

List the user commands and redirect the output to /tmp/commands.list

```
Eng. SOROUR ->>> ls /bin/ | /tmp/commands.list
bash: /tmp/commands.list: No such file or directory
Eng. SOROUR ->>> ls /bin/ > /tmp/commands.list
Eng. SOROUR ->>> cd /tmp/commands.list
bash: cd: /tmp/commands.list: Not a directory
Eng. SOROUR ->>> cd /tmp/
Eng. SOROUR ->>> cat commands.list
|
a2x
a2x.py
ac
aclocal
aclocal-1.16
aconnect
acyclic
addr2line
alias
alsaloop
alsamixer
alsasunmute
alt-java
amidi
amixer
amuformat.sh
anaconda-cleanup
anaconda-disable-nm-ibft-plugin
analog
aplay
aplaymidi
appstream-compose
appstream-util
apropos
arch
arecord
arecordmidi
arpaname
as
asclidoc
asclidoc.py
```

Count the number of user commands

```
zcmp
zdiff
zegrep
zenity
zfgrep
zforce
zgrep
zip
zipcloak
zipgrep
zipinfo
zipnote
zipsplit
zless
zmore
znew
zsoelim
zstd
zstdcat
zstdgrep
zstdless
zstdmt
Eng. SOROUR ->>> clear
Eng. SOROUR ->>> wc -l /tmp/commands.list
1823 /tmp/commands.list
Eng. SOROUR ->>>
```

Get all the users names whose first character in their login is ‘g’.

```
Nov 28 10:37 AM
sorour@sorour:/tmp

File Edit View Search Terminal Help

adm:x:3:4:adm:/var/adm:/sbin/nologin
lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin
sync:x:5:0:sync:/sbin:/bin/sync
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown
halt:x:7:0:halt:/sbin:/sbin/halt
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
operator:x:11:0:operator:/root:/sbin/nologin
games:x:12:100:games:/usr/games:/sbin/nologin
ftp:x:14:50:FTP User:/var/ftp:/sbin/nologin
nobody:x:65534:65534:Kernel Overflow User:/sbin/nologin
dbus:x:81:81:System message bus:/sbin/nologin
systemd-coredump:x:999:997:systemd Core Dumper:/sbin/nologin
systemd-resolve:x:193:193:systemd Resolver:/sbin/nologin
tss:x:59:59:Account used for TPM access:/dev/null:/sbin/nologin
polkitd:x:998:996:User for polkitd:/sbin/nologin
geoclue:x:997:995:User for geoclue:/var/lib/geoclue:/sbin/nologin
rtkit:x:172:172:RealtimeKit:/proc:/sbin/nologin
pipewire:x:996:992:Pipewire System Daemon:/var/run/pipewire:/sbin/nologin
pulse:x:171:171:PulseAudio System Daemon:/var/run/pulse:/sbin/nologin
qemu:x:107:107:qemu user:/sbin/nologin
clevis:x:995:989:clevis Decryption Framework unprivileged user:/var/cache/clevis:/sbin/nologin
unbound:x:994:988:Unbound DNS resolver:/etc/unbound:/sbin/nologin
usbmuxd:x:113:113:usbmuxd user:/sbin/nologin
gluster:x:993:987:GlusterFS daemons:/run/gluster:/sbin/nologin
rpc:x:32:32:Rpcbind Daemon:/var/lib/rpcbind:/sbin/nologin
chrony:x:992:986:/:var/lib/chrony:/sbin/nologin
avahi:x:70:70:Avahi mDNS/DNS-SD Stack:/var/run/avahi-daemon:/sbin/nologin
setroubleshoot:x:991:984:/:var/lib/setroubleshoot:/sbin/nologin
saslauth:x:990:76:Saslauthd user:/run/saslauthd:/sbin/nologin
libstoragemgmt:x:989:983:daemon account for libstoragemgmt:/var/run/lsm:/sbin/nologin
dnsmasq:x:981:981:Dnsmasq DHCP and DNS server:/var/lib/dnsmasq:/sbin/nologin
raddvd:x:75:75:raddvd user:/sbin/nologin
sssd:x:980:980:User for sssd:/sbin/nologin
cockpit-ws:x:979:979:User for cockpit web service:/nonexisting:/sbin/nologin
cockpit-wsinstance:x:978:978:User for cockpit-ws instances:/nonexisting:/sbin/nologin
flatpak:x:977:977:User for flatpak system helper:/sbin/nologin
colord:x:976:976:User for colord:/var/lib/colord:/sbin/nologin
rpcuser:x:29:29:RPC Service User:/var/lib/nfs:/sbin/nologin
gdm:x:42:42:/:var/lib/gdm:/sbin/nologin
gnome-initial-setup:x:975:975:/:run/gnome-initial-setup:/sbin/nologin
design:x:974:974:Group for the design signing daemon:/var/run/design:/sbin/nologin
tcpdump:x:72:72:/:sbin/nologin
sshd:x:74:74:Privilege-separated SSH:/var/empty/sshd:/sbin/nologin
sorour:x:1000:1000:SOROUR:/home/sorour:/bin/bash
snapd-range:524288-root:x:524288:524288:/nonexistent:/usr/bin/false
snap_daemon:x:584788:584788:/nonexistent:/usr/bin/false
postfix:x:89:89:/:var/spool/postfix:/sbin/nologin
Eng. SOROUR ->>> grep ^g /etc/passwd
games:x:12:100:games:/usr/games:/sbin/nologin
geoclue:x:997:995:User for geoclue:/var/lib/geoclue:/sbin/nologin
gluster:x:993:987:GlusterFS daemons:/run/gluster:/sbin/nologin
gdm:x:42:42:/:var/lib/gdm:/sbin/nologin
gnome-initial-setup:x:975:975:/:run/gnome-initial-setup:/sbin/nologin
Eng. SOROUR ->>>
```

Get the logins name and full names (comment) of logins starts with “g”.

```
Nov 28 10:40 AM
sorour@sorour:/tmp

File Edit View Search Terminal Help

cockpit-ws:x:979:979:User for cockpit web service:/nonexisting:/sbin/nologin
cockpit-wsinstance:x:978:978:User for cockpit-ws instances:/nonexisting:/sbin/nologin
flatpak:x:977:977:User for flatpak system helper:/sbin/nologin
colord:x:976:976:User for colord:/var/lib/colord:/sbin/nologin
rpcuser:x:29:29:RPC Service User:/var/lib/nfs:/sbin/nologin
gdm:x:42:42:/:var/lib/gdm:/sbin/nologin
gnome-initial-setup:x:975:975:/:run/gnome-initial-setup:/sbin/nologin
design:x:974:974:Group for the design signing daemon:/var/run/design:/sbin/nologin
tcpdump:x:72:72:/:sbin/nologin
sshd:x:74:74:Privilege-separated SSH:/var/empty/sshd:/sbin/nologin
sorour:x:1000:1000:SOROUR:/home/sorour:/bin/bash
snapd-range:524288-root:x:524288:524288:/nonexistent:/usr/bin/false
snap_daemon:x:584788:584788:/nonexistent:/usr/bin/false
postfix:x:89:89:/:var/spool/postfix:/sbin/nologin
Eng. SOROUR ->>> grep ^g /etc/passwd
games:x:12:100:games:/usr/games:/sbin/nologin
geoclue:x:997:995:User for geoclue:/var/lib/geoclue:/sbin/nologin
gluster:x:993:987:GlusterFS daemons:/run/gluster:/sbin/nologin
gdm:x:42:42:/:var/lib/gdm:/sbin/nologin
gnome-initial-setup:x:975:975:/:run/gnome-initial-setup:/sbin/nologin
Eng. SOROUR ->>> clear

Eng. SOROUR ->>> cut -f1,5 -d: /etc/passwd | grep ^g
games:
geoclue:User for geoclue
gluster:GlusterFS daemons
gdm:
gnome-initial-setup:
Eng. SOROUR ->>>
```

Save the output of the last command sorted by their full names in a file.

```
Nov 28 10:56 AM
sorour@sorour:~$
File Edit View Search Terminal Help
Eng. SOROUR ->>> pwd
/home/sorour
Eng. SOROUR ->>> sort -k4 -t: /home/sorour/logins
sort: invalid option -- 'k'
Try 'sort --help' for more information.
Eng. SOROUR ->>> man sort
Eng. SOROUR ->>> cd /home/sorour/logins
bash: cd: /home/sorour/logins: Not a directory
Eng. SOROUR ->>> ls
. Desktop Documents logins myteam offtsmount Public Templates
Desktop Downloads Music newdir oldpasswd README.md Videos
docs file1 mycv newfile Pictures snap
Eng. SOROUR ->>> cat logins
games:games
geoclue:User for geoclue
gluster:GlusterFS daemons
gdm:
gnome-initial-setup:
Eng. SOROUR ->>> sort -k2 -t: /home/sorour/logins
sort: invalid option -- 'k'
Try 'sort --help' for more information.
Eng. SOROUR ->>> cat logins
games:games
geoclue:User for geoclue
gluster:GlusterFS daemons
gdm:
gnome-initial-setup:
Eng. SOROUR ->>> sort -k2 -t: /home/sorour/logins
sort: invalid option -- 'k'
Try 'sort --help' for more information.
Eng. SOROUR ->>> sort -k2 -t: /home/sorour/logins
gdm:
gnome-initial-setup:
games:games
gluster:GlusterFS daemons
geoclue:User for geoclue
Eng. SOROUR ->>> sort -k2 -t: /home/sorour/logins > logins
Eng. SOROUR ->>> cat logins
Eng. SOROUR ->>> sort -k2 -t: /home/sorour/logins >> logins
Eng. SOROUR ->>> cat logins
Eng. SOROUR ->>> cut -f1.5 -d: /etc/passwd | grep "gl sort -k2 -t: /home/sorour/logins > logins
Eng. SOROUR ->>> cat logins
Eng. SOROUR ->>> cut -f1.5 -d: /etc/passwd | grep "gl sort -k2 -t: > logins
Eng. SOROUR ->>> cat logins
gdm:
gnome-initial-setup:
games:games
gluster:GlusterFS daemons
geoclue:User for geoclue
Eng. SOROUR ->>>
```

Write two commands: first: to search for all files on the system that named .bash_profile.

```
Nov 28 12:08 PM
sorour@sorour:~$
File Edit View Search Terminal Help
find: '/tmp/systemd-private-3644e8a0f3043258bf5753ac78e1d9b-rtkit-daemon.service-1NP4ex': Permission denied
find: '/tmp/snap.chromium': Permission denied
find: '/tmp/snap.cups': Permission denied
find: '/tmp/systemd-private-3644e8a0f3043258bf5753ac78e1d9b-chronyd.service-4lT4c': Permission denied
find: '/tmp/systemd-private-3644e8a0f3043258bf5753ac78e1d9b-bluetooth.service-9daPIV': Permission denied
find: '/tmp/systemd-private-3644e8a0f3043258bf5753ac78e1d9b-postfix.service-LAVHWQ': Permission denied
find: '/tmp/systemd-private-3644e8a0f3043258bf5753ac78e1d9b-colord.service-HJ0a3d': Permission denied
find: '/tmp/systemd-private-3644e8a0f3043258bf5753ac78e1d9b-geoclue.service-LTZMn': Permission denied
find: '/tmp/snap.onlyoffice-desktopeditors': Permission denied
find: '/tmp/snap.snap-store': Permission denied
find: '/tmp/snap.vlc': Permission denied
find: '/tmp/systemd-private-3644e8a0f3043258bf5753ac78e1d9b-ModemManager.service-mNgUW': Permission denied
find: '/tmp/systemd-private-3644e8a0f3043258bf5753ac78e1d9b-fwupd.service-HBeIos': Permission denied
Eng. SOROUR ->>> find / -name .bash_profile > file1
find: '/boot/efi': Permission denied
find: '/boot/grub2': Permission denied
find: '/boot/loader/entries': Permission denied
find: '/home/sorour/newdir': Permission denied
find: '/home/sorour2': Permission denied
find: '/proc/tty/driver': Permission denied
find: '/proc/1/task/1/fd': Permission denied
find: '/proc/1/task/1/fdinfo': Permission denied
find: '/proc/1/task/1/ns': Permission denied
find: '/proc/1/fd': Permission denied
find: '/proc/1/map_files': Permission denied
find: '/proc/1/fdinfo': Permission denied
find: '/proc/1/ns': Permission denied
find: '/proc/2/task/2/fd': Permission denied
find: '/proc/2/task/2/fdinfo': Permission denied
find: '/proc/2/task/2/ns': Permission denied
find: '/proc/2/fd': Permission denied
find: '/proc/2/map_files': Permission denied
find: '/proc/2/fdinfo': Permission denied
find: '/proc/2/ns': Permission denied
find: '/proc/3/task/3/fd': Permission denied
find: '/proc/3/task/3/fdinfo': Permission denied
find: '/proc/3/task/3/ns': Permission denied
find: '/proc/3/fd': Permission denied
find: '/proc/3/map_files': Permission denied
find: '/proc/3/fdinfo': Permission denied
find: '/proc/3/ns': Permission denied
find: '/proc/4/task/4/fd': Permission denied
find: '/proc/4/task/4/fdinfo': Permission denied
find: '/proc/4/task/4/ns': Permission denied
find: '/proc/4/fd': Permission denied
find: '/proc/4/map_files': Permission denied
find: '/proc/4/fdinfo': Permission denied
find: '/proc/4/ns': Permission denied
find: '/proc/6/task/6/fd': Permission denied
find: '/proc/6/task/6/fdinfo': Permission denied
find: '/proc/6/fd': Permission denied
find: '/proc/6/map_files': Permission denied
find: '/proc/6/fdinfo': Permission denied
```

Second: sorts the output of ls command on / recursively, Saving their output and error in 2 different files and sending them to the background.


```
Nov 28 10:58 AM
sorour@sorour:~$
File Edit View Search Terminal Help
Try 'sort --help' for more information.
Eng. SOROUR -> man sort
Eng. SOROUR -> cd /home/sorour/logins
bash: cd: /home/sorour/logins: Not a directory
Eng. SOROUR -> ls
**
Desktop Downloads Music newdir oldpasswd README.md Videos
docs file1 mycv newfile Pictures snap
Eng. SOROUR -> cat logins
games:games
geoclue:User for geoclue
gluster:GlusterFS daemons
gdm:
gnome-initial-setup:
Eng. SOROUR -> sort -K2 -t: /home/sorour/logins
sort: invalid option -- 'K'
Try 'sort --help' for more information.
Eng. SOROUR -> cat logins
games:games
geoclue:User for geoclue
gluster:GlusterFS daemons
gdm:
gnome-initial-setup:
Eng. SOROUR -> sort -K2 -t: /home/sorour/logins
sort: invalid option -- 'K'
Try 'sort --help' for more information.
Eng. SOROUR -> sort -k2 -t: /home/sorour/logins
Eng. SOROUR -> cat logins
games:games
geoclue:User for geoclue
gluster:GlusterFS daemons
gdm:
gnome-initial-setup:
Eng. SOROUR -> sort -k2 -t: /home/sorour/logins > logins
Eng. SOROUR -> cat logins
sort: invalid option -- 'K'
Try 'sort --help' for more information.
Eng. SOROUR -> sort -k2 -t: /home/sorour/logins > logins
Eng. SOROUR -> sort -k2 -t: /home/sorour/logins >> logins
Eng. SOROUR -> cat logins
Eng. SOROUR -> cut -f1,5 -d: /etc/passwd | grep "g" sort -k2 -t: /home/sorour/logins > logins
Eng. SOROUR -> cat logins
Eng. SOROUR -> cut -f1,5 -d: /etc/passwd | grep "g" sort -k2 -t: > logins
Eng. SOROUR -> cat logins
gdm:
gnome-initial-setup:
games:games
gluster:GlusterFS daemons
geoclue:User for geoclue
Eng. SOROUR -> #
10:58:22 up 53 min, 1 user, load average: 0.08, 0.08, 0.13
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU WHAT
sorour    tty2     tty2          10:05    53:32  8:17   0.02s /snap/chromium/2221/usr/lib/chromium-browser/chrome --type=renderer --display-capture-permissions-policy-allowed --event-path-policy=0 --change-st
Eng. SOROUR ->
```

9. What happens if you execute:

- ☐ cat filename1 | cat filename2 → show file 2
- ☐ ls | rm → error
- ☐ ls /etc/passwd | wc -l → get 1

10. Issue the command sleep 100.

```
Nov 28 11:20 AM
sorour@sorour:~$
File Edit View Search Terminal Help
geoclue:x:997:995:User for geoclue:/var/lib/geoclue:/sbin/nologin
rtkit:x:172:172:RealtimeKit:/proc:/sbin/nologin
pipewire:x:986:992:Pipewire System Daemon:/var/run/pipewire:/sbin/nologin
pulse:x:171:171:PulseAudio System Daemon:/var/run/pulse:/sbin/nologin
qemu:x:107:107:qemu user:/:/sbin/nologin
clevis:x:995:989:clevis Decryption Framework unprivileged user:/var/cache/clevis:/sbin/nologin
unbound:x:994:988:Unbound DNS resolver:/etc/unbound:/sbin/nologin
usbmuxd:x:113:113:usbmuxd user:/:/sbin/nologin
gluster:x:993:987:GlusterFS daemons:/run/gluster:/sbin/nologin
rpc:x:32:32:Rpcbind Daemon:/var/lib/rpcbind:/sbin/nologin
chrony:x:992:986:/var/lib/chrony:/sbin/nologin
avahi:x:70:70:Avahi mDNS/DNS-SD Stack:/var/run/avahi-daemon:/sbin/nologin
setroubleshoot:x:991:984:/var/lib/setroubleshoot:/sbin/nologin
saslauthd:x:990:76:Saslauthd user:/run/saslauthd:/sbin/nologin
libstoragemgmt:x:989:983:daemon account for libstoragemgmt:/var/run/lsm:/sbin/nologin
dnsmasq:x:981:981:dnsmasq DHCP and DNS server:/var/lib/dnsmasq:/sbin/nologin
radvd:x:75:75:radvd user:/:/sbin/nologin
sssd:x:980:980:User for sssd:/:/sbin/nologin
cockpit-ws:x:979:979:User for cockpit web service:/nonexistent:/sbin/nologin
cockpit-wsinstance:x:978:978:User for cockpit-ws instances:/nonexistent:/sbin/nologin
flatpak:x:977:977:User for flatpak system helper:/:/sbin/nologin
colord:x:976:976:User for colord:/var/lib/colord:/sbin/nologin
rpcuser:x:29:29:RPC Service User:/var/lib/nfs:/sbin/nologin
gdm:x:42:42:/var/lib/gdm:/sbin/nologin
gnome-initial-setup:x:975:975:/run/gnome-initial-setup:/:/sbin/nologin
design:x:974:974:Group for the design signing daemon:/var/run/design:/sbin/nologin
tcpdump:x:72:72:/:/sbin/nologin
sshd:x:74:74:Privilege-separated SSH:/var/empty/sshd:/sbin/nologin
sorour:x:1000:1000:SOROUR:/home/sorour:/bin/bash
snapd-range:x:524288:524288:/nonexistent:/usr/bin/false
snap_daemon:x:584788:584788:/nonexistent:/usr/bin/false
postfix:x:89:89:/var/spool/postfix:/sbin/nologin
Eng. SOROUR -> ls /etc/passwd | wc -l
wc: -l: No such file or directory
Eng. SOROUR -> ls /etc/passwd | wc -l
wc: -l: No such file or directory
Eng. SOROUR -> ls /etc/passwd | wc -l
wc: -l: No such file or directory
Eng. SOROUR -> ls /etc/passwd | wc -l
wc: -l: No such file or directory
Eng. SOROUR -> sleep 100
^T
^F
^C
Eng. SOROUR -> users
sorour
Eng. SOROUR -> users | wc -l
1
Eng. SOROUR -> sleep 100
^Z
[1]+  Stopped                  sleep 100
Eng. SOROUR ->
```

11. Stop the last command.

```
Nov 28 11:20 AM
sorour@sorour:~$

geoclue:x:997:995:User for geoclue:/var/lib/geoclue:/sbin/nologin
rtkit:x:172:172:RealtimeKit:/proc:/sbin/nologin
pipewire:x:996:992:PipeWire System Daemon:/var/run/pipewire:/sbin/nologin
pulse:x:171:171:PulseAudio System Daemon:/var/run/pulse:/sbin/nologin
qemu:x:107:107:qemu user:/:/sbin/nologin
clevis:x:995:989:clevis Decryption Framework unprivileged user:/var/cache/clevis:/sbin/nologin
unbound:x:994:988:Unbound DNS resolver:/etc/unbound:/sbin/nologin
usbmuxd:x:113:113:usbmuxd user:/:/sbin/nologin
gluster:x:993:987:glusterFS daemons:/run/gluster:/sbin/nologin
rpc:x:32:32:Rpcbind Daemon:/var/lib/rpcbind:/sbin/nologin
chrony:x:992:986:/var/lib/chrony:/sbin/nologin
avahi:x:70:70:Avahi mDNS/DNS-SD Stack:/var/run/avahi-daemon:/sbin/nologin
setroubleshoot:x:991:984:/var/lib/setroubleshoot:/sbin/nologin
saslauthd:x:990:76:Saslauthd user:/run/saslauthd:/sbin/nologin
libstoragemgmt:x:989:983:daemon account for libstoragemgmt:/var/run/lsm:/sbin/nologin
dnsmasq:x:981:981:Dnsmasq DHCP and DNS server:/var/lib/dnsmasq:/sbin/nologin
radvd:x:75:75:radvd user:/:/sbin/nologin
sssd:x:980:980:User for sssd:/:/sbin/nologin
cockpit-ws:x:979:979:User for cockpit web service:/nonexistent:/sbin/nologin
cockpit-wsinstance:x:978:978:User for cockpit-ws instances:/nonexistent:/sbin/nologin
flatpak:x:977:977:User for flatpak system helper:/:/sbin/nologin
colord:x:976:976:User for colord:/var/lib/colord:/sbin/nologin
rpcuser:x:29:29:RPC Service User:/var/lib/nfs:/sbin/nologin
gdm:x:42:42:/var/lib/gdm:/sbin/nologin
gnome-initial-setup:x:975:975:/run/gnome-initial-setup:/:/sbin/nologin
pesign:x:974:974:Group for the pesign signing daemon:/var/run/psign:/sbin/nologin
tcpdump:x:72:72:/:/sbin/nologin
sshd:x:74:74:Privilege-separated SSH:/var/empty/ssh:/sbin/nologin
sorour:x:1000:1000:SOROUR:/home/sorour:/bin/bash
snapd-range-524288-root:x:524288:524288:/nonexistent:/usr/bin/false
snap_daemon:x:584788:584788:/nonexistent:/usr/bin/false
postfix:x:89:89:/var/spool/postfix:/sbin/nologin
Eng. SOROUR -> ls /etc/passwd | wc -l
wc: -l: No such file or directory
Eng. SOROUR -> ls /etc/passwd | wc -l
wc: -l: No such file or directory
Eng. SOROUR -> ls /etc/passwd | wc -l
wc: -l: No such file or directory
Eng. SOROUR -> ls /etc/passwd | wc -l
1
Eng. SOROUR -> man sleep
Eng. SOROUR -> sleep 2
Eng. SOROUR -> sleep 100
^T
^F
^C
Eng. SOROUR -> users
sorour
Eng. SOROUR -> users | wc -l
1
Eng. SOROUR -> sleep 100
^Z
[1]+  Stopped                  sleep 100
Eng. SOROUR ->
```

12. Resume the last command in the background

```
Nov 28 11:22 AM
sorour@sorour:~$

clevis:x:995:989:clevis Decryption Framework unprivileged user:/var/cache/clevis:/sbin/nologin
unbound:x:994:988:Unbound DNS resolver:/etc/unbound:/sbin/nologin
usbmuxd:x:113:113:usbmuxd user:/:/sbin/nologin
gluster:x:993:987:glusterFS daemons:/run/gluster:/sbin/nologin
rpc:x:32:32:Rpcbind Daemon:/var/lib/rpcbind:/sbin/nologin
chrony:x:992:986:/var/lib/chrony:/sbin/nologin
avahi:x:70:70:Avahi mDNS/DNS-SD Stack:/var/run/avahi-daemon:/sbin/nologin
setroubleshoot:x:991:984:/var/lib/setroubleshoot:/sbin/nologin
saslauthd:x:990:76:Saslauthd user:/run/saslauthd:/sbin/nologin
libstoragemgmt:x:989:983:daemon account for libstoragemgmt:/var/run/lsm:/sbin/nologin
dnsmasq:x:981:981:Dnsmasq DHCP and DNS server:/var/lib/dnsmasq:/sbin/nologin
radvd:x:75:75:radvd user:/:/sbin/nologin
sssd:x:980:980:User for sssd:/:/sbin/nologin
cockpit-ws:x:979:979:User for cockpit web service:/nonexistent:/sbin/nologin
cockpit-wsinstance:x:978:978:User for cockpit-ws instances:/nonexistent:/sbin/nologin
flatpak:x:977:977:User for flatpak system helper:/:/sbin/nologin
colord:x:976:976:User for colord:/var/lib/colord:/sbin/nologin
rpcuser:x:29:29:RPC Service User:/var/lib/nfs:/sbin/nologin
gdm:x:42:42:/var/lib/gdm:/sbin/nologin
gnome-initial-setup:x:975:975:/run/gnome-initial-setup:/:/sbin/nologin
pesign:x:974:974:Group for the pesign signing daemon:/var/run/psign:/sbin/nologin
tcpdump:x:72:72:/:/sbin/nologin
sshd:x:74:74:Privilege-separated SSH:/var/empty/ssh:/sbin/nologin
sorour:x:1000:1000:SOROUR:/home/sorour:/bin/bash
snapd-range-524288-root:x:524288:524288:/nonexistent:/usr/bin/false
snap_daemon:x:584788:584788:/nonexistent:/usr/bin/false
postfix:x:89:89:/var/spool/postfix:/sbin/nologin
Eng. SOROUR -> ls /etc/passwd | wc -l
wc: -l: No such file or directory
Eng. SOROUR -> ls /etc/passwd | wc -l
wc: -l: No such file or directory
Eng. SOROUR -> ls /etc/passwd | wc -l
wc: -l: No such file or directory
Eng. SOROUR -> ls /etc/passwd | wc -l
1
Eng. SOROUR -> man sleep
Eng. SOROUR -> sleep 2
Eng. SOROUR -> sleep 100
^T
^F
^C
Eng. SOROUR -> users
sorour
Eng. SOROUR -> users | wc -l
1
Eng. SOROUR -> sleep 100
^Z
[1]+  Stopped                  sleep 100
Eng. SOROUR -> jobs
[1]+  Stopped                  sleep 100
Eng. SOROUR -> kill -CONT %1
Eng. SOROUR -> jobs
[1]+  Done                    sleep 100
Eng. SOROUR ->
```

13. Issue the jobs command and see its output.

```
Nov 28 11:24 AM
sorour@sorour:~$
File Edit View Search Terminal Help
avahi:x:70:70:Avahi mDNS/DNS-SD Stack:/var/run/avahi-daemon:/sbin/nologin
setroubleshoot:x:991:984::/var/lib/setroubleshoot:/sbin/nologin
ssslauth:x:990:76:Saslauthd user:/run/sslauthd:/sbin/nologin
libstoragemgmt:x:989:983:daemon account for libstoragemgmt:/var/run/lsm:/sbin/nologin
dnsmasq:x:981:983:Dnsmasq DNS and DNS server:/var/lib/dnsmasq:/sbin/nologin
raddvd:x:75:75:raddvd user:/sbin/nologin
sssd:x:980:980:User for sssd:/sbin/nologin
cockpit-ws:x:979:979:User for cockpit web service:/nonexistent:/sbin/nologin
cockpit-wsinstance:x:978:978:User for cockpit-ws instances:/nonexistent:/sbin/nologin
flatpak:x:977:977:User for flatpak system helper:/sbin/nologin
colord:x:976:976:User for colord:/var/lib/colord:/sbin/nologin
rpcuser:x:29:29:RPC Service User:/var/lib/nfs:/sbin/nologin
gdm:x:42:42:/var/lib/gdm:/sbin/nologin
gnome-initial-setup:x:975:975:/run/gnome-initial-setup:/sbin/nologin
design:x:974:974:Group for the design signing daemon:/var/run/psign:/sbin/nologin
tcpdump:x:72:72::/sbin/nologin
sshd:x:74:74:Privilege-separated SSH:/var/empty/ssh:/sbin/nologin
sorour:x:1000:1000:SOROUR:/home/sorour:/bin/bash
snapd-range:524288:root:x:524288:524288:/nonexistent:/usr/bin/false
snapd-daemon:x:584788:584788:/nonexistent:/usr/bin/false
postfix:x:89:89:/var/spool/postfix:/sbin/nologin
Eng. SOROUR ->>> ls /etc/passwd | wc -l
wc: -l: No such file or directory
Eng. SOROUR ->>> ls /etc/passwd | wc -l
wc: -l: No such file or directory
Eng. SOROUR ->>> ls /etc/passwd | wc -l
wc: -l: No such file or directory
Eng. SOROUR ->>> ls /etc/passwd | wc -l
1
Eng. SOROUR ->>> man sleep
Eng. SOROUR ->>> sleep 2
Eng. SOROUR ->>> sleep 100
^C
^F
^C
Eng. SOROUR ->>> users
sorour
Eng. SOROUR ->>> users | wc -l
1
Eng. SOROUR ->>> sleep 100
^Z
[1]+  Stopped                  sleep 100
Eng. SOROUR ->>> jobs
[1]+  Stopped                  sleep 100
Eng. SOROUR ->>> kill -CONT %1
Eng. SOROUR ->>> jobs
[1]+  Done                    sleep 100
Eng. SOROUR ->>> jobs
Eng. SOROUR ->>> sleep 100
^Z
[1]+  Stopped                  sleep 100
Eng. SOROUR ->>> bg
[1]+ sleep 100 &
Eng. SOROUR ->>>
```

14. Send the sleep command to the foreground and send it again to the background.

```
Nov 28 11:25 AM
sorour@sorour:~$
File Edit View Search Terminal Help
flatpak:x:977:977:User for flatpak system helper:/sbin/nologin
colord:x:976:976:User for colord:/var/lib/colord:/sbin/nologin
rpcuser:x:29:29:RPC Service User:/var/lib/nfs:/sbin/nologin
gdm:x:42:42:/var/lib/gdm:/sbin/nologin
gnome-initial-setup:x:975:975:/run/gnome-initial-setup:/sbin/nologin
design:x:974:974:Group for the design signing daemon:/var/run/psign:/sbin/nologin
tcpdump:x:72:72::/sbin/nologin
sshd:x:74:74:Privilege-separated SSH:/var/empty/ssh:/sbin/nologin
sorour:x:1000:1000:SOROUR:/home/sorour:/bin/bash
snapd-range:524288:root:x:524288:524288:/nonexistent:/usr/bin/false
snapd-daemon:x:584788:584788:/nonexistent:/usr/bin/false
postfix:x:89:89:/var/spool/postfix:/sbin/nologin
Eng. SOROUR ->>> ls /etc/passwd | wc -l
wc: -l: No such file or directory
Eng. SOROUR ->>> ls /etc/passwd | wc -l
wc: -l: No such file or directory
Eng. SOROUR ->>> ls /etc/passwd | wc -l
wc: -l: No such file or directory
Eng. SOROUR ->>> ls /etc/passwd | wc -l
1
Eng. SOROUR ->>> man sleep
Eng. SOROUR ->>> sleep 2
Eng. SOROUR ->>> sleep 100
^C
^F
^C
Eng. SOROUR ->>> users
sorour
Eng. SOROUR ->>> users | wc -l
1
Eng. SOROUR ->>> sleep 100
^Z
[1]+  Stopped                  sleep 100
Eng. SOROUR ->>> jobs
[1]+  Stopped                  sleep 100
Eng. SOROUR ->>> kill -CONT %1
Eng. SOROUR ->>> jobs
[1]+  Done                    sleep 100
Eng. SOROUR ->>> jobs
Eng. SOROUR ->>> sleep 100
^Z
[1]+  Stopped                  sleep 100
Eng. SOROUR ->>> bg
[1]+ sleep 100 &
Eng. SOROUR ->>> sleep 100
^Z
[2]+  Stopped                  sleep 100
Eng. SOROUR ->>> fg
sleep 100
^Z
[2]+  Stopped                  sleep 100
Eng. SOROUR ->>> bg
[2]+ sleep 100 &
Eng. SOROUR ->>>
```

15. Kill the sleep command.


```
Activities Terminal Nov 28 11:26 AM en sorour@sorour:~
File Edit View Search Terminal Help
wc: -l: No such file or directory
Eng. SOROUR ->>> ls /etc/passwd | wc -l
wc: -l: No such file or directory
Eng. SOROUR ->>> ls /etc/passwd | wc -l
wc: -l: No such file or directory
Eng. SOROUR ->>> ls /etc/passwd | wc -l
1
Eng. SOROUR ->>> man sleep
Eng. SOROUR ->>> sleep 2
Eng. SOROUR ->>> sleep 100
^T
^F
^C
Eng. SOROUR ->>> users
sorour
Eng. SOROUR ->>> users | wc -l
1
Eng. SOROUR ->>> sleep 100
^Z
[1]+  Stopped                  sleep 100
Eng. SOROUR ->>> jobs
[1]+  Stopped                  sleep 100
Eng. SOROUR ->>> kill -CONT %1
Eng. SOROUR ->>> jobs
[1]+  Done                    sleep 100
Eng. SOROUR ->>> jobs
Eng. SOROUR ->>> sleep 100
^Z
[1]+  Stopped                  sleep 100
Eng. SOROUR ->>> bg
[1]+ sleep 100 &
Eng. SOROUR ->>> sleep 100
^Z
[2]+  Stopped                  sleep 100
Eng. SOROUR ->>> fg
sleep 100
^Z
[2]+  Stopped                  sleep 100
Eng. SOROUR ->>> bg
[2]+ sleep 100 &
Eng. SOROUR ->>> sleep 100
^Z[1]  Done                    sleep 100
[3]+  Stopped                  sleep 100
Eng. SOROUR ->>> kill -KILL %1
bash: kill: %1: no such job
Eng. SOROUR ->>> jobs
bash: jobs: command not found...
Eng. SOROUR ->>> jobs
[2]-  Running                  sleep 100 &
[3]+  Stopped                  sleep 100
Eng. SOROUR ->>> Kill -KILL %2
[2]-  Killed                   sleep 100
Eng. SOROUR ->>>
```

16. Display your processes only

```
Activities Terminal Nov 28 11:54 AM en sorour@sorour:~
File Edit View Search Terminal Help
11625
11722
Eng. SOROUR ->>> man ps
Eng. SOROUR ->>> ps -u 1000
PID TTY          TIME CMD
2674 ?            00:00:00 systemd
2677 ?            00:00:00 (sd-pam)
2693 ?            00:00:03 pulseaudio
2698 ?            00:00:00 gnome-keyring-d
2750 ?            00:00:00 dbus-daemon
2762 tty2         00:00:00 gdm-wayland-ses
2765 tty2         00:00:00 gnome-session-b
2809 tty2         00:02:42 gnome-shell
2883 ?            00:00:00 gvfsd
2891 ?            00:00:00 gvfsd-fuse
2984 tty2         00:00:18 Xwayland
2940 ?            00:00:00 at-spi-bus-laun
2946 ?            00:00:00 dbus-daemon
2950 ?            00:00:00 at-spi2-registr
3009 tty2         00:00:00 ibus-daemon
3015 tty2         00:00:00 ibus-dconf
3016 tty2         00:00:01 ibus-extension-
3018 tty2         00:00:00 ibus-x11
3021 ?            00:00:00 ibus-portal
3030 ?            00:00:00 xdg-permission-
3057 ?            00:00:00 gnome-shell-cal
3066 ?            00:00:00 evolution-sourc
3093 ?            00:00:00 gvfs-udisks2-vo
3103 ?            00:00:00 gvfs-mtp-volume
3107 ?            00:00:00 gvfs-gphoto2-vo
3111 ?            00:00:00 gvfs-goa-volume
3115 ?            00:00:00 goa-daemon
3122 ?            00:00:00 goa-identity-se
3125 ?            00:00:00 gvfs-afc-volume
3142 tty2         00:00:00 gsd-power
3144 tty2         00:00:00 gsd-print-notif
3145 tty2         00:00:00 gsd-rfkill
3146 tty2         00:00:00 gsd-screensaver
3147 tty2         00:00:02 gsd-sharing
3148 tty2         00:00:00 gsd-smartcard
3150 tty2         00:00:00 gsd-account
3164 tty2         00:00:00 gsd-xsettings
3166 tty2         00:00:00 gsd-wacom
3172 tty2         00:00:00 gsd-sound
3173 tty2         00:00:00 gsd-subman
3177 tty2         00:00:00 gsd-ally-settin
3184 tty2         00:00:00 gsd-clipboard
3185 tty2         00:00:00 gsd-color
3189 tty2         00:00:00 gsd-datetime
3191 tty2         00:00:00 gsd-housekeepin
3193 tty2         00:00:00 gsd-keyboard
3194 tty2         00:00:00 gsd-mediain-keys
3196 tty2         00:00:00 gsd-mouse
3253 ?            00:00:00 evolution-calen
3255 tty2         00:00:07 ibus-engine-sim
```

17. Display all processes except yours


```
Activities Terminal Nov 28 11:43 AM en
sorour@sorour:~$ ps -u sorour -N
PID TTY          TIME CMD
1 ?            00:00:00 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-events_highpri
9 ?            00:00:00 mm_percpu_wq
10 ?           00:00:00 rcu_tasks_rude_
11 ?           00:00:00 rcu_tasks_trace
12 ?           00:00:00 ksoftirqd/0
13 ?           00:00:04 rcu_sched
14 ?           00:00:00 migration/0
15 ?           00:00:00 watchdog/0
16 ?           00:00:00 cpuhp/0
17 ?           00:00:00 cpuhp/1
18 ?           00:00:00 watchdog/1
19 ?           00:00:00 migration/1
20 ?           00:00:00 ksoftirqd/1
22 ?           00:00:00 kworker/1:0H-events_highpri
23 ?           00:00:00 cpuhp/2
24 ?           00:00:00 watchdog/2
25 ?           00:00:00 migration/2
26 ?           00:00:00 ksoftirqd/2
28 ?           00:00:00 kworker/2:0H-events_highpri
29 ?           00:00:00 cpuhp/3
30 ?           00:00:00 watchdog/3
31 ?           00:00:00 migration/3
32 ?           00:00:00 ksoftirqd/3
34 ?           00:00:00 kworker/3:0H-events_highpri
35 ?           00:00:00 cpuhp/4
36 ?           00:00:00 watchdog/4
37 ?           00:00:00 migration/4
38 ?           00:00:00 ksoftirqd/4
40 ?           00:00:00 kworker/4:0H-events_highpri
41 ?           00:00:00 cpuhp/5
42 ?           00:00:00 watchdog/5
43 ?           00:00:00 migration/5
44 ?           00:00:00 ksoftirqd/5
46 ?           00:00:00 kworker/5:0H-events_highpri
47 ?           00:00:00 cpuhp/6
48 ?           00:00:00 watchdog/6
49 ?           00:00:00 migration/6
```

18. Use the pgrep command to list your processes only

```
Activities Terminal Nov 28 11:45 AM en
sorour@sorour:~$ pgrep -u sorour
11926 ?      00:00:00 kworker/2:3-events
11927 ?      00:00:00 kworker/7:2-kdmflush/253:2
11946 ?      00:00:00 kworker/6:3-events
12005 ?      00:00:00 kworker/3:0-events
12059 ?      00:00:00 kworker/3:3-events
12082 ?      00:00:00 kworker/u16:1-events unbound
12111 ?      00:00:00 kworker/8:2-cgroup_destroy
12112 ?      00:00:00 kworker/1:0-rcu_gp
12168 ?      00:00:00 kworker/0:3-events
12290 ?      00:00:00 sleep
12298 ?      00:00:00 kworker/u17:0-rb_allocator
2674
2677
2693
2698
2756
2762
2765
2809
2883
2891
2904
2940
2946
2950
3009
3015
3016
3018
3021
3030
3057
3066
3093
3103
3107
3111
3115
3122
3125
3142
3144
3145
3146
3147
3148
3156
3164
3166
3172
3173
3177
3184
3185
```

19. Kill your processes only.
pkill -U 1000