

OPERATING SYSTEM

LAB TASK – 07

Name: Kamisha Salim

S.ID: 11070

QUESTION – 1:

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Activities Terminal Jun 18 10:06 PM
kamisha@kamisha11070-virtualbox: ~
kamisha@kamisha11070-virtualbox:~$ man ps
kamisha@kamisha11070-virtualbox:~$ ps -o pid,ppid,cmd -u kamisha
  PID  PPID  CMD
1253    1  /lib/systemd/systemd --user
1254   1253 (sd-pam)
1259   1253 /usr/bin/pulseaudio --daemonize=no --log-target=journal
1261   1253 /usr/libexec/tracker-miner-fs
1264   1253 /usr/bin/dbus-daemon --session --address=systemd: --nofork --nopidfile --systemd-activation --syslog-only
1267    1  /usr/bin/gnome-keyring-daemon --daemonize --login
1272   1253 /usr/libexec/gvfsd
1277   1253 /usr/libexec/gvfsd-fuse /run/user/1000/gvfs -f -o big_writes
1290   1253 /usr/libexec/gvfs-udisks2-volume-monitor
1302   1253 /usr/libexec/gvfs-afc-volume-monitor
1305   1237 /usr/lib/gdm3/gdm-x-session --run-script env GNOME_SHELL_SESSION_MODE=ubuntu /usr/bin/gnome-session --systemd --session=ubuntu
1310   1253 /usr/libexec/gvfs-mtp-volume-monitor
1315   1253 /usr/libexec/gvfs-gphoto2-volume-monitor
1316   1305 /usr/lib/xorg/Xorg vt2 -displayfd 3 -auth /run/user/1000/gdm/Xauthority -background none -noreset -keeptty -verbose 3
1320   1253 /usr/libexec/gvfs-goa-volume-monitor
1324   1253 /usr/libexec/goa-daemon
1331   1253 /usr/libexec/goa-identity-service
1358   1305 /usr/libexec/gnome-session-binary --systemd --systemd --session=ubuntu
1429    1  /usr/bin/VBoxClient --clipboard
1430   1429 /usr/bin/VBoxClient --clipboard
1441    1  /usr/bin/VBoxClient --seamless
1442   1441 /usr/bin/VBoxClient --seamless
1448    1  /usr/bin/VBoxClient --draganddrop
1449   1448 /usr/bin/VBoxClient --draganddrop
1456    1  /usr/bin/VBoxClient --vmsvga
1457   1456 /usr/bin/VBoxClient --vmsvga
1463   1358 /usr/bin/ssh-agent /usr/bin/in-launch env GNOME_SHELL_SESSION_MODE=ubuntu /usr/bin/gnome-session --systemd --session=ubuntu
1486   1253 /usr/libexec/at-spi-bus-launcher
1492   1486 /usr/bin/dbus-daemon --config-file=/usr/share/defaults/at-spi2/accessibility.conf --nofork --print-address 3
1505   1253 /usr/libexec/gnome-session-ctl --monitor
1512   1253 /usr/libexec/gnome-session-binary --systemd-service --session=ubuntu
...
```

```
Activities Terminal Jun 18 10:08 PM
kamisha@kamisha11070-virtualbox: ~
1637   1253 /usr/libexec/evolution-addressbook-factory
1664   1272 /usr/libexec/gvfsd-trash - spawner :1.3 /org/gtk/gvfs/exec_spaw/0
1669   1253 /usr/bin/gjs /usr/share/gnome-shell/org.gnome.Shell.Notifications
1683   1253 /usr/libexec/gsd-a11y-settings
1686   1253 /usr/libexec/gsd-color
1689   1253 /usr/libexec/gsd-datetime
1695   1253 /usr/libexec/gsd-housekeeping
1696   1253 /usr/libexec/gsd-keyboard
1699   1253 /usr/libexec/gsd-media-keys
1702   1253 /usr/libexec/gsd-power
1704   1253 /usr/libexec/gsd-print-notifications
1705   1253 /usr/libexec/gsd-rfkill
1710   1253 /usr/libexec/gsd-screensaver-proxy
1713   1253 /usr/libexec/gsd-sharing
1718   1253 /usr/libexec/gsd-smartcard
1721   1253 /usr/libexec/gsd-sound
1725   1253 /usr/libexec/gsd-usb-protection
1726   1512 /usr/libexec/gsd-disk-utility-notify
1732   1253 /usr/libexec/gsd-wacom
1735   1253 /usr/libexec/gsd-wman
1738   1253 /usr/libexec/gsd-xsettings
1760   1512 /usr/libexec/evolution-data-server/evolution-alarm-notify
1770   1572 /usr/libexec/ibus-engine-simple
1785   1253 /usr/libexec/gsd-printer
1857   1253 /snap/snap-store/547/usr/bin/snap-store --gapplication-service
1876   1253 /usr/libexec/xdg-document-portal
1971   1253 /usr/libexec/xdg-desktop-portal
1975   1253 /usr/libexec/xdg-desktop-portal-gtk
2280   1253 /usr/libexec/gnome-terminal-server
2288   2280 bash
2295   1253 /usr/libexec/gvfsd-metadata
2374   1512 update-notifier
3496   2288 ps -o pid,ppid,cmd -u kamisha
kamisha@kamisha11070-virtualbox:~$
```

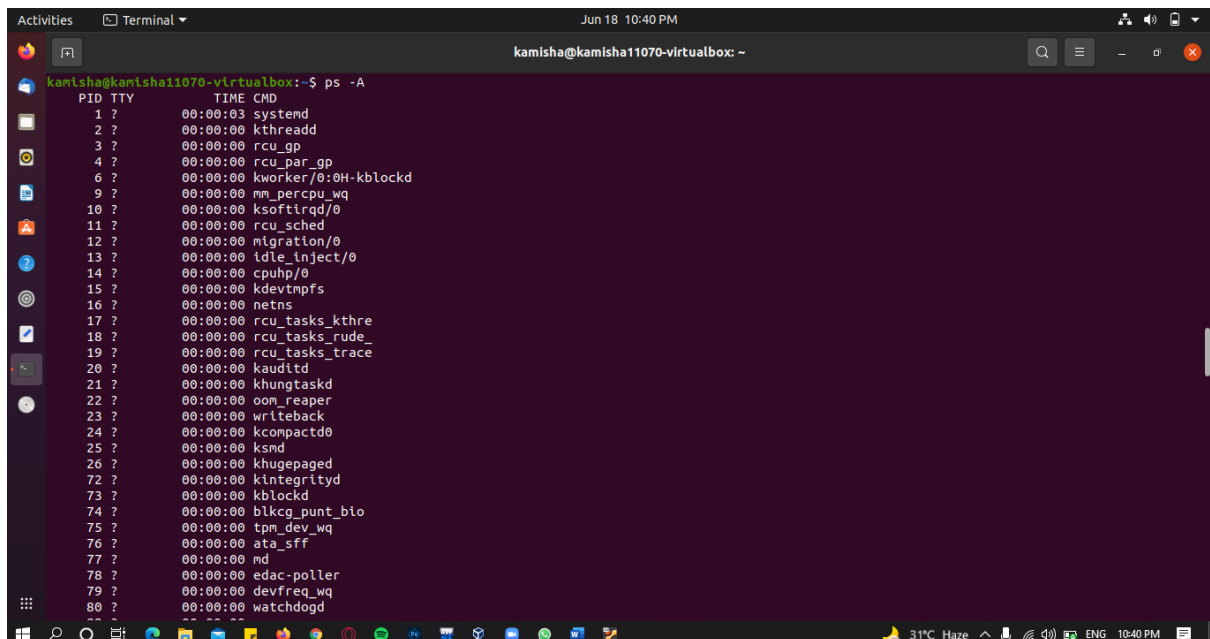
QUESTION – 2:

```
Activities Terminal Jun 18 10:37 PM
kamisha@kamisha11070-virtualbox: ~
kamisha@kamisha11070-virtualbox:~$ ps -H -o pid,ppid,cmd -u kamisha
PID PPID CMD
1305 1237 /usr/lib/gdm3/gdm-x-session --run-script env GNOME_SHELL_SESSION_MODE=ubuntu /usr/bin/gnome-session --systemd --session=ubuntu
1316 1305 /usr/lib/xorg/Xorg vt2 -displayfd 3 -auth /run/user/1000/gdm/Xauthority -background none -noreset -keeptty -verbose 3
1358 1305 /usr/libexec/gnome-session-binary --systemd --systemd --session=ubuntu
1463 1358 /usr/bin/ssh-agent /usr/bin/im-launch env GNOME_SHELL_SESSION_MODE=ubuntu /usr/bin/gnome-session --systemd --session=ubuntu
1456 1 /usr/bin/VBoxClient --vmsvga
1457 1456 /usr/bin/VBoxClient --vmsvga
1448 1 /usr/bin/VBoxClient --draganddrop
1449 1448 /usr/bin/VBoxClient --draganddrop
1441 1 /usr/bin/VBoxClient --seamless
1442 1441 /usr/bin/VBoxClient --seamless
1429 1 /usr/bin/VBoxClient --clipboard
1430 1429 /usr/bin/VBoxClient --clipboard
1267 1 /usr/bin/gnome-keyring-daemon --daemonize --login
1253 1 /lib/systemd/systemd --user
1254 1253 (sd-pam)
1259 1253 /usr/bin/pulseaudio --daemonize=no --log-target=journal
1261 1253 /usr/libexec/tracker-miner-fs
1264 1253 /usr/bin/dbus-daemon --session --address=systemd: --nofork --nopidfile --systemd-activation --syslog-only
1272 1253 /usr/libexec/gvfsd
1604 1272 /usr/libexec/gvfsd-trash --spawner :1.3 /org/gtk/gvfs/exec_spaw/0
1277 1253 /usr/libexec/gvfsd-fuse /run/user/1000/gvfs -f -o big_writes
1290 1253 /usr/libexec/gvfsd-udisks2-volume-monitor
1302 1253 /usr/libexec/gvfsd-afc-volume-monitor
1310 1253 /usr/libexec/gvfsd-mtp-volume-monitor
1315 1253 /usr/libexec/gvfsd-gphoto2-volume-monitor
1320 1253 /usr/libexec/gvfsd-goa-volume-monitor
1324 1253 /usr/libexec/goa-daemon
1331 1253 /usr/libexec/goa-identity-service
1486 1253 /usr/libexec/at-spi-bus-launcher
1492 1486 /usr/bin/dbus-daemon --config-file=/usr/share/defaults/at-spi2/accessibility.conf --nofork --print-address 3
1505 1253 /usr/libexec/gnome-session-ctl --monitor
1512 1253 /usr/libexec/gnome-session-binary --systemd-service --session=ubuntu
2288 1253 ps -H -o pid,ppid,cmd -u kamisha
2295 1253 /usr/libexec/gvfsd-metadata
```

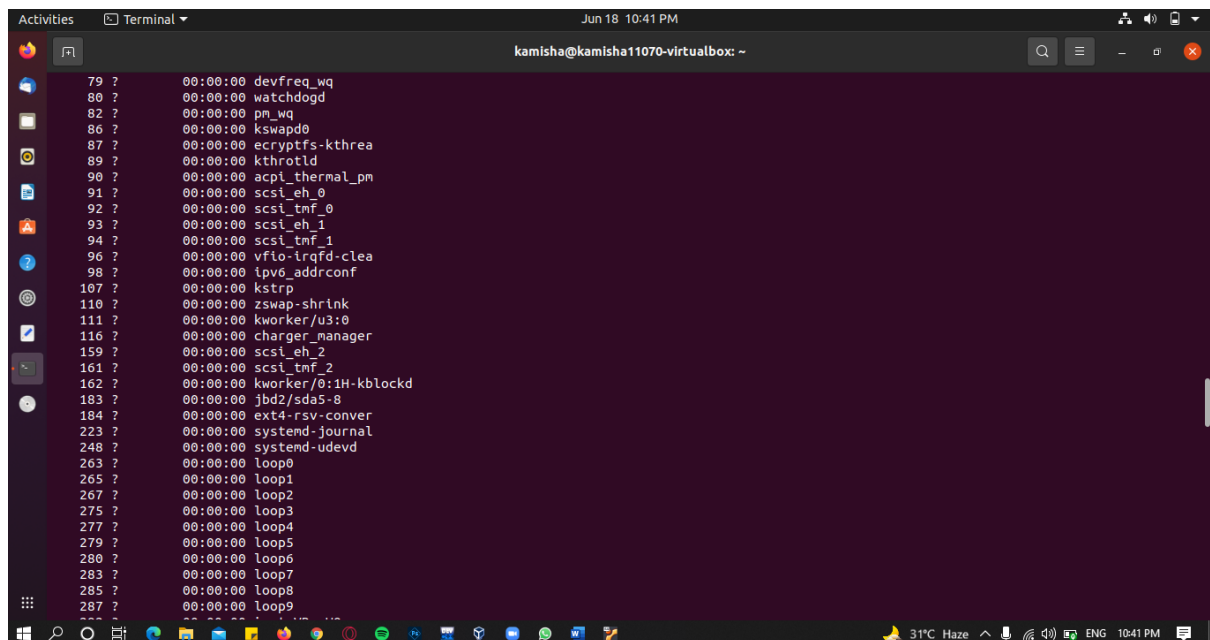
```
Activities Terminal Jun 18 10:37 PM
kamisha@kamisha11070-virtualbox: ~
1602 1253 /usr/libexec/xdg-permission-store
1608 1253 /usr/libexec/gnome-shell-calendar-server
1614 1253 /usr/libexec/evolution-source-registry
1624 1253 /usr/libexec/evolution-calendar-factory
1632 1253 /usr/libexec/dconf-service
1637 1253 /usr/libexec/evolution-addressbook-factory
1669 1253 /usr/bin/gjs /usr/share/gnome-shell/org.gnome.Shell.Notifications
1683 1253 /usr/libexec/gsd-a11y-settings
1686 1253 /usr/libexec/gsd-color
1689 1253 /usr/libexec/gsd-datetime
1695 1253 /usr/libexec/gsd-housekeeping
1696 1253 /usr/libexec/gsd-keyboard
1699 1253 /usr/libexec/gsd-media-keys
1702 1253 /usr/libexec/gsd-power
1704 1253 /usr/libexec/gsd-print-notifications
1705 1253 /usr/libexec/gsd-rfkill
1710 1253 /usr/libexec/gsd-screensaver-proxy
1713 1253 /usr/libexec/gsd-sharing
1718 1253 /usr/libexec/gsd-smartcard
1721 1253 /usr/libexec/gsd-sound
1725 1253 /usr/libexec/gsd-usb-protection
1732 1253 /usr/libexec/gsd-wacom
1735 1253 /usr/libexec/gsd-wwan
1738 1253 /usr/libexec/gsd-xsettings
1785 1253 /usr/libexec/gsd-printer
1857 1253 /snap/snap-store/547/usr/bin/snap-store --gapplication-service
1876 1253 /usr/libexec/xdg-document-portal
1971 1253 /usr/libexec/xdg-desktop-portal
1975 1253 /usr/libexec/xdg-desktop-portal-gtk
2280 1253 /usr/libexec/gnome-terminal-server
2288 2280 bash
3594 2288 ps -H -o pid,ppid,cmd -u kamisha
2295 1253 /usr/libexec/gvfsd-metadata
kamisha@kamisha11070-virtualbox:~$
```

QUESTION – 3

“ps -A” command:



```
kamisha@kamisha11070-virtualbox:~$ ps -A
  PID TTY          TIME CMD
    1 ?        00:00:03 systemd
    2 ?        00:00:00 kthreadd
    3 ?        00:00:00 rcu_gp
    4 ?        00:00:00 rcu_par_gp
    6 ?        00:00:00 kworker/0:0H-kblockd
    9 ?        00:00:00 mm_percpu_wq
   10 ?        00:00:00 ksoftirqd/0
   11 ?        00:00:00 rcu_sched
   12 ?        00:00:00 migration/0
   13 ?        00:00:00 idle_inject/0
   14 ?        00:00:00 cpuhp/0
   15 ?        00:00:00 kdevtmpfs
   16 ?        00:00:00 netns
   17 ?        00:00:00 rcu_tasks_kthre
   18 ?        00:00:00 rcu_tasks_rude_
   19 ?        00:00:00 rcu_tasks_trace
   20 ?        00:00:00 kauditd
   21 ?        00:00:00 khungtaskd
   22 ?        00:00:00 oom_reaper
   23 ?        00:00:00 writeback
   24 ?        00:00:00 kcompactd0
   25 ?        00:00:00 ksmd
   26 ?        00:00:00 khugepaged
   72 ?        00:00:00 kintegrityd
   73 ?        00:00:00 kblockd
   74 ?        00:00:00 blkcg_punt_bio
   75 ?        00:00:00 tpm_dev_wq
   76 ?        00:00:00 ata_sff
   77 ?        00:00:00 md
   78 ?        00:00:00 edac-poller
   79 ?        00:00:00 devfreq_wq
   80 ?        00:00:00 watchdogd
  ---
  ---
```



```
   79 ?        00:00:00 devfreq_wq
   80 ?        00:00:00 watchdogd
   82 ?        00:00:00 pm_wq
   86 ?        00:00:00 kswapd0
   87 ?        00:00:00 ecryptfs-kthrea
   89 ?        00:00:00 kthrotld
   90 ?        00:00:00 acpi_thermal_pm
   91 ?        00:00:00 scsi_eh_0
   92 ?        00:00:00 scsi_tmf_0
   93 ?        00:00:00 scsi_eh_1
   94 ?        00:00:00 scsi_tmf_1
   96 ?        00:00:00 vfio-irqfd-clea
   98 ?        00:00:00 ipv6_addrconf
  107 ?        00:00:00 kstrp
  110 ?        00:00:00 zswap-shrink
  111 ?        00:00:00 kworker/u3:0
  116 ?        00:00:00 charger_manager
  159 ?        00:00:00 scsi_eh_2
  161 ?        00:00:00 scsi_tmf_2
  162 ?        00:00:00 kworker/0:1H-kblockd
  183 ?        00:00:00 jbd2/sda5-8
  184 ?        00:00:00 ext4-rsv-conver
  223 ?        00:00:00 systemd-journal
  248 ?        00:00:00 systemd-udev
  263 ?        00:00:00 loop0
  265 ?        00:00:00 loop1
  267 ?        00:00:00 loop2
  275 ?        00:00:00 loop3
  277 ?        00:00:00 loop4
  279 ?        00:00:00 loop5
  280 ?        00:00:00 loop6
  283 ?        00:00:00 loop7
  285 ?        00:00:00 loop8
  287 ?        00:00:00 loop9
  ---
  ---
```

```
Activities Terminal Jun 18 10:42 PM kamisha@kamisha11070-virtualbox: ~
283 ? 00:00:00 loop7
285 ? 00:00:00 loop8
287 ? 00:00:00 loop9
292 ? 00:00:00 iprt-VBoxQueue
314 ? 00:00:00 cryptd
317 ? 00:00:00 irq/18-vmmgfx
326 ? 00:00:00 ttn_swap
497 ? 00:00:00 systemd-resolve
498 ? 00:00:00 systemd-timesyn
532 ? 00:00:00 accounts-daemon
533 ? 00:00:00 acpid
535 ? 00:00:00 avahi-daemon
536 ? 00:00:00 cron
541 ? 00:00:00 cupsd
542 ? 00:00:02 dbus-daemon
543 ? 00:00:00 NetworkManager
554 ? 00:00:00 networkd-dispat
557 ? 00:00:01 polkitd
563 ? 00:00:00 rsyslogd
567 ? 00:00:02 snapd
569 ? 00:00:00 switcheroo-cont
573 ? 00:00:00 systemd-logind
576 ? 00:00:00 udisksd
585 ? 00:00:00 wpa_supplicant
592 ? 00:00:00 avahi-daemon
619 ? 00:00:00 cups-browsed
636 ? 00:00:00 ModemManager
658 ? 00:00:00 unattended-upgr
676 ? 00:00:00 whoopsie
682 ? 00:00:00 kerneloops
687 ? 00:00:00 kerneloops
837 ? 00:00:00 gdm3
845 ? 00:00:01 VBoxService
911 ? 00:00:00 rtkit-daemon
-- --
31°C Haze 10:42 PM
```

```
Activities Terminal Jun 18 10:42 PM kamisha@kamisha11070-virtualbox: ~
1237 ? 00:00:00 gdm-session-wor
1253 ? 00:00:00 systemd
1254 ? 00:00:00 (sd-pam)
1259 ? 00:00:00 pulseaudio
1261 ? 00:00:00 tracker-miner-f
1264 ? 00:00:00 dbus-daemon
1267 ? 00:00:00 gnome-keyring-d
1272 ? 00:00:00 gvfsd
1277 ? 00:00:00 gvfsd-fuse
1290 ? 00:00:00 gvfs-udisks2-vo
1302 ? 00:00:00 gvfs-afc-volume
1305 tty2 00:00:00 gdm-x-session
1310 ? 00:00:00 gvfs-mtp-volume
1315 ? 00:00:00 gvfs-gphoto2-vo
1316 tty2 00:00:17 Xorg
1320 ? 00:00:00 gvfs-goa-volume
1324 ? 00:00:00 goa-daemon
1331 ? 00:00:00 goa-identity-se
1358 tty2 00:00:00 gnome-session-b
1429 ? 00:00:00 VBoxClient
1430 ? 00:00:00 VBoxClient
1441 ? 00:00:00 VBoxClient
1442 ? 00:00:00 VBoxClient
1448 ? 00:00:00 VBoxClient
1449 ? 00:00:12 VBoxClient
1456 ? 00:00:00 VBoxClient
1457 ? 00:00:00 VBoxClient
1463 ? 00:00:00 ssh-agent
1486 ? 00:00:00 at-spi-bus-laun
1492 ? 00:00:00 dbus-daemon
1505 ? 00:00:00 gnome-session-c
1512 ? 00:00:00 gnome-session-b
1526 ? 00:00:40 gnome-shell
1572 ? 00:00:00 ibus-daemon
-- --
31°C Haze 10:42 PM
```

```
1695 ?      00:00:00 gsd-housekeepin
1696 ?      00:00:00 gsd-keyboard
1699 ?      00:00:00 gsd-media-keys
1702 ?      00:00:00 gsd-power
1704 ?      00:00:00 gsd-print-notif
1705 ?      00:00:00 gsd-rfkill
1710 ?      00:00:00 gsd-screensaver
1713 ?      00:00:00 gsd-sharing
1718 ?      00:00:00 gsd-smartcard
1721 ?      00:00:00 gsd-sound
1725 ?      00:00:00 gsd-usb-protect
1726 ?      00:00:00 gsd-disk-utillit
1732 ?      00:00:00 gsd-wacom
1735 ?      00:00:00 gsd-wwan
1738 ?      00:00:00 gsd-xsettings
1760 ?      00:00:00 evolution-alarm
1770 ?      00:00:00 ibus-engine-sim
1785 ?      00:00:00 gsd-printer
1857 ?      00:00:10 snap-store
1876 ?      00:00:00 xdg-document-po
1971 ?      00:00:00 xdg-desktop-por
1975 ?      00:00:00 xdg-desktop-por
1989 ?      00:00:01 fwupd
2280 ?      00:00:27 gnome-terminal-
2295 ?      00:00:00 gvfsd-metadata
2374 ?      00:00:00 update-notifier
3691 ?      00:00:00 kworker/u2:1-events_unbound
3704 ?      00:00:00 kworker/0:2-events
3730 ?      00:00:00 kworker/0:0-events
3730 ?      00:00:00 kworker/0:0-events
3860 ?      00:00:00 kworker/u2:0-events_power_efficient
3908 ?      00:00:00 kworker/u2:2-events_unbound
3915 pts/0    00:00:00 bash
3929 pts/1    00:00:00 bash
3935 pts/1    00:00:00 ps
```

Now using tail command to obtain the last six lines of output from the “ps -A” command:

```
3691 ?      00:00:00 kworker/u2:1-events_unbound
3704 ?      00:00:00 kworker/0:2-events
3730 ?      00:00:00 kworker/0:0-events
3730 ?      00:00:00 kworker/0:0-events
3860 ?      00:00:00 kworker/u2:0-events_power_efficient
3908 ?      00:00:00 kworker/u2:2-events_unbound
3915 pts/0    00:00:00 bash
3929 pts/1    00:00:00 bash
3935 pts/1    00:00:00 ps
kamisha@kamisha11070-virtualbox:~$ ps -A | tail -n 6
3860 ?      00:00:00 kworker/u2:0-events_power_efficient
3908 ?      00:00:00 kworker/u2:2-events_unbound
3915 pts/0    00:00:00 bash
3929 pts/1    00:00:00 bash
3937 pts/1    00:00:00 ps
3938 pts/1    00:00:00 tail
kamisha@kamisha11070-virtualbox:~$
```