Day 2 Linux lab

lab 1

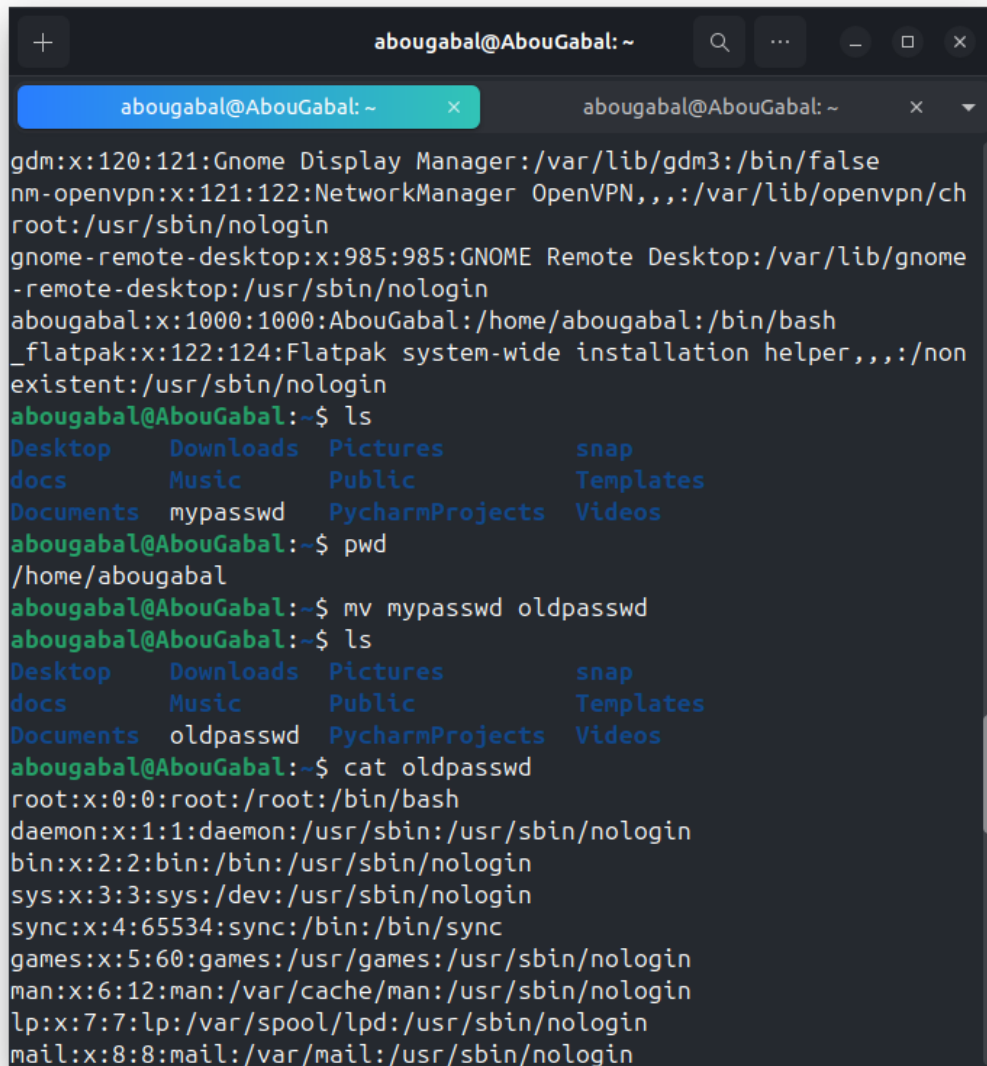2. What is the different between cat and more command?

Cat is used to read from files and can be used with > (for renaming) and >> for (appending) to a file, more does the same if the file is of a small size, also less does the same.

The 3 commands are used to display what is inside the file.

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7. Copy the /etc/passwd file to your home directory making its name is mypasswd.

```
abougabal@AbouGabal:~$ pwd
/home/abougabal
abougabal@AbouGabal:~$ touch mypasswd
abougabal@AbouGabal:~$ cat /etc/passwd >> mypasswd
abougabal@AbouGabal:~$ cat mypasswd
```
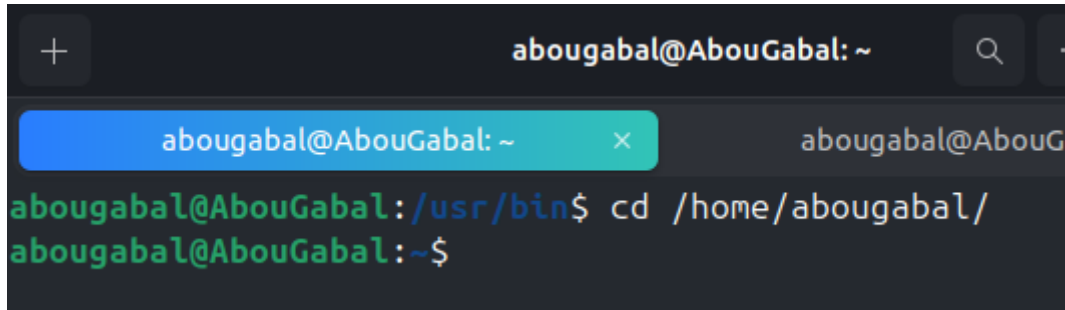
----

8. Rename this new file to be oldpasswd.


```
gdm:x:120:121:Gnome Display Manager:/var/lib/gdm3:/bin/false
nm-openvpn:x:121:122:NetworkManager OpenVPN,,,:/var/lib/openvpn/ch
root:/usr/sbin/nologin
gnome-remote-desktop:x:985:985:GNOME Remote Desktop:/var/lib/gnome
-remote-desktop:/usr/sbin/nologin
abougabal:x:1000:1000:AbouGabal:/home/abougabal:/bin/bash
_flatpak:x:122:124:Flatpak system-wide installation helper,,,:/non
existent:/usr/sbin/nologin
abougabal@AbouGabal:~$ ls
Desktop     Downloads   Pictures        snap
docs        Music       Public          Templates
Documents   mypasswd    PycharmProjects Videos
abougabal@AbouGabal:~$ pwd
/home/abougabal
abougabal@AbouGabal:~$ mv mypasswd oldpasswd
abougabal@AbouGabal:~$ ls
Desktop     Downloads   Pictures        snap
docs        Music       Public          Templates
Documents   oldpasswd   PycharmProjects Videos
abougabal@AbouGabal:~$ cat oldpasswd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
```
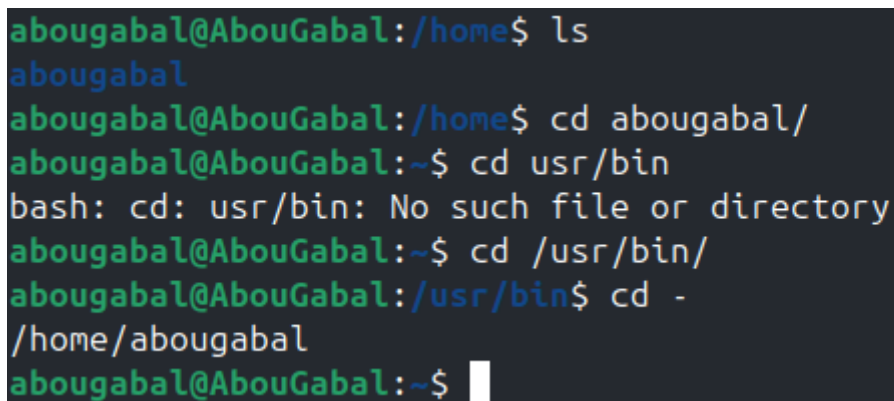
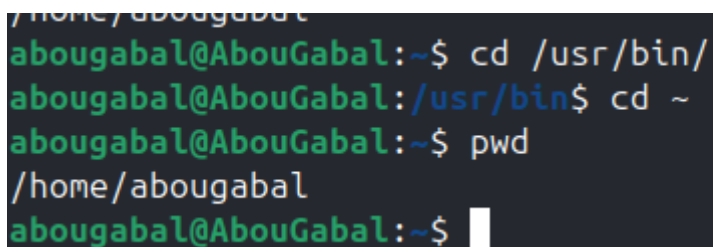# 10. You are in /usr/bin, list four ways to go to your home directory

a.


```
abougabal@AbouGabal:/usr/bin$ cd /home/abougabal/
abougabal@AbouGabal:~$
```

b.


```
abougabal@AbouGabal:/home$ ls
abougabal
abougabal@AbouGabal:/home$ cd abougabal/
abougabal@AbouGabal:~$ cd usr/bin
bash: cd: usr/bin: No such file or directory
abougabal@AbouGabal:~$ cd /usr/bin/
abougabal@AbouGabal:/usr/bin$ cd -
/home/abougabal
abougabal@AbouGabal:~$
```
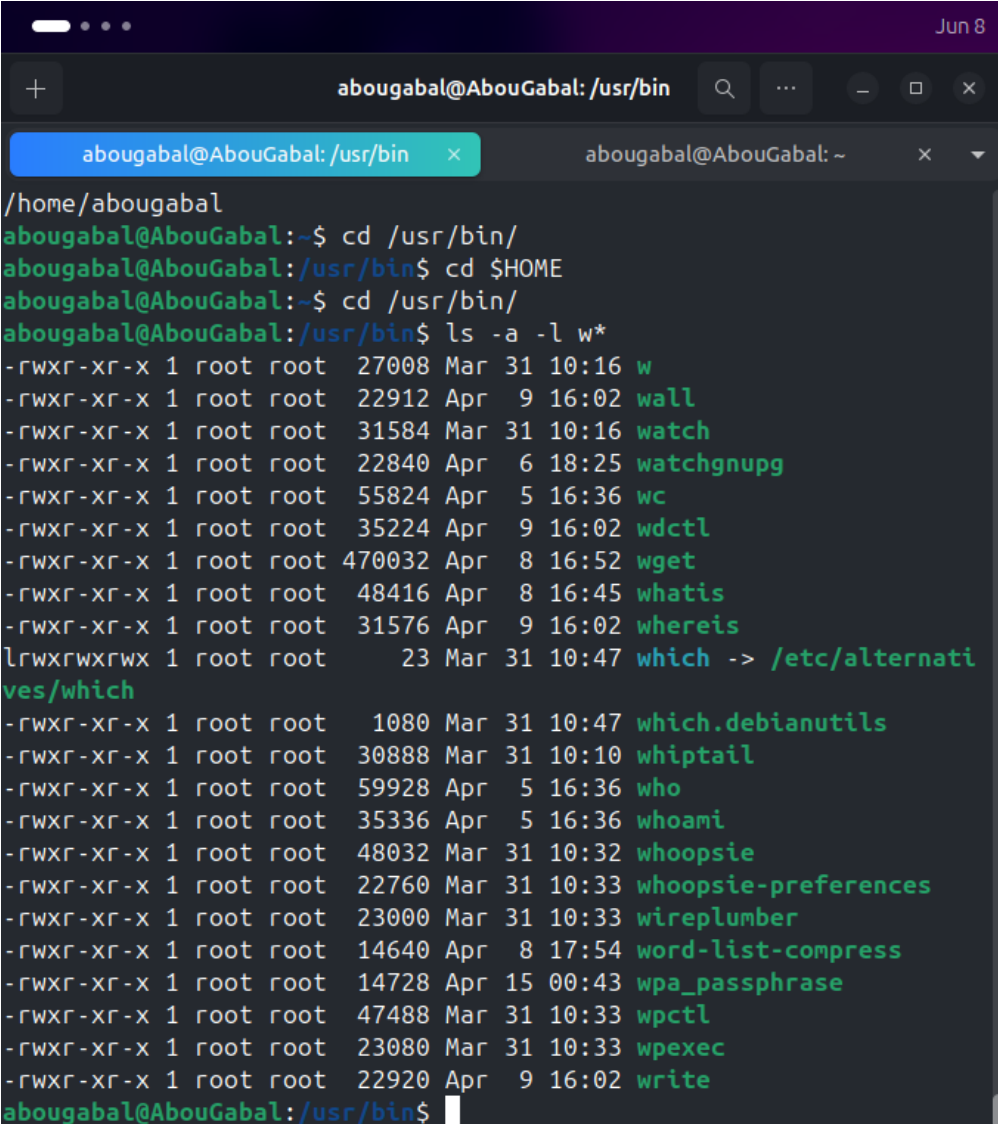
c.


```
/home/abougabal
abougabal@AbouGabal:~$ cd /usr/bin/
abougabal@AbouGabal:/usr/bin$ cd ~
abougabal@AbouGabal:~$ pwd
/home/abougabal
abougabal@AbouGabal:~$
```

d.

```
abougabal@AbouGabal:~$ pwd
/home/abougabal
abougabal@AbouGabal:~$ cd /usr/bin/
abougabal@AbouGabal:/usr/bin$ cd $HOME
abougabal@AbouGabal:~$
```

11.List Linux commands in /usr/bin that start with letter 'w'

```
/home/abougabal
abougabal@AbouGabal:~$ cd /usr/bin/
abougabal@AbouGabal:/usr/bin$ cd $HOME
abougabal@AbouGabal:~$ cd /usr/bin/
abougabal@AbouGabal:/usr/bin$ ls -a -l w*
-rwxr-xr-x 1 root root  27008 Mar 31 10:16 w
-rwxr-xr-x 1 root root  22912 Apr  9 16:02 wall
-rwxr-xr-x 1 root root  31584 Mar 31 10:16 watch
-rwxr-xr-x 1 root root  22840 Apr  6 18:25 watchgnupg
-rwxr-xr-x 1 root root  55824 Apr  5 16:36 wc
-rwxr-xr-x 1 root root  35224 Apr  9 16:02 wdctl
-rwxr-xr-x 1 root root 470032 Apr  8 16:52 wget
-rwxr-xr-x 1 root root  48416 Apr  8 16:45 whatis
-rwxr-xr-x 1 root root  31576 Apr  9 16:02 whereis
lrwxrwxrwx 1 root root     23 Mar 31 10:47 which -> /etc/alternati
ves/which
-rwxr-xr-x 1 root root   1080 Mar 31 10:47 which.debianutils
-rwxr-xr-x 1 root root  30888 Mar 31 10:10 whiptail
-rwxr-xr-x 1 root root  59928 Apr  5 16:36 who
-rwxr-xr-x 1 root root  35336 Apr  5 16:36 whoami
-rwxr-xr-x 1 root root  48032 Mar 31 10:32 whoopsie
-rwxr-xr-x 1 root root  22760 Mar 31 10:33 whoopsie-preferences
-rwxr-xr-x 1 root root  23000 Mar 31 10:33 wireplumber
-rwxr-xr-x 1 root root  14640 Apr  8 17:54 word-list-compress
-rwxr-xr-x 1 root root  14728 Apr 15 00:43 wpa_passphrase
-rwxr-xr-x 1 root root  47488 Mar 31 10:33 wpctl
-rwxr-xr-x 1 root root  23080 Mar 31 10:33 wpexec
-rwxr-xr-x 1 root root  22920 Apr  9 16:02 write
abougabal@AbouGabal:/usr/bin$
```

12. Display the first 4 lines of /etc/passwd

```
abougabal@AbouGabal:/usr/bin$ head -4 /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
abougabal@AbouGabal:/usr/bin$
```

13. Display the last 7 lines of /etc/passwd

=> less -4 /etc/passwd

9. Create a user account with the following attribute
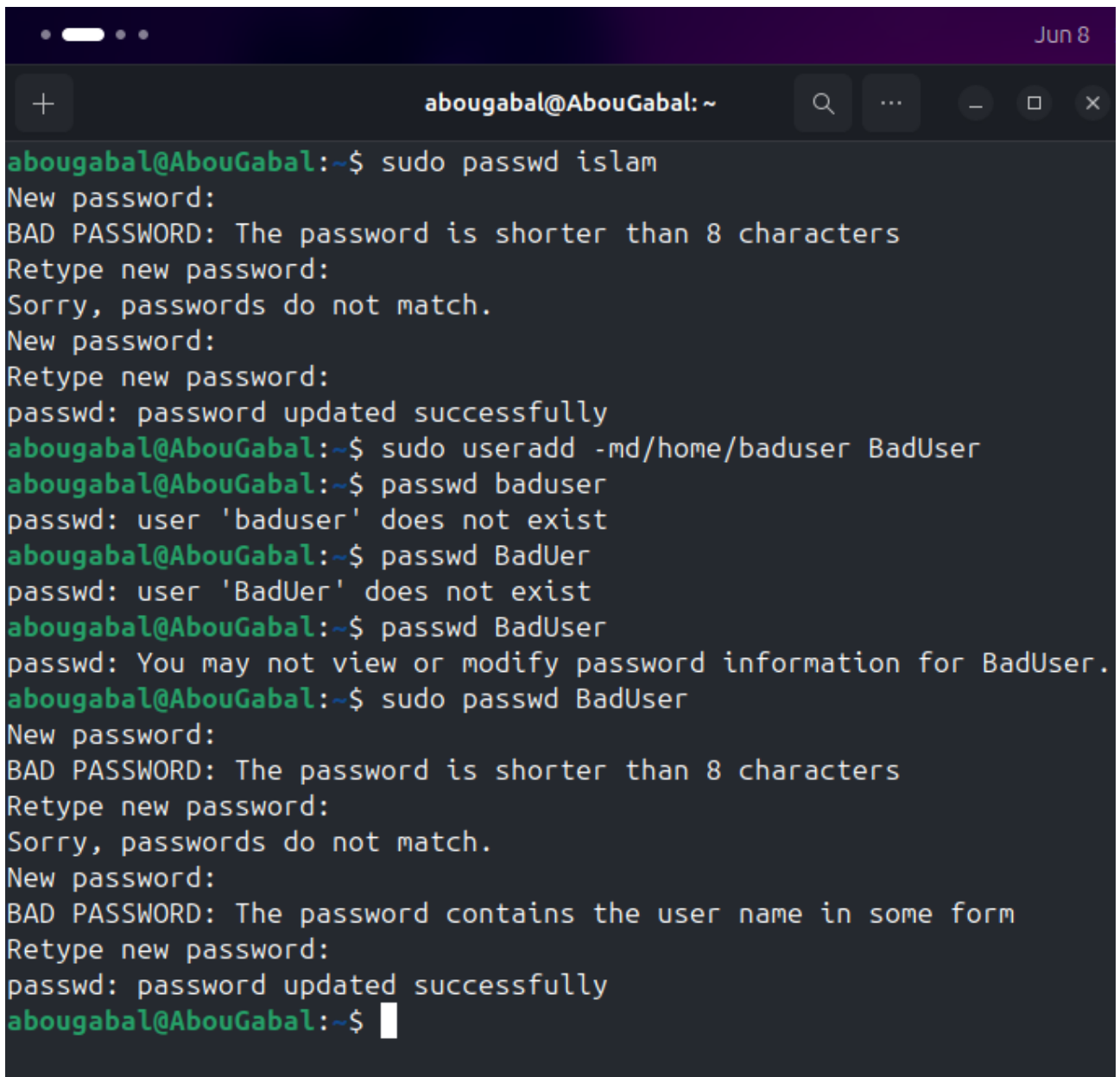   username: islam
     Fullname: Islam Askar
     Password: islam

```
c
abougabal@AbouGabal:~$ useradd -c "Islam Askar" -md/home/islam islam
useradd: Permission denied.
useradd: cannot lock /etc/passwd; try again later.
abougabal@AbouGabal:~$ sudo useradd -c "Islam Askar" -md/home/islam
islam
[sudo] password for abougabal:
abougabal@AbouGabal:~$
```

```
                                                                    Jun 8
+                      abougabal@AbouGabal: ~          Q   ...      —  □  ×
abougabal@AbouGabal:~$ sudo passwd islam
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
Sorry, passwords do not match.
New password:
Retype new password:
passwd: password updated successfully
abougabal@AbouGabal:~$
```

10.Create a user account with the following attribute
Username: baduser
Full name: Bad User
Password: baduser123


```
abougabal@AbouGabal:~$ sudo passwd islam
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
Sorry, passwords do not match.
New password:
Retype new password:
passwd: password updated successfully
abougabal@AbouGabal:~$ sudo useradd -md/home/baduser BadUser
abougabal@AbouGabal:~$ passwd baduser
passwd: user 'baduser' does not exist
abougabal@AbouGabal:~$ passwd BadUer
passwd: user 'BadUer' does not exist
abougabal@AbouGabal:~$ passwd BadUser
passwd: You may not view or modify password information for BadUser.
abougabal@AbouGabal:~$ sudo passwd BadUser
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
Sorry, passwords do not match.
New password:
BAD PASSWORD: The password contains the user name in some form
Retype new password:
passwd: password updated successfully
abougabal@AbouGabal:~$
```

11.Create a supplementary (Secondary) group called pgroup with group ID of 30000

```
abougabal@AbouGabal:~$ sudo groupadd -g 30000 pgroup
abougabal@AbouGabal:~$
```

12.Create a supplementary group called badgroup

```
abougabal@AbouGabal:~$ sudo groupadd badgroup
abougabal@AbouGabal:~$
```

13.Add islam user to the pgroup group as a supplementary group

```
abougabal@AbouGabal:~$ sudo usermod -G pgroup islam
abougabal@AbouGabal:~$
```
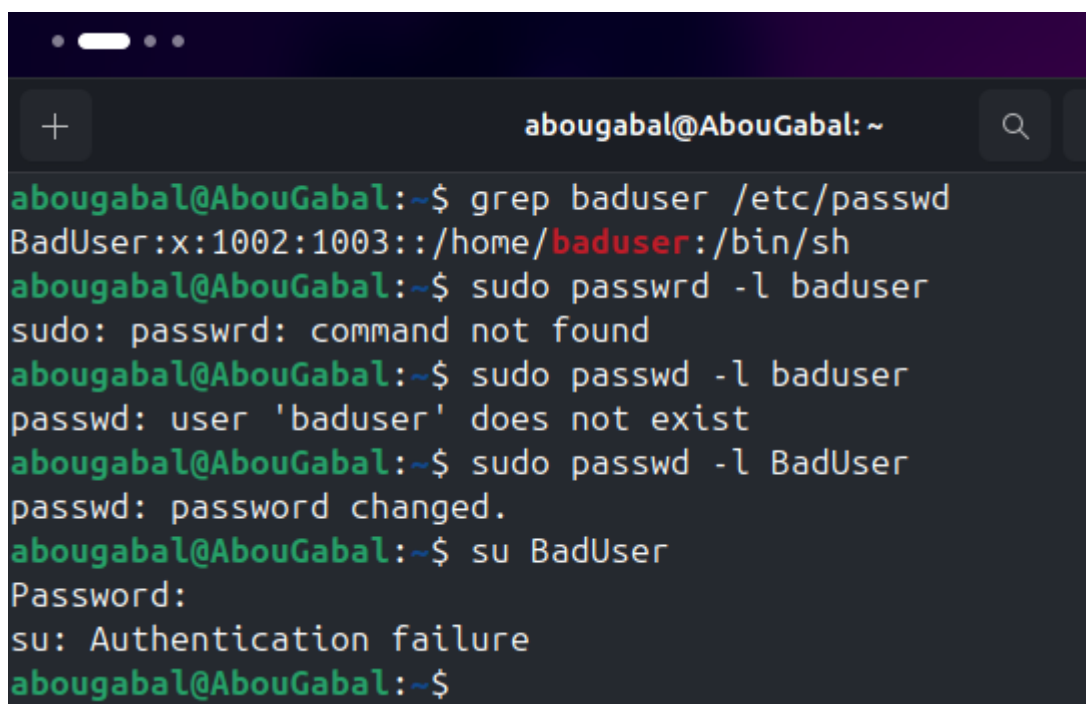
14.Modify the password of islam's account to password

```
abougabal@AbouGabal:~$ passwd islam
passwd: You may not view or modify password information for islam.
abougabal@AbouGabal:~$ sudo passwd islam
New password:
BAD PASSWORD: The password fails the dictionary check - it is based
on a dictionary word
Retype new password:
passwd: password updated successfully
abougabal@AbouGabal:~$
```

15.Modify islam's account so the password expires after 30 days

```
abougabal@AbouGabal:~$ grep islam etc/passwd
grep: etc/passwd: No such file or directory
abougabal@AbouGabal:~$ grep islam /etc/passwd
islam:x:1001:1002:Islam Askar:/home/islam:/bin/sh
abougabal@AbouGabal:~$ sudo chage -E $(date -d "+30 days" +"%Y-%m-%d
") islam
abougabal@AbouGabal:~$
```

16.Lock bad user account so he can't log in

```
abougabal@AbouGabal:~$ grep baduser /etc/passwd
BadUser:x:1002:1003::/home/baduser:/bin/sh
abougabal@AbouGabal:~$ sudo passwrd -l baduser
sudo: passwrd: command not found
abougabal@AbouGabal:~$ sudo passwd -l baduser
passwd: user 'baduser' does not exist
abougabal@AbouGabal:~$ sudo passwd -l BadUser
passwd: password changed.
abougabal@AbouGabal:~$ su BadUser
Password:
su: Authentication failure
abougabal@AbouGabal:~$
```

17.Delete bad user account

```
abougabal@AbouGabal:~$ grep baduser /etc/passwd
BadUser:x:1002:1003::/home/baduser:/bin/sh
abougabal@AbouGabal:~$ sudo passwrd -l baduser
sudo: passwrd: command not found
abougabal@AbouGabal:~$ sudo passwd -l baduser
passwd: user 'baduser' does not exist
abougabal@AbouGabal:~$ sudo passwd -l BadUser
passwd: password changed.
abougabal@AbouGabal:~$ su BadUser
Password:
su: Authentication failure
abougabal@AbouGabal:~$ usedel -r BadUser
Command 'usedel' not found, did you mean:
  command 'userdel' from deb passwd (1:4.13+dfsg1-3ubuntu1)
Try: sudo apt install <deb name>
abougabal@AbouGabal:~$ userdel -r BadUser
userdel: Permission denied.
userdel: cannot lock /etc/passwd; try again later.
abougabal@AbouGabal:~$ sudo userdel -r BadUser
userdel: BadUser mail spool (/var/mail/BadUser) not found
abougabal@AbouGabal:~$ whoami
abougabal
abougabal@AbouGabal:~$ sudo userdel -r baduser
userdel: user 'baduser' does not exist
abougabal@AbouGabal:~$ sudo userdel -r BadUser
userdel: user 'BadUser' does not exist
abougabal@AbouGabal:~$ grep baduser /etc/passwd
abougabal@AbouGabal:~$ grep baduser /etc/passwd
abougabal@AbouGabal:~$
```

groups: 'baduser': no such user

18. Delete the supplementary group called badgroup.

```
abougabal@AbouGabal:~$ grep badgroup /etc/group
badgroup:x:30001:
abougabal@AbouGabal:~$ sudo groupdel badgroup
abougabal@AbouGabal:~$
```

19. Which file system has the most free disk space on your machine

```
abougabal@AbouGabal:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
tmpfs           1.2G  2.3M  1.2G   1% /run
/dev/sda5        77G   22G   52G  30% /
tmpfs           5.8G  155M  5.7G   3% /dev/shm
tmpfs           5.0M  8.0K  5.0M   1% /run/lock
efivarfs        384K  194K  186K  52% /sys/firmware/efi/efivars
/dev/sda1        96M   32M   65M  33% /boot/efi
tmpfs           1.2G  916K  1.2G   1% /run/user/1000
/dev/sdb1        59G   36G   24G  60% /media/abougabal/2E089D83089D4
AAB
abougabal@AbouGabal:~$
```

20. Which top level directory n / uses the most space on your machine (found on google)

```
abougabal@AbouGabal:~$ du -a /home | sort -n -r | head -n 5
du: cannot read directory '/home/islam': Permission denied
2925812 /home
2925804 /home/abougabal
1734140 /home/abougabal/snap
1400368 /home/abougabal/snap/brave
639928  /home/abougabal/snap/brave/411
abougabal@AbouGabal:~$
```

21.Which top level directory in /home uses the least space on your machine.

(reversed head with tail) to obtain the least file space usage in the system

```
abougabal@AbouGabal:~$ sudo du -a /home | sort -n -r | tail -n 5
0        /home/abougabal/.cache/ibus/dbus-at8TeL37
0        /home/abougabal/.cache/ibus/dbus-aLjRXHmA
0        /home/abougabal/.cache/ibus/dbus-9AU9oCJo
0        /home/abougabal/.cache/ibus/dbus-7Hy1M6Sh
0        /home/abougabal/.cache/ibus/dbus-455FLiEj
abougabal@AbouGabal:~$
```

thanks for review, appreciate your help & support.