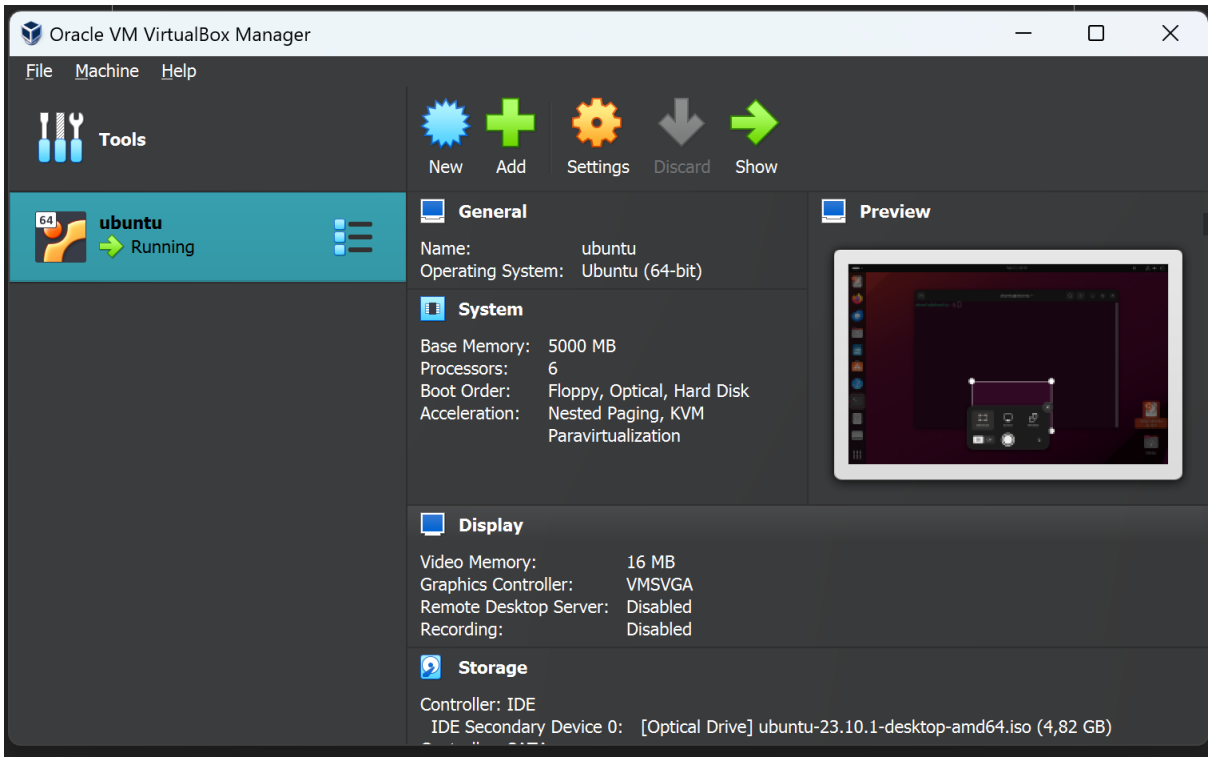
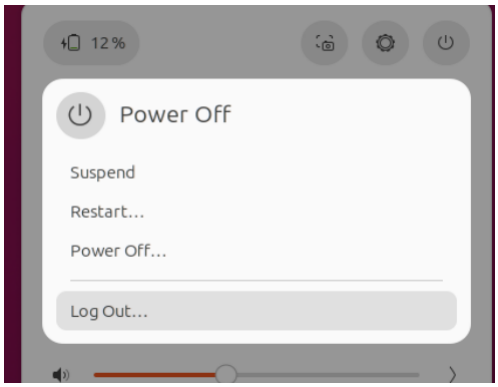
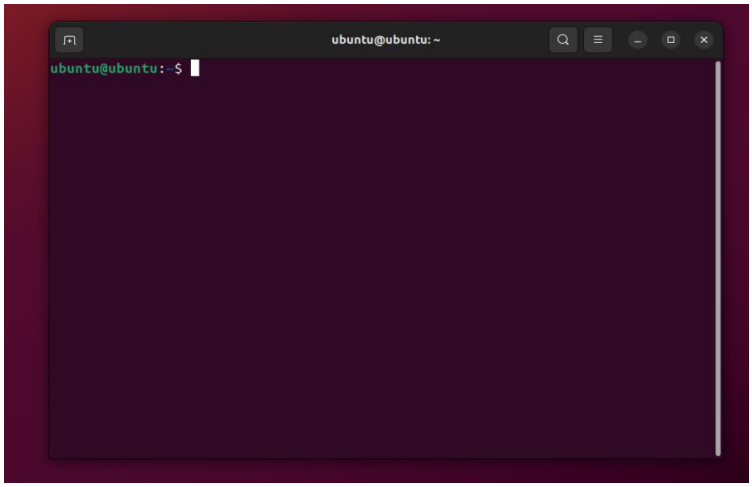
Task 1:


Oracle VM VirtualBox Manager
File
Machine
Help
Tools
New
Add
Settings
Discard
Show
ubuntu
Running
General
Name: ubuntu
Operating System: Ubuntu (64-bit)
System
Base Memory: 5000 MB
Processors: 6
Boot Order: Floppy, Optical, Hard Disk
Acceleration: Nested Paging, KVM
Paravirtualization
Preview
Display
Video Memory: 16 MB
Graphics Controller: VMSVGA
Remote Desktop Server: Disabled
Recording: Disabled
Storage
Controller: IDE
IDE Secondary Device 0: [Optical Drive] ubuntu-23.10.1-desktop-amd64.iso (4,82 GB)

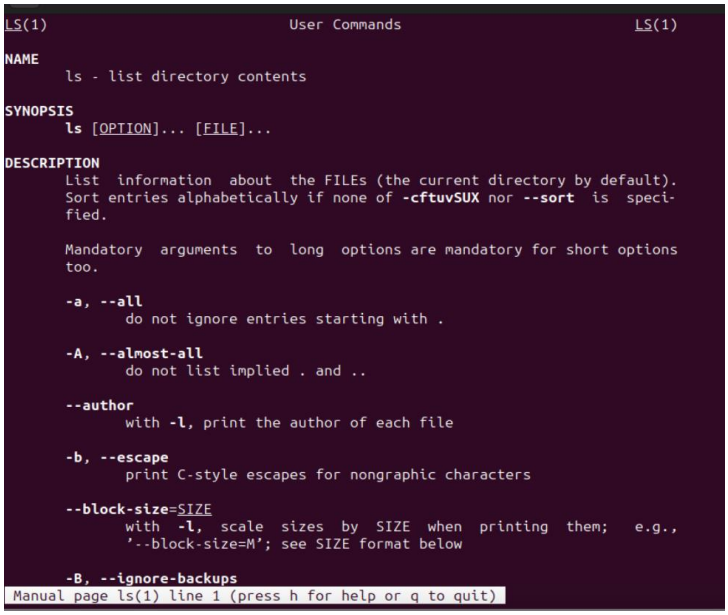
Task 2:


12 %
Power Off
Suspend
Restart...
Power Off...
Log Out...

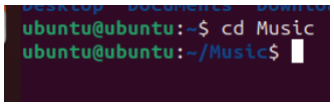

ubuntu@ubuntu: ~
ubuntu@ubuntu:~$

Task 3:

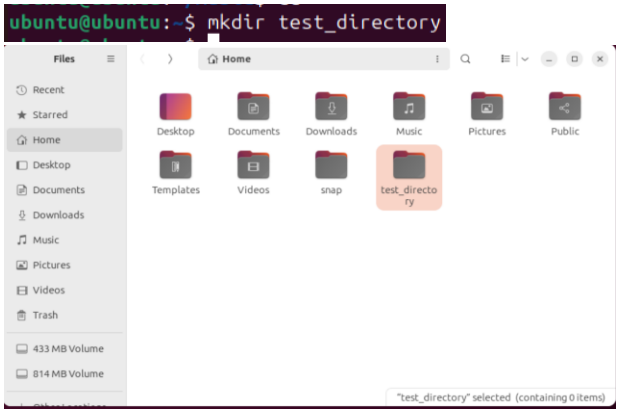
1. man ls



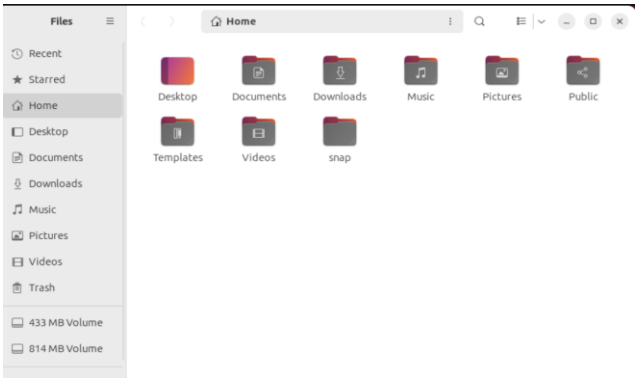
2. cd Music



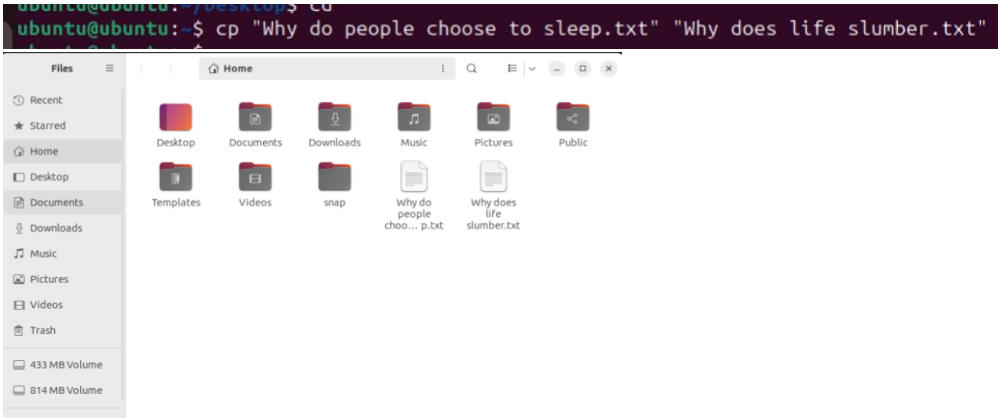
3. mkdir test_directory



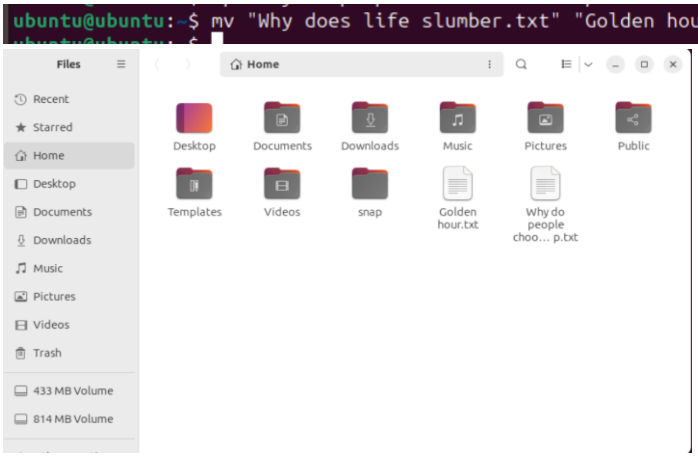
4. rm -r test_directory



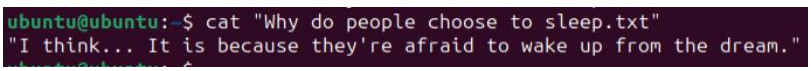
5. cp “Why do people choose to sleep.txt” “Why does life slumber.txt”



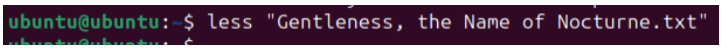
6. mv “Why does life slumber.txt” “Golden hour.txt”

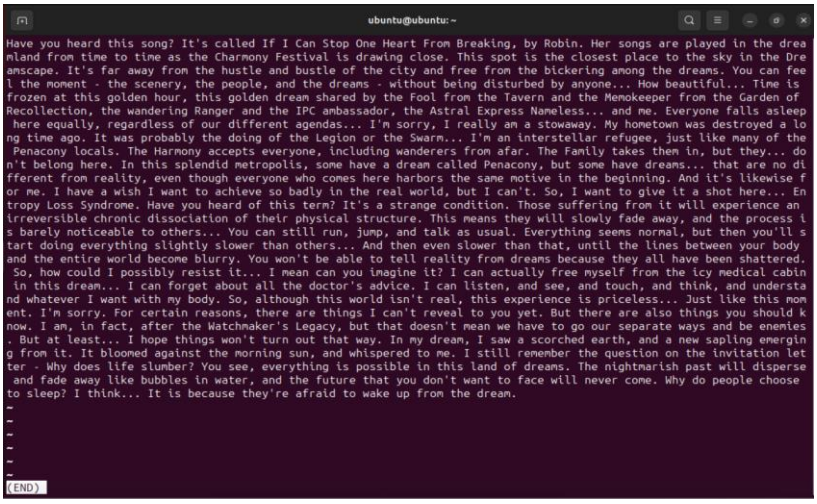


7. cat “Why do people choose to sleep.txt”

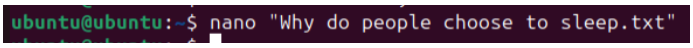


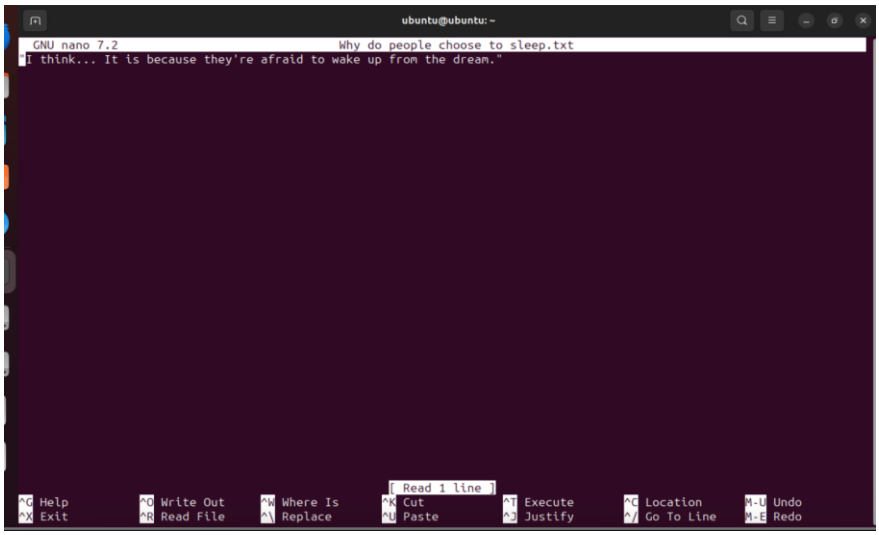
8. less “Gentleness, the Song of Nocturne.txt”



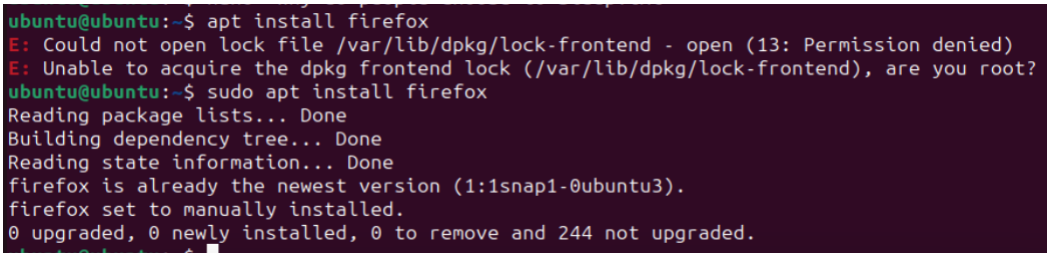


9. nano “Why do people choose to sleep.txt”





10. apt install firefox / sudo apt install firefox



Task 4:

1. ps aux

```
ubuntu@ubuntu:~$ ps aux
USER         PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root           1  0.1  0.3 170872 14728 ?        Ss   14:26   0:07 /sbin/init --- splash
root           2  0.0  0.0      0     0 ?        S    14:26   0:00 [kthreadd]
root           3  0.0  0.0      0     0 ?        I<   14:26   0:00 [rcu_gp]
root           4  0.0  0.0      0     0 ?        I<   14:26   0:00 [rcu_par_gp]
root           5  0.0  0.0      0     0 ?        I<   14:26   0:00 [slub_flushwq]
root           6  0.0  0.0      0     0 ?        I<   14:26   0:00 [netns]
root           8  0.0  0.0      0     0 ?        I<   14:26   0:00 [kworker/0:0H-kblockd]
root          11  0.0  0.0      0     0 ?        I<   14:26   0:00 [mm_percpu_wq]
root          12  0.0  0.0      0     0 ?        I    14:26   0:00 [rcu_tasks_kthread]
root          13  0.0  0.0      0     0 ?        I    14:26   0:00 [rcu_tasks_rude_kthread]
root          14  0.0  0.0      0     0 ?        I    14:26   0:00 [rcu_tasks_trace_kthread]
root          15  0.0  0.0      0     0 ?        S    14:26   0:00 [ksoftirqd/0]
root          16  0.0  0.0      0     0 ?        I    14:26   0:06 [rcu_preempt]
root          17  0.0  0.0      0     0 ?        S    14:26   0:00 [migration/0]
root          18  0.0  0.0      0     0 ?        S    14:26   0:00 [idle_inject/0]
root          19  0.0  0.0      0     0 ?        S    14:26   0:00 [cpuhp/0]
root          20  0.0  0.0      0     0 ?        S    14:26   0:00 [cpuhp/1]
root          21  0.0  0.0      0     0 ?        S    14:26   0:00 [idle_inject/1]
root          22  0.0  0.0      0     0 ?        S    14:26   0:00 [migration/1]
root          23  0.0  0.0      0     0 ?        S    14:26   0:00 [ksoftirqd/1]
root          26  0.0  0.0      0     0 ?        S    14:26   0:00 [cpuhp/2]
root          27  0.0  0.0      0     0 ?        S    14:26   0:00 [idle_inject/2]
root          28  0.0  0.0      0     0 ?        S    14:26   0:00 [migration/2]
root          29  0.0  0.0      0     0 ?        S    14:26   0:00 [ksoftirqd/2]
root          31  0.0  0.0      0     0 ?        I<   14:26   0:00 [kworker/2:0H-kblockd]
root          32  0.0  0.0      0     0 ?        S    14:26   0:00 [cpuhp/3]
root          33  0.0  0.0      0     0 ?        S    14:26   0:00 [idle_inject/3]
root          34  0.0  0.0      0     0 ?        S    14:26   0:00 [migration/3]
root          35  0.0  0.0      0     0 ?        S    14:26   0:00 [ksoftirqd/3]
root          38  0.0  0.0      0     0 ?        S    14:26   0:00 [cpuhp/4]
root          39  0.0  0.0      0     0 ?        S    14:26   0:00 [idle_inject/4]
root          40  0.0  0.0      0     0 ?        S    14:26   0:00 [migration/4]
```

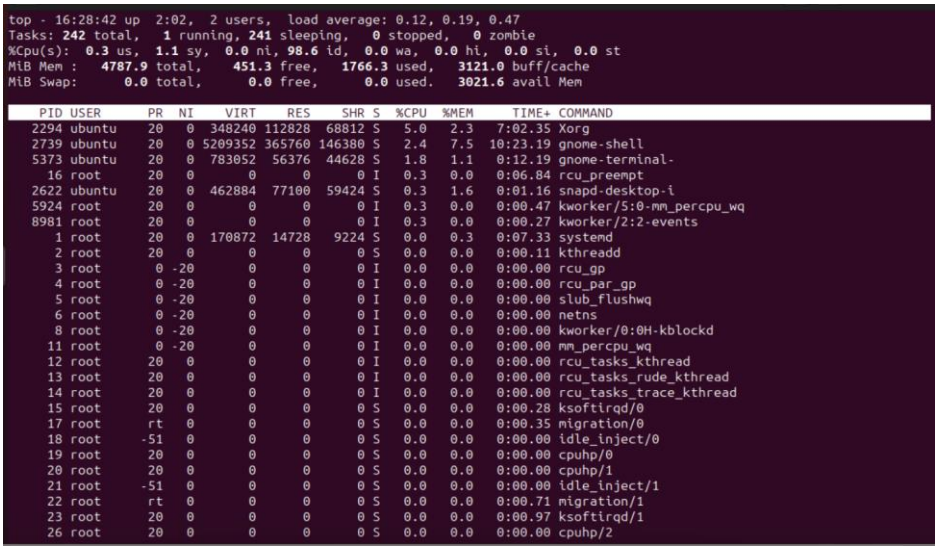
2. ps aux | grep firefox

```
ubuntu@ubuntu:~$ ps aux | grep firefox
ubuntu      9537 50.0  0.0  18316  2176 pts/0    S+   16:27   0:00 grep --color=auto firefox
```

3. pstree

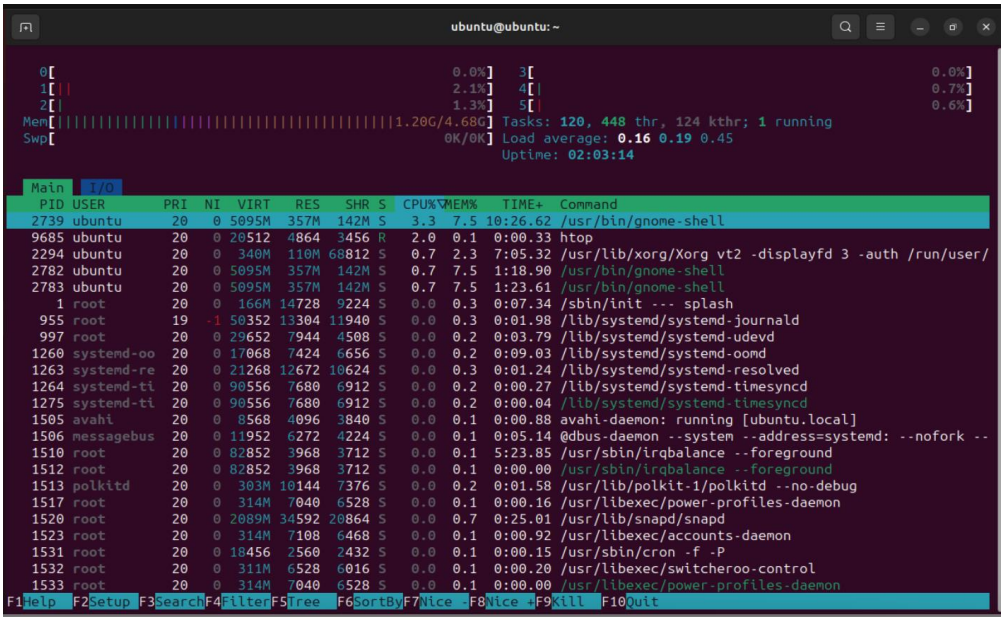
```
ubuntu@ubuntu:~$ pstree
systemd─┬─ModemManager───3*[{ModemManager}]
        ├─NetworkManager───3*[{NetworkManager}]
        ├─accounts-daemon───3*[{accounts-daemon}]
        ├─avahi-daemon───avahi-daemon
        ├─colord───3*[{colord}]
        ├─cron
        ├─cups-browsed───3*[{cups-browsed}]
        ├─cupsd
        ├─dbus-daemon
        ├─fwupd───5*[{fwupd}]
        ├─gdm3─┬─gdm-session-wor─┬─gdm-x-session─┬─Xorg───{Xorg}
        │      │                 │               ├─gnome-session-b───3*[{gnome-session-b}]
        │      │                 │               └─3*[{gdm-x-session}]
        │      │                 └─3*[{gdm-session-wor}]
        │      └─3*[{gdm3}]
        ├─gpg-agent
        ├─irqbalance───{irqbalance}
        ├─2*[kerneloops]
        ├─polkitd───3*[{polkitd}]
        ├─power-profiles-───3*[{power-profiles-}]
        ├─rsyslogd───3*[{rsyslogd}]
        ├─rtkit-daemon───2*[{rtkit-daemon}]
        ├─snapd───12*[{snapd}]
        ├─subiquity-serve───python3.10───4*[{python3.10}]
        ├─switcheroo-cont───3*[{switcheroo-cont}]
        ├─systemd─┬─(sd-pam)
        │         ├─at-spi-bus-laun─┬─dbus-daemon
        │         │                 └─4*[{at-spi-bus-laun}]
        │         ├─at-spi2-registr───3*[{at-spi2-registr}]
        │         ├─dbus-daemon
        │         ├─dconf-service───3*[{dconf-service}]
        │         ├─evolution-addre───6*[{evolution-addre}]
        │         ├─evolution-calen───9*[{evolution-calen}]
```

4. top / htop



```
top - 16:28:42 up  2:02,  2 users,  load average: 0.12, 0.19, 0.47
Tasks: 242 total,   1 running, 241 sleeping,   0 stopped,   0 zombie
%Cpu(s):  0.3 us,  1.1 sy,  0.0 ni, 98.6 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
MiB Mem :   4787.9 total,    451.3 free,   1766.3 used,   3121.0 buff/cache
MiB Swap:      0.0 total,      0.0 free,      0.0 used.   3021.6 avail Mem

    PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM     TIME+ COMMAND
   2294 ubuntu    20   0  348240 112828  68812 S   5.0   2.3   7:02.35 Xorg
   2739 ubuntu    20   0 5209352 365760 146380 S   2.4   7.5  10:23.19 gnome-shell
   5373 ubuntu    20   0  783052  56376  44628 S   1.8   1.1   0:12.19 gnome-terminal-
     16 root      20   0       0      0      0 I   0.3   0.0   0:06.84 rcu_preempt
   2622 ubuntu    20   0  462884  77100  59424 S   0.3   1.6   0:01.16 snapd-desktop-i
   5924 root      20   0       0      0      0 I   0.3   0.0   0:00.47 kworker/5:0-mm_percpu_wq
   8981 root      20   0       0      0      0 I   0.3   0.0   0:00.27 kworker/2:2-events
      1 root      20   0  170872  14728   9224 S   0.0   0.3   0:07.33 systemd
      2 root      20   0       0      0      0 S   0.0   0.0   0:00.11 kthreadd
      3 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 rcu_gp
      4 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 rcu_par_gp
      5 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 slub_flushwq
      6 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 netns
      8 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 kworker/0:0H-kblockd
     11 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 mm_percpu_wq
     12 root      20   0       0      0      0 I   0.0   0.0   0:00.00 rcu_tasks_kthread
     13 root      20   0       0      0      0 I   0.0   0.0   0:00.00 rcu_tasks_rude_kthread
     14 root      20   0       0      0      0 I   0.0   0.0   0:00.00 rcu_tasks_trace_kthread
     15 root      20   0       0      0      0 S   0.0   0.0   0:00.28 ksoftirqd/0
     17 root      rt   0       0      0      0 S   0.0   0.0   0:00.35 migration/0
     18 root     -51   0       0      0      0 S   0.0   0.0   0:00.00 idle_inject/0
     19 root      20   0       0      0      0 S   0.0   0.0   0:00.00 cpuhp/0
     20 root      20   0       0      0      0 S   0.0   0.0   0:00.00 cpuhp/1
     21 root     -51   0       0      0      0 S   0.0   0.0   0:00.00 idle_inject/1
     22 root      rt   0       0      0      0 S   0.0   0.0   0:00.71 migration/1
     23 root      20   0       0      0      0 S   0.0   0.0   0:00.97 ksoftirqd/1
     26 root      20   0       0      0      0 S   0.0   0.0   0:00.00 cpuhp/2
```



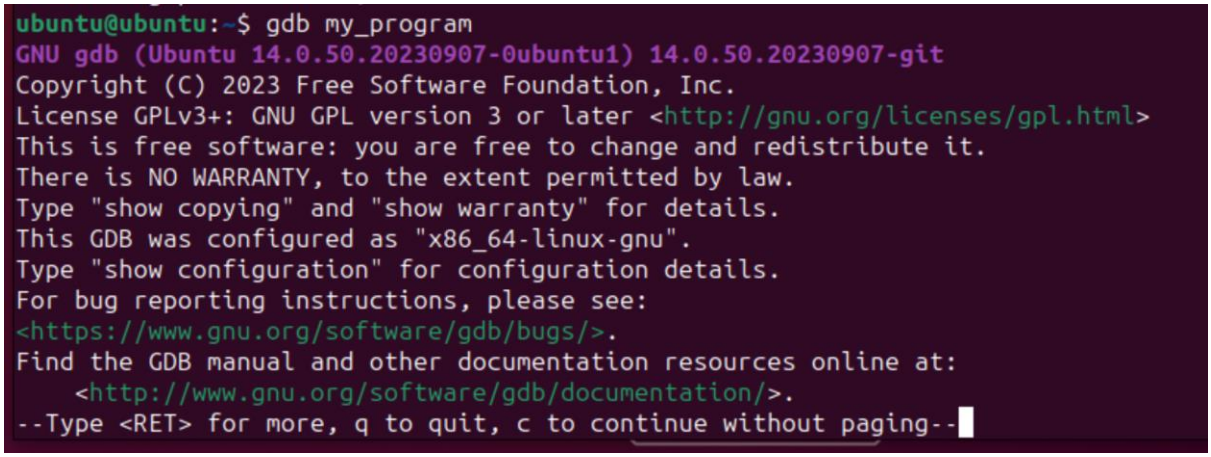
```
ubuntu@ubuntu: ~

  0[                                        0.0%]   3[                                        0.0%]
  1[|                                       2.1%]   4[|                                       0.7%]
  2[|                                       1.3%]   5[|                                       0.6%]
Mem[||||||||||||||||||||||||||||||||||1.20G/4.68G] Tasks: 120, 448 thr, 124 kthr; 1 running
Swp[                                     0K/0K] Load average: 0.16 0.19 0.45
                                                Uptime: 02:03:14

  Main   I/O
    PID USER       PRI  NI  VIRT   RES   SHR S CPU%▽MEM%   TIME+  Command
   2739 ubuntu      20   0 5095M  357M  142M S  3.3  7.5 10:26.62 /usr/bin/gnome-shell
   9685 ubuntu      20   0 20512  4864  3456 R  2.0  0.1  0:00.33 htop
   2294 ubuntu      20   0  340M  110M 68812 S  0.7  2.3  7:05.32 /usr/lib/xorg/Xorg vt2 -displayfd 3 -auth /run/user/
   2782 ubuntu      20   0 5095M  357M  142M S  0.7  7.5  1:18.90 /usr/bin/gnome-shell
   2783 ubuntu      20   0 5095M  357M  142M S  0.7  7.5  1:23.61 /usr/bin/gnome-shell
      1 root        20   0  166M 14728  9224 S  0.0  0.3  0:07.34 /sbin/init --- splash
    955 root        19  -1 50352 13304 11940 S  0.0  0.3  0:01.98 /lib/systemd/systemd-journald
    997 root        20   0 29652  7944  4508 S  0.0  0.2  0:03.79 /lib/systemd/systemd-udevd
   1260 systemd-oo  20   0 17068  7424  6656 S  0.0  0.2  0:09.03 /lib/systemd/systemd-oomd
   1263 systemd-re  20   0 21268 12672 10624 S  0.0  0.3  0:01.24 /lib/systemd/systemd-resolved
   1264 systemd-ti  20   0 90556  7680  6912 S  0.0  0.2  0:00.27 /lib/systemd/systemd-timesyncd
   1275 systemd-ti  20   0 90556  7680  6912 S  0.0  0.2  0:00.04 /lib/systemd/systemd-timesyncd
   1505 avahi       20   0  8568  4096  3840 S  0.0  0.1  0:00.88 avahi-daemon: running [ubuntu.local]
   1506 messagebus  20   0 11952  6272  4224 S  0.0  0.1  0:05.14 @dbus-daemon --system --address=systemd: --nofork --
   1510 root        20   0 82852  3968  3712 S  0.0  0.1  5:23.85 /usr/sbin/irqbalance --foreground
   1512 root        20   0 82852  3968  3712 S  0.0  0.1  0:00.00 /usr/sbin/irqbalance --foreground
   1513 polkitd     20   0  303M 10144  7376 S  0.0  0.2  0:01.58 /usr/lib/polkit-1/polkitd --no-debug
   1517 root        20   0  314M  7040  6528 S  0.0  0.1  0:00.16 /usr/libexec/power-profiles-daemon
   1520 root        20   0 2089M 34592 20864 S  0.0  0.7  0:25.01 /usr/lib/snapd/snapd
   1523 root        20   0  314M  7108  6468 S  0.0  0.1  0:00.92 /usr/libexec/accounts-daemon
   1531 root        20   0 18456  2560  2432 S  0.0  0.1  0:00.15 /usr/sbin/cron -f -P
   1532 root        20   0  311M  6528  6016 S  0.0  0.1  0:00.20 /usr/libexec/switcheroo-control
   1533 root        20   0  314M  7040  6528 S  0.0  0.1  0:00.00 /usr/libexec/power-profiles-daemon
F1Help  F2Setup  F3SearchF4FilterF5Tree  F6SortByF7Nice -F8Nice +F9Kill  F10Quit
```

Task 5:

Debugging:



Everything else is in the repository