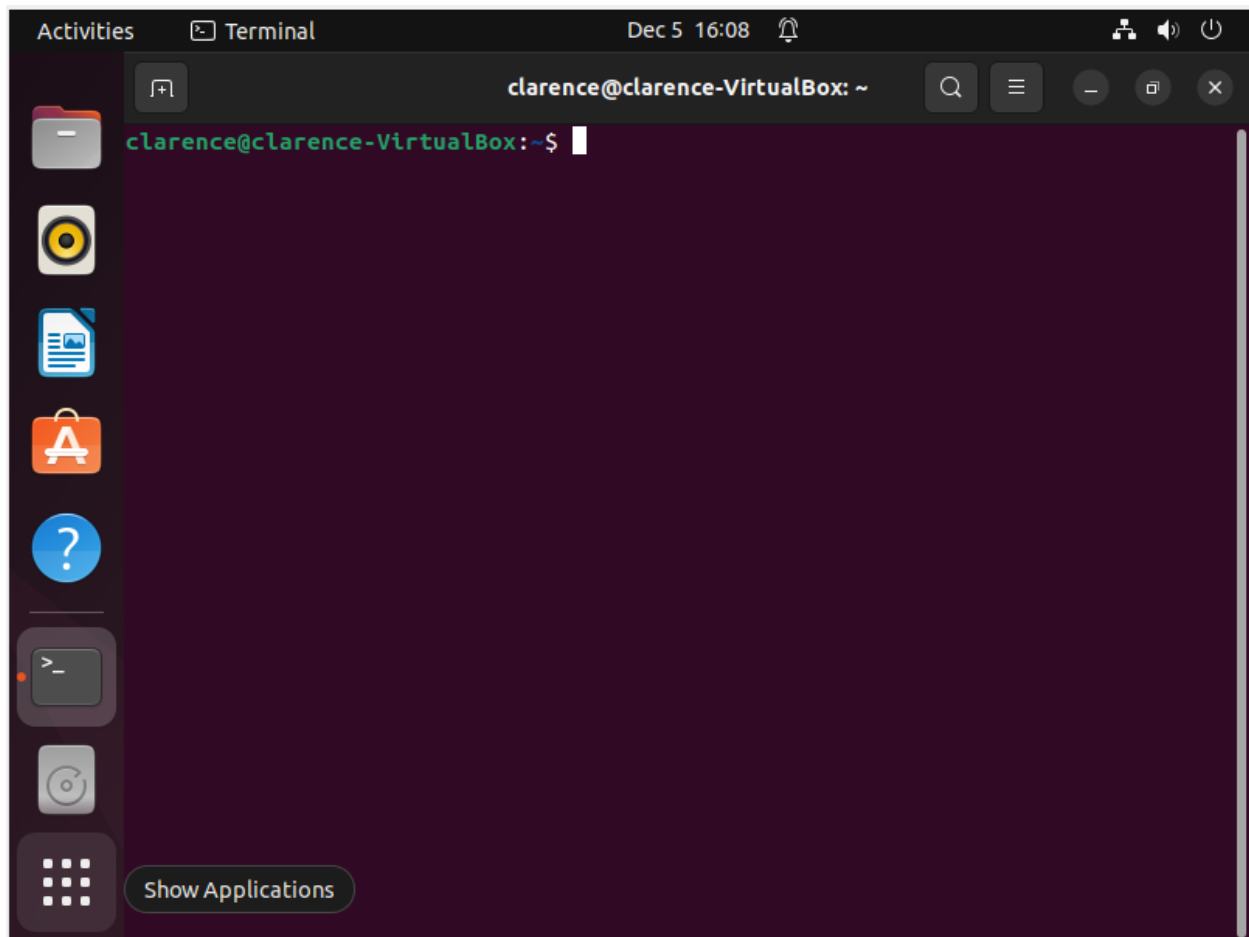


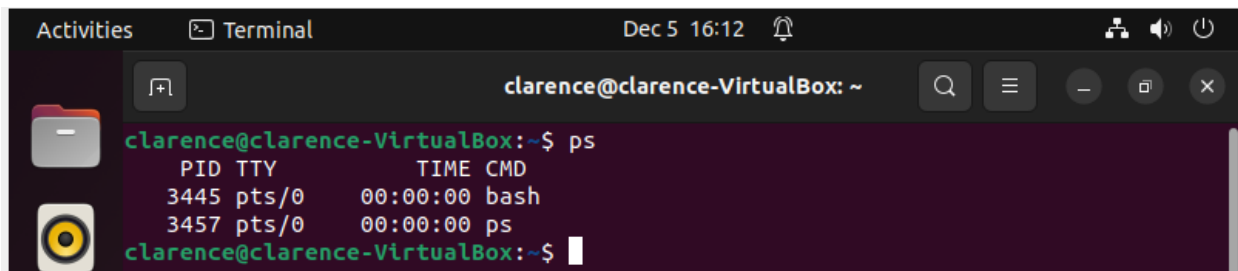
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Task A Step 1.



Task A Step 2.

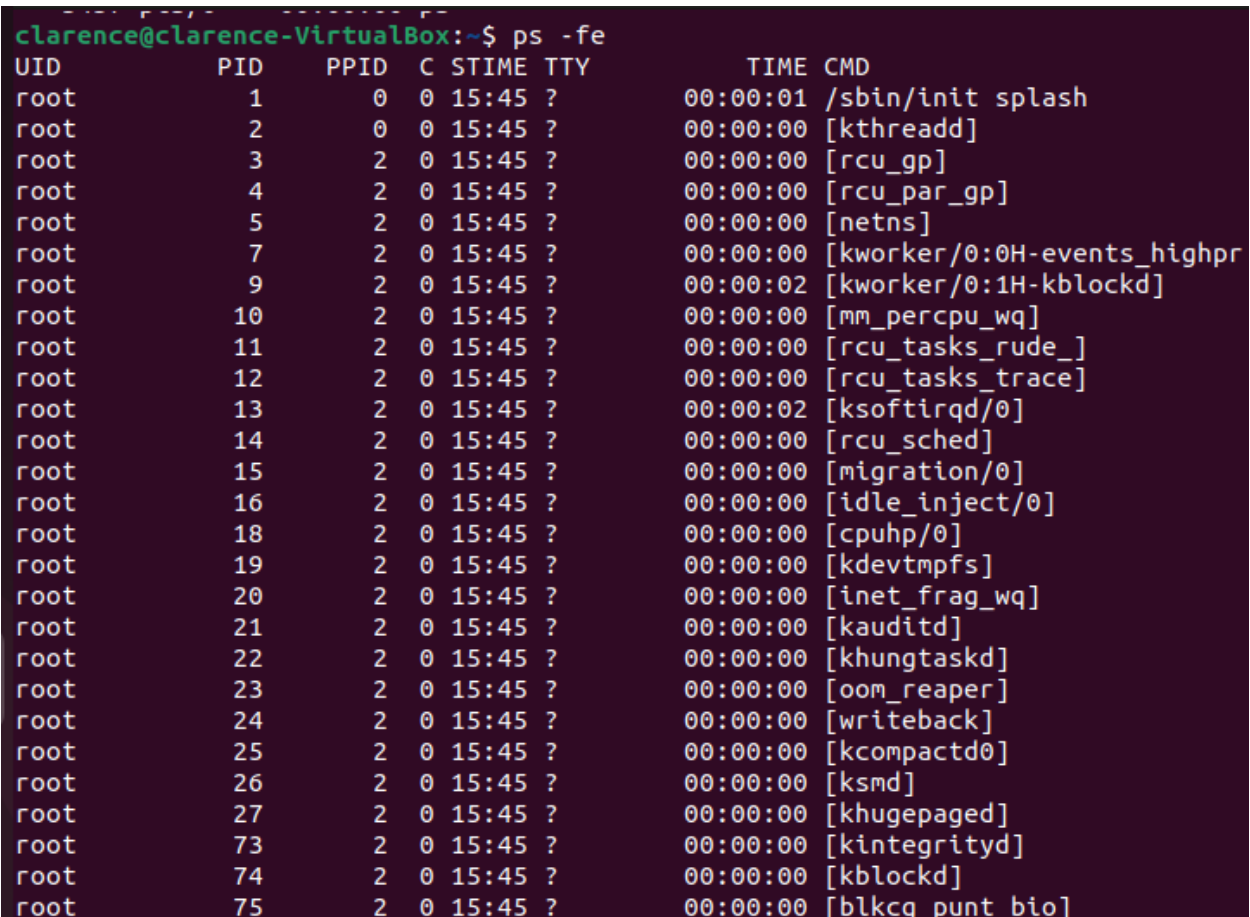


```

Activities  Terminal  Dec 5 16:12
clarence@clarence-VirtualBox: ~
clarence@clarence-VirtualBox:~$ ps
  PID TTY          TIME CMD
 3445 pts/0    00:00:00 bash
 3457 pts/0    00:00:00 ps
clarence@clarence-VirtualBox:~$

```

Task A Step 3.



```

clarence@clarence-VirtualBox:~$ ps -fe
UID          PID    PPID  C STIME TTY          TIME CMD
root           1        0  0 15:45 ?        00:00:01 /sbin/init splash
root           2        0  0 15:45 ?        00:00:00 [kthreadd]
root           3        2  0 15:45 ?        00:00:00 [rcu_gp]
root           4        2  0 15:45 ?        00:00:00 [rcu_par_gp]
root           5        2  0 15:45 ?        00:00:00 [netns]
root           7        2  0 15:45 ?        00:00:00 [kworker/0:0H-events_highpr
root           9        2  0 15:45 ?        00:00:02 [kworker/0:1H-kblockd]
root          10        2  0 15:45 ?        00:00:00 [mm_percpu_wq]
root          11        2  0 15:45 ?        00:00:00 [rcu_tasks_rude_]
root          12        2  0 15:45 ?        00:00:00 [rcu_tasks_trace]
root          13        2  0 15:45 ?        00:00:02 [ksoftirqd/0]
root          14        2  0 15:45 ?        00:00:00 [rcu_sched]
root          15        2  0 15:45 ?        00:00:00 [migration/0]
root          16        2  0 15:45 ?        00:00:00 [idle_inject/0]
root          18        2  0 15:45 ?        00:00:00 [cpuhp/0]
root          19        2  0 15:45 ?        00:00:00 [kdevtmpfs]
root          20        2  0 15:45 ?        00:00:00 [inet_frag_wq]
root          21        2  0 15:45 ?        00:00:00 [kauditd]
root          22        2  0 15:45 ?        00:00:00 [khungtaskd]
root          23        2  0 15:45 ?        00:00:00 [oom_reaper]
root          24        2  0 15:45 ?        00:00:00 [writeback]
root          25        2  0 15:45 ?        00:00:00 [kcompactd0]
root          26        2  0 15:45 ?        00:00:00 [ksmd]
root          27        2  0 15:45 ?        00:00:00 [khugepaged]
root          73        2  0 15:45 ?        00:00:00 [kintegrityd]
root          74        2  0 15:45 ?        00:00:00 [kblockd]
root          75        2  0 15:45 ?        00:00:00 [blkcg_punt_bio]

```

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```

clarence@clarence-VirtualBox: ~
root      77      2  0 15:45 ?      00:00:00 [ata_sff]
root      78      2  0 15:45 ?      00:00:00 [md]
root      79      2  0 15:45 ?      00:00:00 [edac-poller]
root      80      2  0 15:45 ?      00:00:00 [devfreq_wq]
root      81      2  0 15:45 ?      00:00:00 [watchdogd]
root      84      2  0 15:45 ?      00:00:00 [kswapd0]
root      85      2  0 15:45 ?      00:00:00 [ecryptfs-kthrea]
root      87      2  0 15:45 ?      00:00:00 [kthrotld]
root      88      2  0 15:45 ?      00:00:00 [acpi_thermal_pm]
root      90      2  0 15:45 ?      00:00:00 [scsi_eh_0]
root      91      2  0 15:45 ?      00:00:00 [scsi_tmf_0]
root      92      2  0 15:45 ?      00:00:00 [scsi_eh_1]
root      93      2  0 15:45 ?      00:00:00 [scsi_tmf_1]
root      95      2  0 15:45 ?      00:00:00 [vfio-irqfd-clea]
root      96      2  0 15:45 ?      00:00:00 [mld]
root      97      2  0 15:45 ?      00:00:00 [ipv6_addrconf]
root     101      2  0 15:45 ?      00:00:02 [kworker/0:2-events]
root     109      2  0 15:45 ?      00:00:00 [kstrp]
root     112      2  0 15:45 ?      00:00:00 [zswap-shrink]
root     113      2  0 15:45 ?      00:00:00 [kworker/u3:0]
root     118      2  0 15:45 ?      00:00:00 [charger_manager]
root     161      2  0 15:45 ?      00:00:00 [scsi_eh_2]
root     162      2  0 15:45 ?      00:00:00 [scsi_tmf_2]
root     163      2  0 15:45 ?      00:00:00 [scsi_eh_3]
root     165      2  0 15:45 ?      00:00:00 [scsi_tmf_3]
root     189      2  0 15:45 ?      00:00:00 [jbd2/sda3-8]
root     190      2  0 15:45 ?      00:00:00 [ext4-rsv-conver]
root     230      1  0 15:45 ?      00:00:00 /lib/systemd/systemd-journald
root     264      2  0 15:45 ?      00:00:00 [ipmi-msghandler]

```

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```

clarence@clarence-VirtualBox: ~
root      283      2  0 15:45 ?      00:00:00 [ttm_swap]
root      284      2  0 15:45 ?      00:00:00 [irq/18-vmwgfx]
root      285      2  0 15:45 ?      00:00:00 [card0-crtc0]
root      286      2  0 15:45 ?      00:00:00 [card0-crtc1]
root      287      2  0 15:45 ?      00:00:00 [card0-crtc2]
root      288      2  0 15:45 ?      00:00:00 [card0-crtc3]
root      289      2  0 15:45 ?      00:00:00 [card0-crtc4]
root      290      2  0 15:45 ?      00:00:00 [card0-crtc5]
root      291      2  0 15:45 ?      00:00:00 [card0-crtc6]
root      292      2  0 15:45 ?      00:00:00 [card0-crtc7]
systemd+  569      1  0 15:45 ?      00:00:01 /lib/systemd/systemd-oomd
systemd+  570      1  0 15:45 ?      00:00:00 /lib/systemd/systemd-resolv
systemd+  571      1  0 15:45 ?      00:00:00 /lib/systemd/systemd-timesy
root      619      1  0 15:45 ?      00:00:00 /usr/libexec/accounts-daemo
root      620      1  0 15:45 ?      00:00:00 /usr/sbin/acpid
avahi     623      1  0 15:45 ?      00:00:00 avahi-daemon: running [clar
root      624      1  0 15:45 ?      00:00:00 /usr/sbin/cron -f -P
message+  625      1  0 15:45 ?      00:00:00 @dbus-daemon --system --add
root      626      1  0 15:45 ?      00:00:01 /usr/sbin/NetworkManager --
root      634      1  0 15:45 ?      00:00:00 /usr/bin/python3 /usr/bin/n
root      635      1  0 15:45 ?      00:00:00 /usr/libexec/polkitd --no-d
root      636      1  0 15:45 ?      00:00:00 /usr/libexec/power-profiles
syslog    638      1  0 15:45 ?      00:00:00 /usr/sbin/rsyslogd -n -iNON
root      650      1  0 15:45 ?      00:00:04 /usr/lib/snapd/snapd
root      651      1  0 15:45 ?      00:00:00 /usr/libexec/switcheroo-con
root      652      1  0 15:45 ?      00:00:00 /lib/systemd/systemd-logind
root      653      1  0 15:45 ?      00:00:00 /usr/libexec/udisks2/udisks
root      654      1  0 15:45 ?      00:00:00 /sbin/wpa_supplicant -u -s
avahi     657      623  0 15:45 ?      00:00:00 avahi-daemon: chroot helper

```

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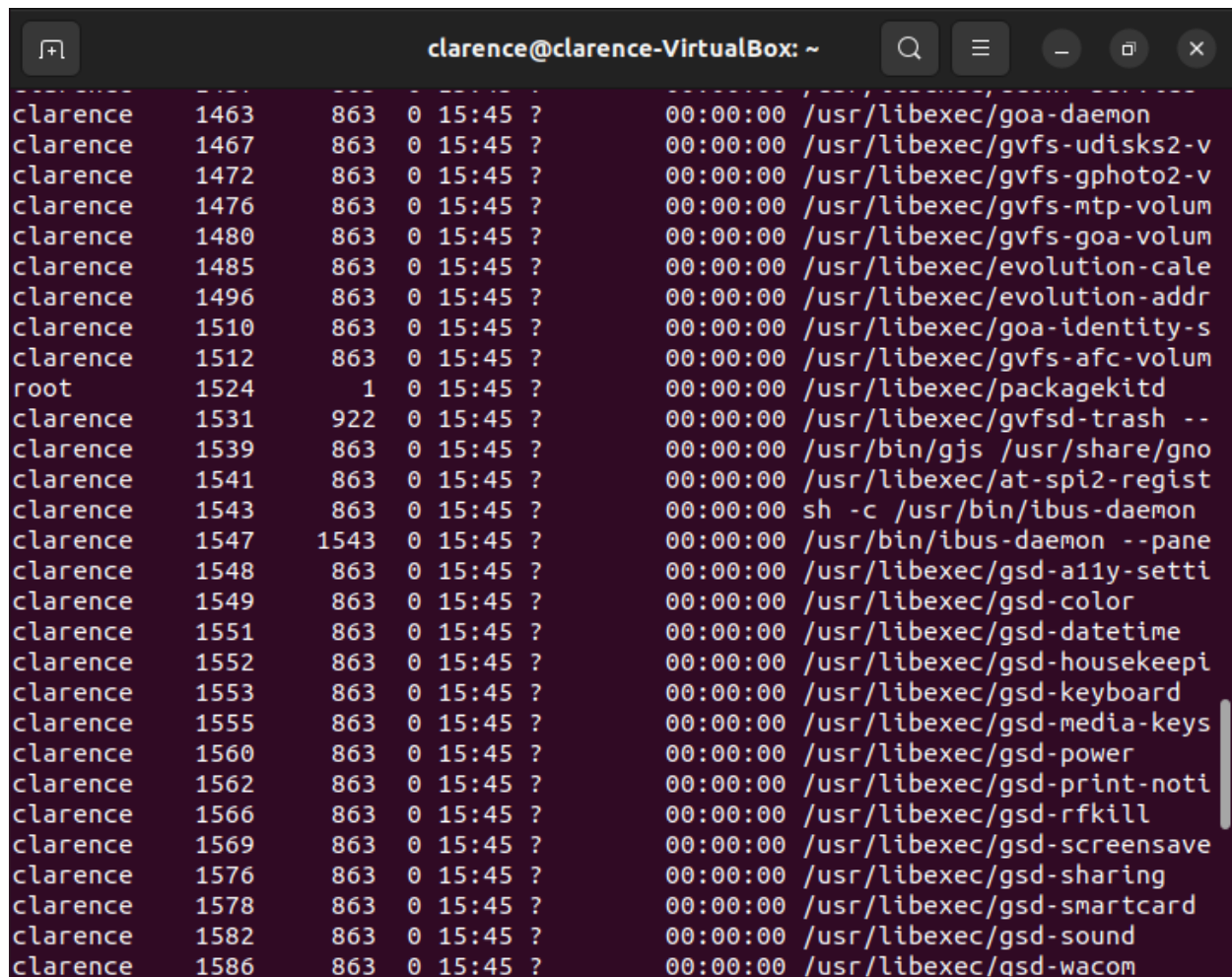
```

clarence@clarence-VirtualBox: ~
root      723      1  0 15:45 ?      00:00:00 /usr/sbin/cupsd -l
root      726      1  0 15:45 ?      00:00:00 /usr/bin/python3 /usr/share
root      752      1  0 15:45 ?      00:00:00 /usr/sbin/gdm3
root      761     752  0 15:45 ?      00:00:00 gdm-session-worker [pam/gdm
clarence  863      1  0 15:45 ?      00:00:00 /lib/systemd/systemd --user
clarence  868     863  0 15:45 ?      00:00:00 (sd-pam)
clarence  891     863  0 15:45 ?      00:00:00 /usr/bin/pipewire
clarence  892     863  0 15:45 ?      00:00:00 /usr/bin/pipewire-media-ses
clarence  893     863  0 15:45 ?      00:00:00 /usr/bin/pulseaudio --daemo
clarence  900      1  0 15:45 ?      00:00:00 /usr/bin/gnome-keyring-daem
clarence  905     761  0 15:45 tty2    00:00:00 /usr/libexec/gdm-wayland-se
clarence  907     863  0 15:45 ?      00:00:00 /usr/bin/dbus-daemon --sess
rtkit     908      1  0 15:45 ?      00:00:00 /usr/libexec/rtkit-daemon
clarence  918     905  0 15:45 tty2    00:00:00 /usr/libexec/gnome-session-
clarence  922     863  0 15:45 ?      00:00:00 /usr/libexec/gvfsd
clarence  952     863  0 15:45 ?      00:00:00 /usr/libexec/gvfsd-fuse /ru
clarence  999     863  0 15:45 ?      00:00:00 /usr/libexec/gnome-session-
clarence 1017     863  0 15:45 ?      00:00:00 /usr/libexec/xdg-document-p
clarence 1019     863  0 15:45 ?      00:00:00 /usr/libexec/gnome-session-
clarence 1024     863  0 15:45 ?      00:00:00 /usr/libexec/xdg-permission
root      1031    1017  0 15:45 ?      00:00:00 fusermount3 -o rw,nosuid,no
clarence 1056     863  0 15:45 ?      00:00:15 /usr/bin/gnome-shell
clarence 1057    1019  0 15:45 ?      00:00:00 /usr/libexec/at-spi-bus-lau
clarence 1065    1057  0 15:45 ?      00:00:00 /usr/bin/dbus-daemon --conf
clarence 1428     863  0 15:45 ?      00:00:00 /usr/libexec/xdg-desktop-po
clarence 1432     863  0 15:45 ?      00:00:00 /usr/libexec/xdg-desktop-po
clarence 1439     863  0 15:45 ?      00:00:00 /usr/libexec/gnome-shell-ca
root      1444      1  0 15:45 ?      00:00:00 /usr/libexec/upowerd
clarence 1447     863  0 15:45 ?      00:00:00 /usr/libexec/evolution-sour

```

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clarence	1463	863	0	15:45	?	00:00:00	/usr/libexec/goa-daemon
clarence	1467	863	0	15:45	?	00:00:00	/usr/libexec/gvfs-udisks2-v
clarence	1472	863	0	15:45	?	00:00:00	/usr/libexec/gvfs-gphoto2-v
clarence	1476	863	0	15:45	?	00:00:00	/usr/libexec/gvfs-mtp-volum
clarence	1480	863	0	15:45	?	00:00:00	/usr/libexec/gvfs-goa-volum
clarence	1485	863	0	15:45	?	00:00:00	/usr/libexec/evolution-cale
clarence	1496	863	0	15:45	?	00:00:00	/usr/libexec/evolution-addr
clarence	1510	863	0	15:45	?	00:00:00	/usr/libexec/goa-identity-s
clarence	1512	863	0	15:45	?	00:00:00	/usr/libexec/gvfs-afc-volum
root	1524	1	0	15:45	?	00:00:00	/usr/libexec/packagekitd
clarence	1531	922	0	15:45	?	00:00:00	/usr/libexec/gvfsd-trash --
clarence	1539	863	0	15:45	?	00:00:00	/usr/bin/gjs /usr/share/gno
clarence	1541	863	0	15:45	?	00:00:00	/usr/libexec/at-spi2-regist
clarence	1543	863	0	15:45	?	00:00:00	sh -c /usr/bin/ibus-daemon
clarence	1547	1543	0	15:45	?	00:00:00	/usr/bin/ibus-daemon --pane
clarence	1548	863	0	15:45	?	00:00:00	/usr/libexec/gsd-a11y-setti
clarence	1549	863	0	15:45	?	00:00:00	/usr/libexec/gsd-color
clarence	1551	863	0	15:45	?	00:00:00	/usr/libexec/gsd-datetime
clarence	1552	863	0	15:45	?	00:00:00	/usr/libexec/gsd-housekeepi
clarence	1553	863	0	15:45	?	00:00:00	/usr/libexec/gsd-keyboard
clarence	1555	863	0	15:45	?	00:00:00	/usr/libexec/gsd-media-keys
clarence	1560	863	0	15:45	?	00:00:00	/usr/libexec/gsd-power
clarence	1562	863	0	15:45	?	00:00:00	/usr/libexec/gsd-print-noti
clarence	1566	863	0	15:45	?	00:00:00	/usr/libexec/gsd-rfkill
clarence	1569	863	0	15:45	?	00:00:00	/usr/libexec/gsd-screensave
clarence	1576	863	0	15:45	?	00:00:00	/usr/libexec/gsd-sharing
clarence	1578	863	0	15:45	?	00:00:00	/usr/libexec/gsd-smartcard
clarence	1582	863	0	15:45	?	00:00:00	/usr/libexec/gsd-sound
clarence	1586	863	0	15:45	?	00:00:00	/usr/libexec/gsd-wacom

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```

clarence@clarence-VirtualBox: ~
clarence 1618 1547 0 15:45 ? 00:00:00 /usr/libexec/ibus-dconf
clarence 1620 1019 0 15:45 ? 00:00:00 /usr/libexec/gsd-disk-utili
clarence 1621 1547 0 15:45 ? 00:00:01 /usr/libexec/ibus-extension
clarence 1639 1019 0 15:45 ? 00:00:00 /usr/libexec/evolution-data
clarence 1640 863 0 15:45 ? 00:00:00 /usr/libexec/ibus-portal
clarence 1662 863 0 15:45 ? 00:00:00 /usr/libexec/gsd-printer
clarence 1716 1547 0 15:45 ? 00:00:00 /usr/libexec/ibus-engine-si
clarence 1737 863 0 15:45 ? 00:00:00 /usr/libexec/xdg-desktop-po
colord 1752 1 0 15:46 ? 00:00:00 /usr/libexec/colord
clarence 1757 863 0 15:46 ? 00:00:00 /usr/libexec/tracker-miner-
clarence 1783 863 0 15:46 ? 00:00:00 /usr/bin/gjs /usr/share/gno
clarence 1826 863 0 15:46 ? 00:00:00 /usr/libexec/gvfsd-metadata
root 1852 1 0 15:46 ? 00:00:00 /usr/sbin/cups-browsed
kernoops 1855 1 0 15:46 ? 00:00:00 /usr/sbin/kerneloops --test
kernoops 1857 1 0 15:46 ? 00:00:00 /usr/sbin/kerneloops
clarence 2241 1019 0 15:46 ? 00:00:00 update-notifier
clarence 2931 863 0 15:51 ? 00:00:00 /snap/snapd-desktop-integra
root 3163 2 0 15:56 ? 00:00:00 [kworker/u2:1-events_power_
root 3174 2 0 16:00 ? 00:00:00 [kworker/0:1-events]
clarence 3427 863 0 16:08 ? 00:00:00 /usr/libexec/gnome-terminal
clarence 3445 3427 0 16:08 pts/0 00:00:00 bash
root 3454 2 0 16:09 ? 00:00:00 [kworker/u2:2-events_unboun
root 3480 2 0 16:17 ? 00:00:00 [kworker/u2:0]
root 3497 1 0 16:22 ? 00:00:00 /usr/libexec/fprintd
clarence 3512 863 2 16:22 ? 00:00:00 /usr/bin/nautilus --gapplic
clarence 3521 1056 3 16:22 ? 00:00:00 gjs /usr/share/gnome-shell/
clarence 3539 863 2 16:22 ? 00:00:00 /usr/bin/file-roller --serv
clarence 3556 3445 0 16:22 pts/0 00:00:00 ps -fe
clarence@clarence-VirtualBox:~$

```

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Task A Step 4.

```

clarence@clarence-VirtualBox: ~
top - 16:39:59 up 54 min,  1 user,  load average: 0.09, 0.34, 0.37
Tasks: 172 total,  1 running, 171 sleeping,  0 stopped,  0 zombie
%Cpu(s):  1.4 us,  0.3 sy,  0.0 ni, 94.1 id,  3.5 wa,  0.0 hi,  0.7 si,  0.0 st
MiB Mem :  2425.0 total,  295.5 free,  686.4 used,  1443.2 buff/cache
MiB Swap:  2160.0 total,  2149.2 free,  10.8 used.  1534.6 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR  S  %CPU  %MEM     TIME+ COMMAND
 1056 clarence  20   0 3745900 314388 113436 S   3.3   12.7   0:24.16 gnome-+
    9 root       0  -20      0      0      0 I   0.3    0.0   0:07.36 kworke+
 3163 root      20   0      0      0      0 I   0.3    0.0   0:00.59 kworke+
    1 root      20   0 168036  13344   8280 S   0.0    0.5   0:02.66 systemd
    2 root      20   0      0      0      0 S   0.0    0.0   0:00.00 kthrea+
    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_pa+
    5 root       0  -20      0      0      0 I   0.0    0.0   0:00.00 netns
    7 root       0  -20      0      0      0 I   0.0    0.0   0:00.00 kworke+
   10 root       0  -20      0      0      0 I   0.0    0.0   0:00.00 mm_per+
   11 root      20   0      0      0      0 S   0.0    0.0   0:00.00 rcu_ta+
   12 root      20   0      0      0      0 S   0.0    0.0   0:00.00 rcu_ta+
   13 root      20   0      0      0      0 S   0.0    0.0   0:02.95 ksofti+
   14 root      20   0      0      0      0 I   0.0    0.0   0:00.65 rcu_sc+
   15 root      rt    0      0      0      0 S   0.0    0.0   0:00.05 migrat+
   16 root     -51   0      0      0      0 S   0.0    0.0   0:00.00 idle_i+
   18 root      20   0      0      0      0 S   0.0    0.0   0:00.00 cpuhp/0
   19 root      20   0      0      0      0 S   0.0    0.0   0:00.00 kdevtm+
   20 root       0  -20      0      0      0 I   0.0    0.0   0:00.00 inet_f+
   21 root      20   0      0      0      0 S   0.0    0.0   0:00.00 kauditd
   22 root      20   0      0      0      0 S   0.0    0.0   0:00.00 khungtd
   23 root      20   0      0      0      0 S   0.0    0.0   0:00.00 oom_re+

```

Task A Step 5

```
clarence@clarence-VirtualBox: ~  
Help for Interactive Commands - procs-ng 3.3.17  
Window 1:Def: Cumulative mode Off. System: Delay 3.0 secs; Secure mode Off.  
  
Z,B,E,e Global: 'Z' colors; 'B' bold; 'E'/'e' summary/task memory scale  
l,t,m,I Toggle: 'l' load avg; 't' task/cpu; 'm' memory; 'I' Irix mode  
0,1,2,3,4 Toggle: '0' zeros; '1/2/3' cpu/numa views; '4' cpus two abreast  
f,F,X Fields: 'f'/'F' add/remove/order/sort; 'X' increase fixed-width  
  
L,&,<,> . Locate: 'L'/'&' find/again; Move sort column: '<'/'>' left/right  
R,H,J,C . Toggle: 'R' Sort; 'H' Threads; 'J' Num justify; 'C' Coordinates  
c,i,S,j . Toggle: 'c' Cmd name/line; 'i' Idle; 'S' Time; 'j' Str justify  
x,y . Toggle highlights: 'x' sort field; 'y' running tasks  
z,b . Toggle: 'z' color/mono; 'b' bold/reverse (only if 'x' or 'y')  
u,U,o,0 . Filter by: 'u'/'U' effective/any user; 'o'/'0' other criteria  
n,#,^0 . Set: 'n'/'#' max tasks displayed; Show: Ctrl+'0' other filter(s)  
V,v . Toggle: 'V' forest view; 'v' hide/show forest view children  
  
k,r Manipulate tasks: 'k' kill; 'r' renice  
d or s Set update interval  
W,Y,! Write config file 'W'; Inspect other output 'Y'; Combine Cpus '!'  
q Quit  
    ( commands shown with '.' require a visible task display window )  
Press 'h' or '?' for help with Windows,  
Type 'q' or <Esc> to continue
```

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Task A Step 6

```

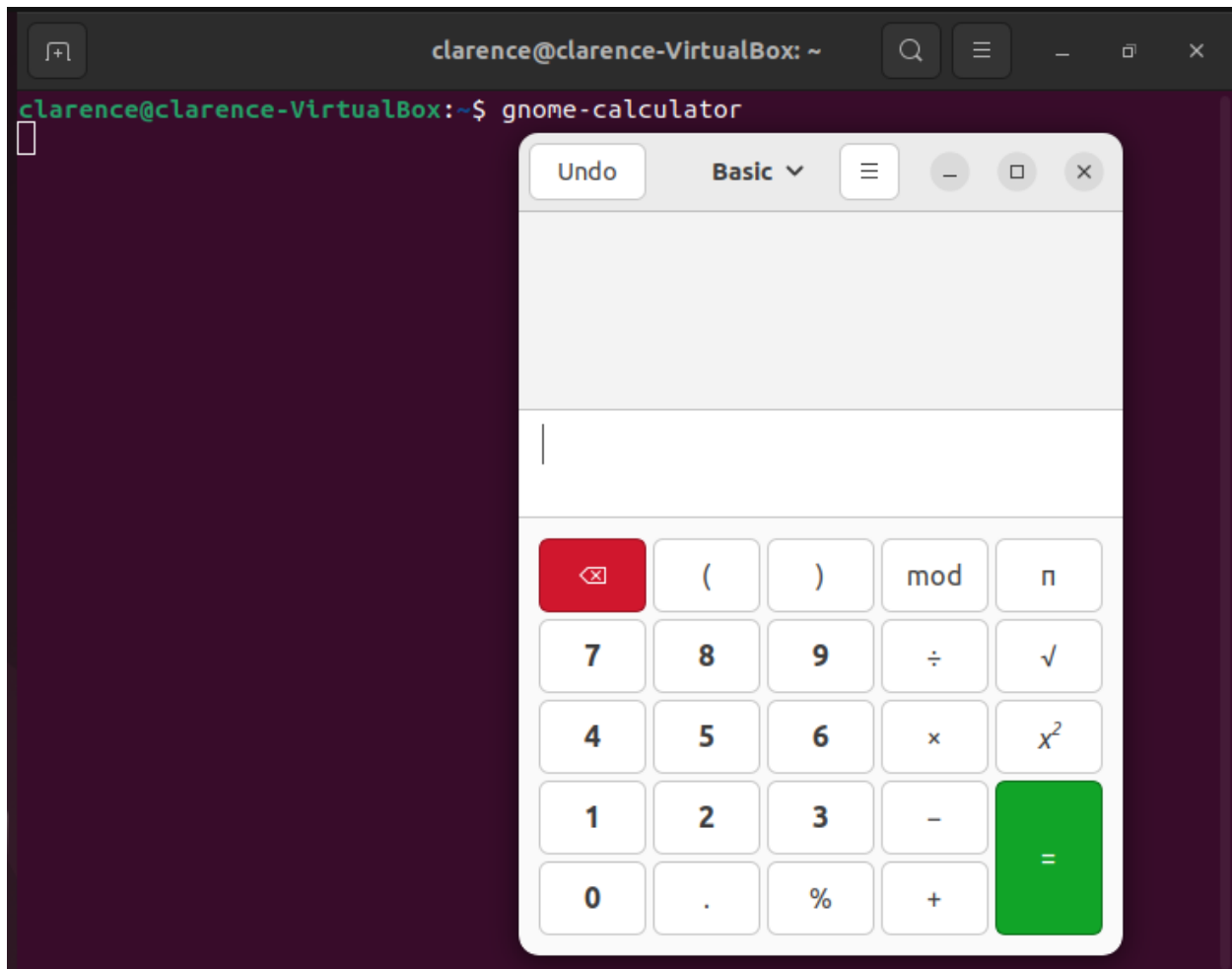
clarence@clarence-VirtualBox: ~
Tasks: 171 total,  1 running, 170 sleeping,  0 stopped,  0 zombie
%Cpu(s):  0.3 us,  1.4 sy,  0.0 ni, 97.9 id,  0.0 wa,  0.0 hi,  0.3 si,  0.0 st
MiB Mem :  2425.0 total,  295.2 free,  685.0 used,  1444.8 buff/cache
MiB Swap:  2160.0 total,  2149.2 free,  10.8 used.  1536.0 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR  S  %CPU  %MEM     TIME+ COMMAND
 1056 clarence  20   0 3745936 314328 113436 S   2.7  12.7   0:29.66 gnome-+
 3427 clarence  20   0 570468  50612  38128 S   0.3   2.0   0:02.15 gnome-+
    1 root      20   0 168036  13344   8280 S   0.0   0.5   0:02.66 systemd
    2 root      20   0           0         0         0 S   0.0   0.0   0:00.00 kthrea+
    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_pa+
    5 root       0 -20           0         0         0 I   0.0   0.0   0:00.00 netns
    7 root       0 -20           0         0         0 I   0.0   0.0   0:00.00 kworke+
    9 root       0 -20           0         0         0 I   0.0   0.0   0:07.48 kworke+
   10 root       0 -20           0         0         0 I   0.0   0.0   0:00.00 mm_per+
   11 root      20   0           0         0         0 S   0.0   0.0   0:00.00 rcu_ta+
   12 root      20   0           0         0         0 S   0.0   0.0   0:00.00 rcu_ta+
   13 root      20   0           0         0         0 S   0.0   0.0   0:02.96 ksofti+
   14 root      20   0           0         0         0 I   0.0   0.0   0:00.68 rcu_sc+
   15 root      rt    0           0         0         0 S   0.0   0.0   0:00.06 migrat+
   16 root     -51   0           0         0         0 S   0.0   0.0   0:00.00 idle_i+
   18 root      20   0           0         0         0 S   0.0   0.0   0:00.00 cpuhp/0
   19 root      20   0           0         0         0 S   0.0   0.0   0:00.00 kdevtm+
   20 root       0 -20           0         0         0 I   0.0   0.0   0:00.00 inet_f+
   21 root      20   0           0         0         0 S   0.0   0.0   0:00.00 kauditd
   22 root      20   0           0         0         0 S   0.0   0.0   0:00.00 khungtd
   23 root      20   0           0         0         0 S   0.0   0.0   0:00.00 oom_re+

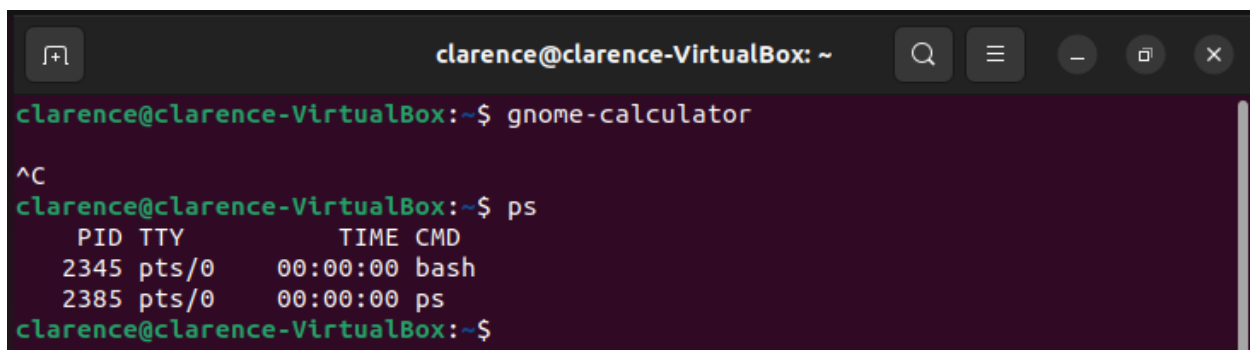
clarence@clarence-VirtualBox:~$

```

Task A Step 7



Task A Step 8



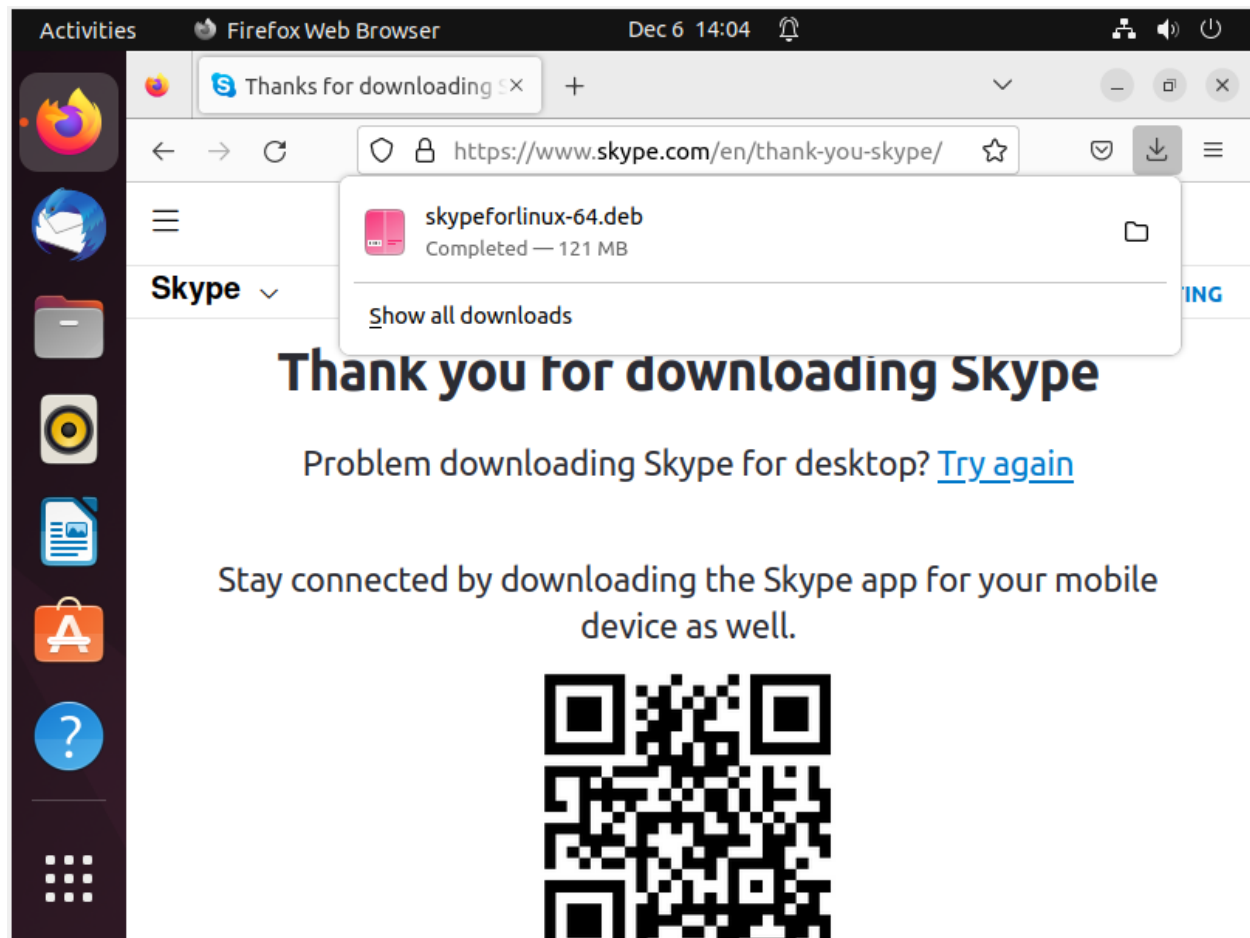
Task A Step 9

```
clarence@clarence-VirtualBox: ~  
clarence@clarence-VirtualBox:~$ gnome-calculator  
Terminated  
clarence@clarence-VirtualBox:~$
```

Task A Step 10

```
clarence@clarence-VirtualBox:~$ gnome-calculator  
Terminated  
clarence@clarence-VirtualBox:~$ ps  
  PID TTY          TIME CMD  
 2486 pts/1    00:00:00 bash  
 2524 pts/1    00:00:00 ps  
clarence@clarence-VirtualBox:~$
```

Task B Step 1



Task B Step 2

```
clarence@clarence-VirtualBox: ~  
clarence@clarence-VirtualBox:~$ sudo cp /etc/apt/sources.list /etc/apt/sources.  
orig  
clarence@clarence-VirtualBox:~$ cat /etc/apt/sources.list /etc/apt/sources.orig  
#deb cdrom:[Ubuntu 22.04.1 LTS _Jammy Jellyfish_ - Release amd64 (20220809.1)]/  
jammy main restricted  
  
# See http://help.ubuntu.com/community/UpgradeNotes for how to upgrade to  
# newer versions of the distribution.  
deb http://us.archive.ubuntu.com/ubuntu/ jammy main restricted  
# deb-src http://us.archive.ubuntu.com/ubuntu/ jammy main restricted  
  
## Major bug fix updates produced after the final release of the  
## distribution.  
deb http://us.archive.ubuntu.com/ubuntu/ jammy-updates main restricted  
# deb-src http://us.archive.ubuntu.com/ubuntu/ jammy-updates main restricted  
  
## N.B. software from this repository is ENTIRELY UNSUPPORTED by the Ubuntu  
## team. Also, please note that software in universe WILL NOT receive any  
## review or updates from the Ubuntu security team.  
deb http://us.archive.ubuntu.com/ubuntu/ jammy universe  
# deb-src http://us.archive.ubuntu.com/ubuntu/ jammy universe  
deb http://us.archive.ubuntu.com/ubuntu/ jammy-updates universe  
# deb-src http://us.archive.ubuntu.com/ubuntu/ jammy-updates universe  
  
## N.B. software from this repository is ENTIRELY UNSUPPORTED by the Ubuntu  
## team, and may not be under a free licence. Please satisfy yourself as to  
## your rights to use the software. Also, please note that software in  
## multiverse WILL NOT receive any review or updates from the Ubuntu  
## security team.
```

```
clarence@clarence-VirtualBox: ~  
deb http://us.archive.ubuntu.com/ubuntu/ jammy multiverse  
# deb-src http://us.archive.ubuntu.com/ubuntu/ jammy multiverse  
deb http://us.archive.ubuntu.com/ubuntu/ jammy-updates multiverse  
# deb-src http://us.archive.ubuntu.com/ubuntu/ jammy-updates multiverse  
  
## N.B. software from this repository may not have been tested as  
## extensively as that contained in the main release, although it includes  
## newer versions of some applications which may provide useful features.  
## Also, please note that software in backports WILL NOT receive any review  
## or updates from the Ubuntu security team.  
deb http://us.archive.ubuntu.com/ubuntu/ jammy-backports main restricted univer  
se multiverse  
# deb-src http://us.archive.ubuntu.com/ubuntu/ jammy-backports main restricted  
universe multiverse  
  
deb http://security.ubuntu.com/ubuntu jammy-security main restricted  
# deb-src http://security.ubuntu.com/ubuntu jammy-security main restricted  
deb http://security.ubuntu.com/ubuntu jammy-security universe  
# deb-src http://security.ubuntu.com/ubuntu jammy-security universe  
deb http://security.ubuntu.com/ubuntu jammy-security multiverse  
# deb-src http://security.ubuntu.com/ubuntu jammy-security multiverse  
  
# This system was installed using small removable media  
# (e.g. netinst, live or single CD). The matching "deb cdrom"  
# entries were disabled at the end of the installation process.  
# For information about how to configure apt package sources,  
# see the sources.list(5) manual.  
#deb cdrom:[Ubuntu 22.04.1 LTS _Jammy Jellyfish_ - Release amd64 (20220809.1)]/  
_jammy main restricted
```

```
clarence@clarence-VirtualBox: ~  
# See http://help.ubuntu.com/community/UpgradeNotes for how to upgrade to  
# newer versions of the distribution.  
deb http://us.archive.ubuntu.com/ubuntu/ jammy main restricted  
# deb-src http://us.archive.ubuntu.com/ubuntu/ jammy main restricted  
  
## Major bug fix updates produced after the final release of the  
## distribution.  
deb http://us.archive.ubuntu.com/ubuntu/ jammy-updates main restricted  
# deb-src http://us.archive.ubuntu.com/ubuntu/ jammy-updates main restricted  
  
## N.B. software from this repository is ENTIRELY UNSUPPORTED by the Ubuntu  
## team. Also, please note that software in universe WILL NOT receive any  
## review or updates from the Ubuntu security team.  
deb http://us.archive.ubuntu.com/ubuntu/ jammy universe  
# deb-src http://us.archive.ubuntu.com/ubuntu/ jammy universe  
deb http://us.archive.ubuntu.com/ubuntu/ jammy-updates universe  
# deb-src http://us.archive.ubuntu.com/ubuntu/ jammy-updates universe  
  
## N.B. software from this repository is ENTIRELY UNSUPPORTED by the Ubuntu  
## team, and may not be under a free licence. Please satisfy yourself as to  
## your rights to use the software. Also, please note that software in  
## multiverse WILL NOT receive any review or updates from the Ubuntu  
## security team.  
deb http://us.archive.ubuntu.com/ubuntu/ jammy multiverse  
# deb-src http://us.archive.ubuntu.com/ubuntu/ jammy multiverse  
deb http://us.archive.ubuntu.com/ubuntu/ jammy-updates multiverse  
# deb-src http://us.archive.ubuntu.com/ubuntu/ jammy-updates multiverse  
  
## N.B. software from this repository may not have been tested as
```

```
clarence@clarence-VirtualBox: ~  
clarence@clarence-VirtualBox:~$ sudo rm /etc/apt/sources.list  
clarence@clarence-VirtualBox:~$ sudo apt-get install joe  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
E: Unable to locate package joe  
clarence@clarence-VirtualBox:~$
```

Task B Step 4

```
clarence@clarence-VirtualBox:~$ sudo apt-get install joe  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following NEW packages will be installed:  
  joe  
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.  
Need to get 509 kB of archives.  
After this operation, 2,150 kB of additional disk space will be used.  
Get:1 http://archive.ubuntu.com/ubuntu jammy/universe amd64 joe amd64 4.6-1build2 [509 kB]  
Fetched 509 kB in 1s (477 kB/s)  
Selecting previously unselected package joe.  
(Reading database ... 195789 files and directories currently installed.)  
Preparing to unpack .../joe_4.6-1build2_amd64.deb ...  
Unpacking joe (4.6-1build2) ...  
Setting up joe (4.6-1build2) ...  
update-alternatives: using /usr/bin/joe to provide /usr/bin/editor (editor) in auto mode  
Processing triggers for man-db (2.10.2-1) ...  
Processing triggers for mailcap (3.70+nmu1ubuntu1) ...  
Processing triggers for desktop-file-utils (0.26-1ubuntu3) ...  
Processing triggers for gnome-menus (3.36.0-1ubuntu3) ...  
clarence@clarence-VirtualBox:~$
```

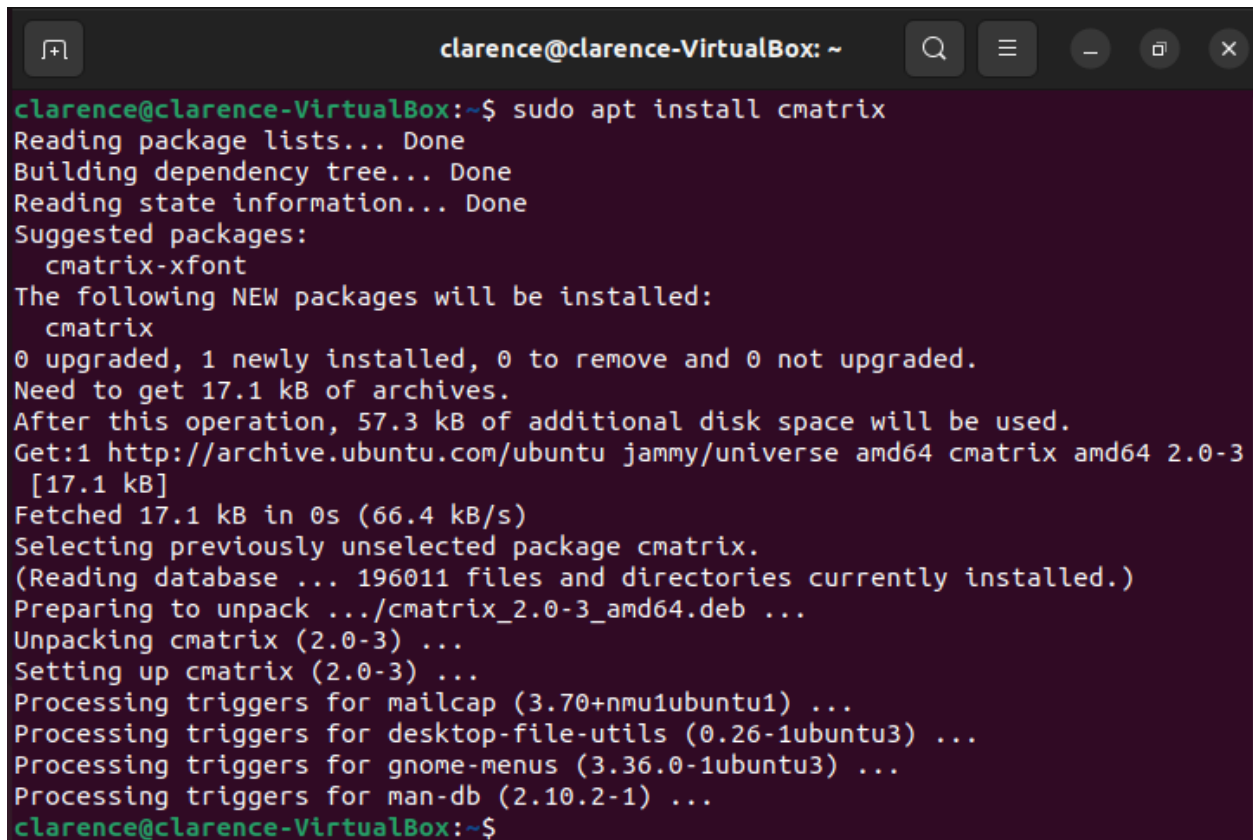
Task B Step 5

```
clarence@clarence-VirtualBox: ~  
clarence@clarence-VirtualBox:~$ sudo apt install sl  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following NEW packages will be installed:  
  sl  
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.  
Need to get 12.7 kB of archives.  
After this operation, 60.4 kB of additional disk space will be used.  
Get:1 http://archive.ubuntu.com/ubuntu jammy/universe amd64 sl amd64 5.02-1 [12.7 kB]  
Fetched 12.7 kB in 0s (25.5 kB/s)  
Selecting previously unselected package sl.  
(Reading database ... 195928 files and directories currently installed.)  
Preparing to unpack .../archives/sl_5.02-1_amd64.deb ...  
Unpacking sl (5.02-1) ...  
Setting up sl (5.02-1) ...  
Processing triggers for man-db (2.10.2-1) ...  
clarence@clarence-VirtualBox:~$
```

Task B Step 6

```
clarence@clarence-VirtualBox:~$ sudo apt install cowsay  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
Suggested packages:  
  filters cowsay-off  
The following NEW packages will be installed:  
  cowsay  
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.  
Need to get 18.6 kB of archives.  
After this operation, 93.2 kB of additional disk space will be used.  
Get:1 http://archive.ubuntu.com/ubuntu jammy/universe amd64 cowsay all 3.03+dfsg2-8 [18.6 kB]  
Fetched 18.6 kB in 1s (19.7 kB/s)  
Selecting previously unselected package cowsay.  
(Reading database ... 195951 files and directories currently installed.)  
Preparing to unpack .../cowsay_3.03+dfsg2-8_all.deb ...  
Unpacking cowsay (3.03+dfsg2-8) ...  
Setting up cowsay (3.03+dfsg2-8) ...  
Processing triggers for man-db (2.10.2-1) ...  
clarence@clarence-VirtualBox:~$
```

Task B Step 7



```
clarence@clarence-VirtualBox: ~  
clarence@clarence-VirtualBox:~$ sudo apt install cmatrix  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
Suggested packages:  
  cmatrix-xfont  
The following NEW packages will be installed:  
  cmatrix  
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.  
Need to get 17.1 kB of archives.  
After this operation, 57.3 kB of additional disk space will be used.  
Get:1 http://archive.ubuntu.com/ubuntu jammy/universe amd64 cmatrix amd64 2.0-3  
  [17.1 kB]  
Fetched 17.1 kB in 0s (66.4 kB/s)  
Selecting previously unselected package cmatrix.  
(Reading database ... 196011 files and directories currently installed.)  
Preparing to unpack .../cmatrix_2.0-3_amd64.deb ...  
Unpacking cmatrix (2.0-3) ...  
Setting up cmatrix (2.0-3) ...  
Processing triggers for mailcap (3.70+nmu1ubuntu1) ...  
Processing triggers for desktop-file-utils (0.26-1ubuntu3) ...  
Processing triggers for gnome-menus (3.36.0-1ubuntu3) ...  
Processing triggers for man-db (2.10.2-1) ...  
clarence@clarence-VirtualBox:~$
```