1. List the available shells in your system.

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ cat /etc/shells
# /etc/shells: valid login shells
/bin/sh
/usr/bin/sh
/bin/bash
/usr/bin/bash
/bin/rbash
/usr/bin/rbash
/usr/bin/dash
```

2. List the environment variables in your current shell.

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ env
SHELL=/bin/bash
SESSION_MANAGER=local/abdelrahman-abdelhady-HP-Laptop-15-da2xxx:@/tmp/.ICE-unix/2609,unix/abdelrahman-abdelhady-HP-Laptop-15-da2
xxx:/tmp/.ICE-unix/2609
QT_ACCESSIBILITY=1
COLORTERM=truecolor
XDG_CONFIG_DIRS=/etc/xdg/xdg-ubuntu:/etc/xdg
XDG_MENU_PREFIX=gnome-
GNOME_DESKTOP_SESSION_ID=this-is-deprecated
GNOME_SHELL_SESSION_MODE=ubuntu
SSH_AUTH_SOCK=/run/user/1000/keyring/ssh
MEMORY_PRESSURE_WRITE=c29tZSAyMDAwMDAgMjAwMDAwMAA=
XMODIFIERS=@im=ibus
DESKTOP_SESSION=ubuntu
GTK_MODULES=gail:atk-bridge
PWD=/home/abdelrahman-abdelhady/Desktop
LOGNAME=abdelrahman-abdelhady
XDG_SESSION_DESKTOP=ubuntu
XDG_SESSION_TYPE=x11
GPG_AGENT_INFO=/run/user/1000/gnupg/S.gpg-agent:0:1
SYSTEMD_EXEC_PID=2652
XAUTHORITY=/run/user/1000/gdm/Xauthority
WINDOWPATH=2
HOME=/home/abdelrahman-abdelhady
USERNAME=abdelrahman-abdelhady
LANG=en_US.UTF 06:20
LS_COLORS=rs=0:di=01;34:ln=01;36:mh=00:pi=40;33:so=01;35:do=01;35:bd=40;33;01:cd=40;33;01:or=40;31;01:mi=00:su=37;41:sg=30;43:ca
=00:tw=30;42:ow=34;42:st=37;44:ex=01;32:*.tar=01;31:*.tgz=01;31:*.arc=01;31:*.arj=01;31:*.taz=01;31:*.lha=01;31:*.lz4=01;31:*.lz
```

3. List all of the environment variables for the bash shell.
man bash

4. What are the commands that list the values of all the variables?
set

5. What are the commands that list the value of a specific variable?
Echo $THE-NAME-OF-VARIABLE

6. Display your current shell.

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ echo $SHELL
/bin/bash
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$
```

7. State the initialization files of: sh, ksh, csh, bash.
sh (Bourne Shell):reads commands from /etc/profile.
ksh (Korn Shell):reads commands from /etc/profile.
csh (C Shell):reads commands from /etc/csh.cshrc.
bash (Bourne Again Shell):reads commands from different files depending on whether it is started as a login shell.

8. Edit in your profile to display date at login and change your prompt permanently.
Vi /etc/profile
fi
date
sp1=”Abdelrahman>”
- vi .bash_profile

9. Execute the following command :
echo \ then press enter
Notice the prompt what is that and how can you change it.

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ echo \
> exit
exit
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$
```

Echo any thing that I will type , change it with exit

10.Create a Bash shell alias named ls for the “ls –l” command

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ alias ll="ls -l"
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$
```

10.Issue the command sleep 100.

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ sleep 100
```

11.Stop the last command.

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ sleep 100
^Z
[1]+  Stopped                 sleep 100
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$
```

12.Resume the last command in the background

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ bg %1
[1]+ sleep 100 &
```

13.Issue the jobs command and see its output.

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ jobs
[1]+  Done                    sleep 100
```

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

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ sleep 100
^Z
[1]+  Stopped                 sleep 100
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ fg %1
sleep 100
^Z
[1]+  Stopped                 sleep 100
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ bg %1
[1]+ sleep 100 &
```

15.Kill the sleep command.

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ kill -KILL %2
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ jobs
[2]+  Killed                  sleep 100
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$
```

16.Display your processes only

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ ps -u abdelrahman-abdelhady
    PID TTY          TIME CMD
   9997 ?        00:00:00 systemd
  10003 ?        00:00:00 (sd-pam)
  10014 ?        00:00:00 pipewire
  10015 ?        00:00:00 pipewire
  10018 ?        00:00:00 wireplumber
  10019 ?        00:00:00 pipewire-pulse
  10021 ?        00:00:00 gnome-keyring-d
  10036 ?        00:00:00 dbus-daemon
  10074 ?        00:00:00 xdg-document-po
  10078 ?        00:00:00 xdg-permission-
  10133 tty3     00:00:00 gdm-x-session
  10141 tty3     00:00:38 Xorg
  10177 ?        00:00:00 snapd-desktop-i
  10233 ?        00:00:00 snapd-desktop-i
  10270 tty3     00:00:00 gnome-session-b
  10283 ?        00:00:00 xdg-desktop-por
  10300 ?        00:00:00 xdg-desktop-por
  10361 ?        00:00:00 at-spi-bus-laun
  10368 ?        00:00:00 dbus-daemon
  10374 ?        00:00:00 at-spi2-registr
  10380 ?        00:00:00 gvfsd
  10387 ?        00:00:00 gvfsd-fuse
  10419 ?        00:00:00 gcr-ssh-agent
  10420 ?        00:00:00 gnome-session-c
  10437 ?        00:00:00 gnome-session-b
  10475 ?        00:00:46 gnome-shell
```

17.Display all processes except yours

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ ps -N -u abdelrahman-abdelhady
    PID TTY          TIME CMD
      1 ?        00:00:03 systemd
      2 ?        00:00:00 kthreadd
      3 ?        00:00:00 pool_workqueue_release
      4 ?        00:00:00 kworker/R-rcu_g
      5 ?        00:00:00 kworker/R-rcu_p
      6 ?        00:00:00 kworker/R-slub_
      7 ?        00:00:00 kworker/R-netns
      9 ?        00:00:00 kworker/0:0H-events_highpri
     12 ?        00:00:00 kworker/R-mm_pe
     13 ?        00:00:00 rcu_tasks_kthread
     14 ?        00:00:00 rcu_tasks_rude_kthread
     15 ?        00:00:00 rcu_tasks_trace_kthread
     16 ?        00:00:00 ksoftirqd/0
     17 ?        00:00:01 rcu_preempt
     18 ?        00:00:00 migration/0
     19 ?        00:00:00 idle_inject/0
     20 ?        00:00:00 cpuhp/0
     21 ?        00:00:00 cpuhp/1
     22 ?        00:00:00 idle_inject/1
     23 ?        00:00:00 migration/1
     24 ?        00:00:00 ksoftirqd/1
     26 ?        00:00:00 kworker/1:0H-events_highpri
     27 ?        00:00:00 cpuhp/2
     28 ?        00:00:00 idle_inject/2
     29 ?        00:00:00 migration/2
     30 ?        00:00:00 ksoftirqd/2
```

18.Use the pgrep command to list your processes only

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ pgrep -u abdelrahman-abdelhady
9997
10003
10014
10015
10018
10019
10021
10036
10074
10078
10133
10141
10177
10233
10270
10283
10300
10361
10368
10374
10380
10387
10419
```

19.Kill your processes only.

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ pkill -u abdelrahman-abdelhady
```