(s): 1.0 us, 0.3 sy, 0.0 ni, 98.7 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
KiB Mem : 4026416 total, 170020 free, 3246016 used, 610380 buff/cache
KiB Swap: 2097148 total, 1113768 free, 983380 used. 393972 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR S  %CPU  %MEM    TIME+  COMMAND
10043 psadmin   20   0 3127040 417288 87072 S   0.7  10.4   2:51.56 gnome-shell
 1458 roy      20   0  185388    776    776 S   0.3   0.0   1:12.26 VBoxClient
12383 psadmin   20   0   42056    3984   3076 R   0.3   0.1    0:00.10 top
     1 root      20   0   225440    6836   4716 S   0.0   0.2    0:10.51 systemd
```

12. Does this process have a parent process?

```
psadmin@psadmin-VirtualBox:~$ pstree 10043
gnome-shell--gnome-control-c--4*[{gnome-control-c}]
             |
             |--ibus-daemon--ibus-dconf--3*[{ibus-dconf}]
             |                   |
             |                   |--ibus-engine-sim--2*[{ibus-engine-sim}]
             |                   |
             |                   --2*[{ibus-daemon}]
             |
             --9*[{gnome-shell}]
```

13. Where is the binary file for this process located and what is the size and permissions on this file

```
psadmin@psadmin-VirtualBox:~$ cd /usr/bin
psadmin@psadmin-VirtualBox:/usr/bin$ ls
[' 411toppm      gnome-www-browser      nmtui-hostname      scanimage
aa-enabled      gold                   nohup                scp
aa-exec         gouldtoppm            notify-send          scp-dbus-service
aconect         gpasswd               nproc               screendump
acpi_listen     gpg                   nroff               script
add-apt-repository gpg-agent             nsenter             scriptreplay
addpart         gpgconf               nslookup            sdff
addr2line       gpg-connect-agent     nstat               sdptool
aid             gpgparsemail          nsupdate            seahorse
alsabat         gpgsm                 ntfsdecrypt          see
alsaloop        gpgsplit              numfmt              select-default-lwrap
alsamixer       gpgv                  nvidia-detector     select-editor
alsatplg        gpg-wks-server         oakdecode            sensible-browser
                gpg-zip               obexctl             sensible-editor
```

14. Take a Screenshot to display information on this file.

```
psadmin@psadmin-VirtualBox:/usr/bin$ ls -al /proc/10043/exe
lrwxrwxrwx 1 psadmin psadmin 0 Nov 15 12:20 /proc/10043/exe -> /usr/bin/gnome-shell
```



## Section D [100]

16. Go to /var/log - cd /var/log

```
psadmin@psadmin-VirtualBox:/usr/bin$ cd /var/log
psadmin@psadmin-VirtualBox:/var/log$
```

17. Copy all files that start with the name syslog into /tmp - sudo cp syslog\* /tmp

```
psadmin@psadmin-VirtualBox:/var/log$ ls
alternatives.log      apport.log.5.gz      bttmp               fontconfig.log      kern.log.1          syslog.2.gz          unattended-upgrades  vboxadd-uninstall.log
alternatives.log.1    apt                  bttmp.1             gdm3                 kern.log.2.gz       syslog.3.gz          vboxadd-install.log  wtmp
apport.log            auth.log             cups                 gpu-manager.log     lastlog              syslog.4.gz          vboxadd-setup.log    wtmp.1
apport.log.1          auth.log.1           dist-upgrade         hp                    openvpn              syslog.5.gz          vboxadd-setup.log.1
apport.log.2.gz       auth.log.2.gz        dpkg.log             installer            speech-dispatcher    syslog.6.gz          vboxadd-setup.log.2
apport.log.3.gz       boot.log             dpkg.log.1           journal              syslog                syslog.7.gz          vboxadd-setup.log.3
apport.log.4.gz       bootstrap.log         faillog              kern.log              syslog.1              tallylog             vboxadd-setup.log.4

psadmin@psadmin-VirtualBox:/var/log$ sudo cp syslog* /tmp
psadmin@psadmin-VirtualBox:/var/log$ cd /tmp
psadmin@psadmin-VirtualBox:/tmp$ ls -l
total 16680
-rw-rw-r-- 1 slee slee 522240 Nov 14 11:24 all_characters.tar
-rw-r--r-- 1 root root 1086396 Nov 14 11:37 all_characters.tar.gz
-rw-r--r-- 1 root root 4280320 Nov 14 15:02 backup-lab.tar
-rw-r--r-- 1 root root 6658365 Nov 14 15:07 backup-lab.tar.gz
-rw-r--r-- 1 root root 2140160 Nov 14 14:41 backup.tar
-rw-r--r-- 1 psadmin psadmin 0 Nov 14 13:03 config-err-CZEDm1
-rw-r--r-- 1 roy roy 0 Nov 14 08:31 config-err-n5u7k9
-rw-r--r-- 1 slee slee 0 Nov 14 11:09 config-err-szJkJj
-rw-r--r-- 1 psadmin psadmin 0 Nov 15 09:54 config-err-ubEI0l
drwxrwxr-x 12 psadmin psadmin 4096 Nov 15 12:29 log
-rw-rw-r-- 1 psadmin psadmin 25 Nov 14 14:36 sample1.txt
-rw-rw-r-- 1 psadmin psadmin 17 Nov 14 14:37 sample2.txt
drwx----- 2 slee slee 4096 Nov 14 11:09 ssh-R6mL7oSCT20r
drwx----- 2 roy roy 4096 Nov 14 08:31 ssh-sE1Qj0Tnqc10
-rw-r--r-- 1 root root 604941 Nov 15 12:35 syslog
-rw-r--r-- 1 root root 793063 Nov 15 12:35 syslog.1
-rw-r--r-- 1 root root 67142 Nov 15 12:35 syslog.2.gz
-rw-r--r-- 1 root root 96303 Nov 15 12:35 syslog.3.gz
-rw-r--r-- 1 root root 57277 Nov 15 12:35 syslog.4.gz
-rw-r--r-- 1 root root 10237 Nov 15 12:35 syslog.5.gz
-rw-r--r-- 1 root root 85196 Nov 15 12:35 syslog.6.gz
-rw-r--r-- 1 root root 96973 Nov 15 12:35 syslog.7.gz
drwx----- 3 root root 4096 Nov 14 08:31 systemd-private-39a4c0f6161544f0ae282b529ede74cf-bolt.service-rPj5Uo
drwx----- 3 root root 4096 Nov 14 08:31 systemd-private-39a4c0f6161544f0ae282b529ede74cf-colord.service-etpoeY
drwx----- 3 root root 4096 Nov 14 08:30 systemd-private-39a4c0f6161544f0ae282b529ede74cf-ModemManager.service-3XFBB7
drwx----- 3 root root 4096 Nov 14 08:31 systemd-private-39a4c0f6161544f0ae282b529ede74cf-rtkit-daemon.service-7PbBbd
drwx----- 3 root root 4096 Nov 15 08:40 systemd-private-39a4c0f6161544f0ae282b529ede74cf-systemd-resolved.service-Ge7G0d
drwx----- 2 roy roy 4096 Nov 14 10:10 Temp-d641d9a5-28a4-4d74-8d0b-3d0356c259b6
drwx----- 2 psadmin psadmin 4096 Nov 15 09:58 Temp-e160c0cf-efc5-4f54-8c55-ef8cc39961bc
-rw-r--r-- 1 roy roy 511815 Nov 14 10:12 tmpaddon
```

} all Syslog

18. Go to /tmp and compress all files that start with syslog into syslog.tar tar -xvf syslog.tar

```

psadmin@psadmin-VirtualBox:/tmp$ ls -l
total 226432
-rw-rw-r-- 1 slee slee 522240 Nov 14 11:24 all_charecters.tar
-rw-r--r-- 1 root root 1086396 Nov 14 11:37 all_charecters.tgz
-rw-r--r-- 1 root root 4280320 Nov 14 15:02 backup-lab.tar
-rw-r--r-- 1 root root 6658365 Nov 14 15:07 backup-lab.tgz
-rw-r--r-- 1 root root 2140160 Nov 14 14:41 backup.tar
-rw-r----- 1 psadmin psadmin 0 Nov 14 13:03 config-err-CZEDm1
-rw-r----- 1 roy roy 0 Nov 14 08:31 config-err-n5u7k9
-rw-r----- 1 slee slee 0 Nov 14 11:09 config-err-szJkKj
-rw-r----- 1 psadmin psadmin 0 Nov 15 09:54 config-err-ubEI0l
drwxrwxr-x 12 psadmin psadmin 4096 Nov 15 12:29 log
-rw-rw-r-- 1 psadmin psadmin 25 Nov 14 14:36 sample1.txt
-rw-rw-r-- 1 psadmin psadmin 17 Nov 14 14:37 sample2.txt
drwx----- 2 slee slee 4096 Nov 14 11:09 ssh-R6mL7oSCT20r
drwx----- 2 roy roy 4096 Nov 14 08:31 ssh-sE1Qj0Tnqc10
-rw-r----- 1 root root 604941 Nov 15 12:35 syslog
-rw-r----- 1 root root 793063 Nov 15 12:35 syslog.1
-rw-r----- 1 root root 67142 Nov 15 12:35 syslog.2.gz
-rw-r----- 1 root root 96303 Nov 15 12:35 syslog.3.gz
-rw-r----- 1 root root 57277 Nov 15 12:35 syslog.4.gz
-rw-r----- 1 root root 10237 Nov 15 12:35 syslog.5.gz
-rw-r----- 1 root root 85196 Nov 15 12:35 syslog.6.gz
-rw-r----- 1 root root 96973 Nov 15 12:35 syslog.7.gz
-rw-rw-r-- 1 psadmin psadmin 191979520 Nov 15 12:48 syslog.tar
-rw-rw-r-- 1 psadmin psadmin 22800850 Nov 15 12:50 syslog.tgz
drwx----- 3 root root 4096 Nov 14 08:31 systemd-private-39a4c0f6161544f0ae282b529ede74cf-bolt.service-rPj5Uo
drwx----- 3 root root 4096 Nov 14 08:31 systemd-private-39a4c0f6161544f0ae282b529ede74cf-color.service-etpoeY
drwx----- 3 root root 4096 Nov 14 08:30 systemd-private-39a4c0f6161544f0ae282b529ede74cf-ModemManager.service-3XFBB7
drwx----- 3 root root 4096 Nov 14 08:31 systemd-private-39a4c0f6161544f0ae282b529ede74cf-rtkit-daemon.service-7PbBbd
drwx----- 3 root root 4096 Nov 15 08:40 systemd-private-39a4c0f6161544f0ae282b529ede74cf-systemd-resolved.service-Ge7G0d
drwx----- 2 roy roy 4096 Nov 14 10:10 Temp-d641d9a5-28a4-4d74-8d0b-3d0356c259b6
drwx----- 2 psadmin psadmin 4096 Nov 15 09:58 Temp-e160c0cf-efc5-4f54-8c55-ef8cc39961bc
drwxrwxr-x 17 psadmin psadmin 4096 Nov 15 12:47 tmp
-rw-r--r-- 1 roy roy 511815 Nov 14 10:12 tmpaddon
psadmin@psadmin-VirtualBox:/tmp$ tar -xvf syslog.tar

```

19. gzip the syslog.tar file

```

psadmin@psadmin-VirtualBox:/tmp$ gzip syslog.tar
psadmin@psadmin-VirtualBox:/tmp$ ls
all_charecters.tar sample2.txt syslog.tar.gz
all_charecters.tgz ssh-R6mL7oSCT20r syslog.tgz
backup-lab.tar ssh-sE1Qj0Tnqc10 systemd-private-39a4c0f6161544f0ae282b529ede74cf-bolt.service-rPj5Uo
backup-lab.tgz syslog systemd-private-39a4c0f6161544f0ae282b529ede74cf-color.service-etpoeY
backup.tar syslog.1 systemd-private-39a4c0f6161544f0ae282b529ede74cf-ModemManager.service-3XFBB7
config-err-CZEDm1 syslog.2.gz systemd-private-39a4c0f6161544f0ae282b529ede74cf-rtkit-daemon.service-7PbBbd
config-err-n5u7k9 syslog.3.gz systemd-private-39a4c0f6161544f0ae282b529ede74cf-systemd-resolved.service-Ge7G0d
config-err-szJkKj syslog.4.gz Temp-d641d9a5-28a4-4d74-8d0b-3d0356c259b6
config-err-ubEI0l syslog.5.gz Temp-e160c0cf-efc5-4f54-8c55-ef8cc39961bc
log syslog.6.gz tmp
sample1.txt syslog.7.gz tmpaddon

```

20. Calculate how much space you saved by compressing and zipping the syslog\* files  
169,178,670

```

psadmin@psadmin-VirtualBox:/tmp$ gunzip -l syslog.tgz
      compressed      uncompressed  ratio uncompressed_name
      22800850          191979520  88.1% syslog.tar

```

21. Submit screenshot as evidence

## Section E [100]ca

22. Create a sample shell script that prints out every odd number between 0-100.

```
#!/bin/bash
seq 1 2 100
```

23. Submit Screenshot as evidence.

```
psadmin@psadmin-VirtualBox:~$ chmod u+x printodd.bsh
psadmin@psadmin-VirtualBox:~$ ./printodd.bsh
1
3
5
7
9
11
13
15
17
19
21
23
25
27
29
31
33
35
37
39
41
43
45
47
49
51
```