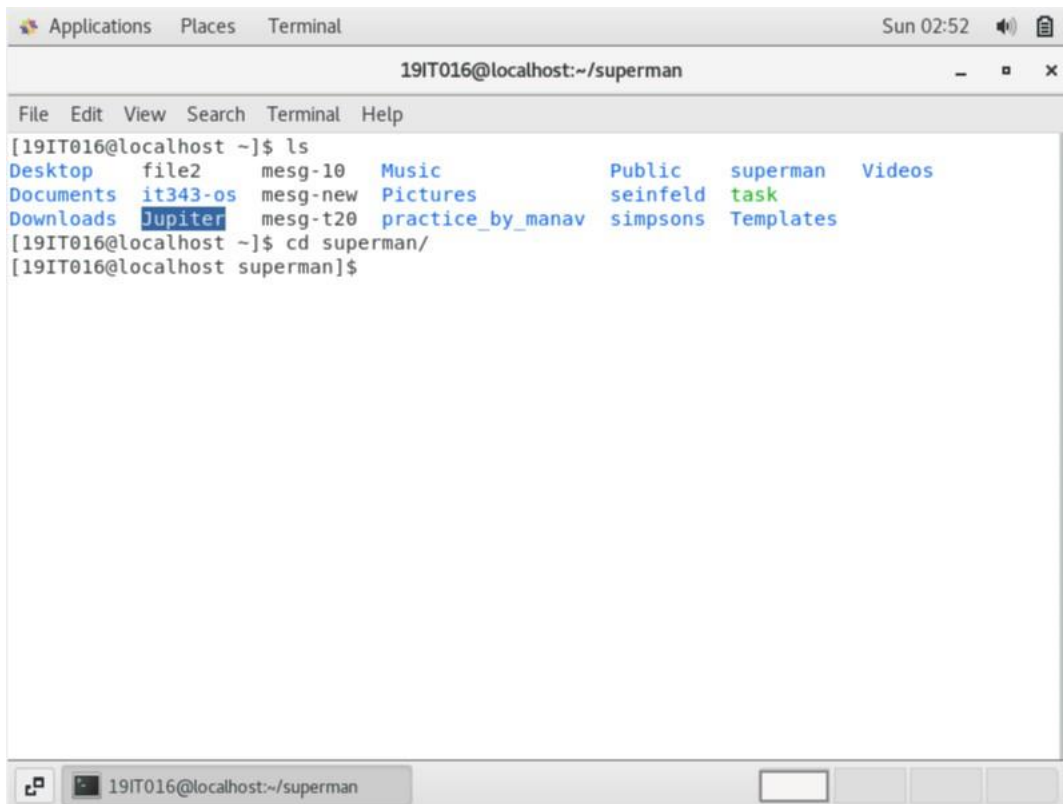


## PRACTICAL-4

**Aim: To perform various operations using Linux terminal commands.**

- 1. Go to your home directory and then go to superman directory**  
**OUTPUT:**



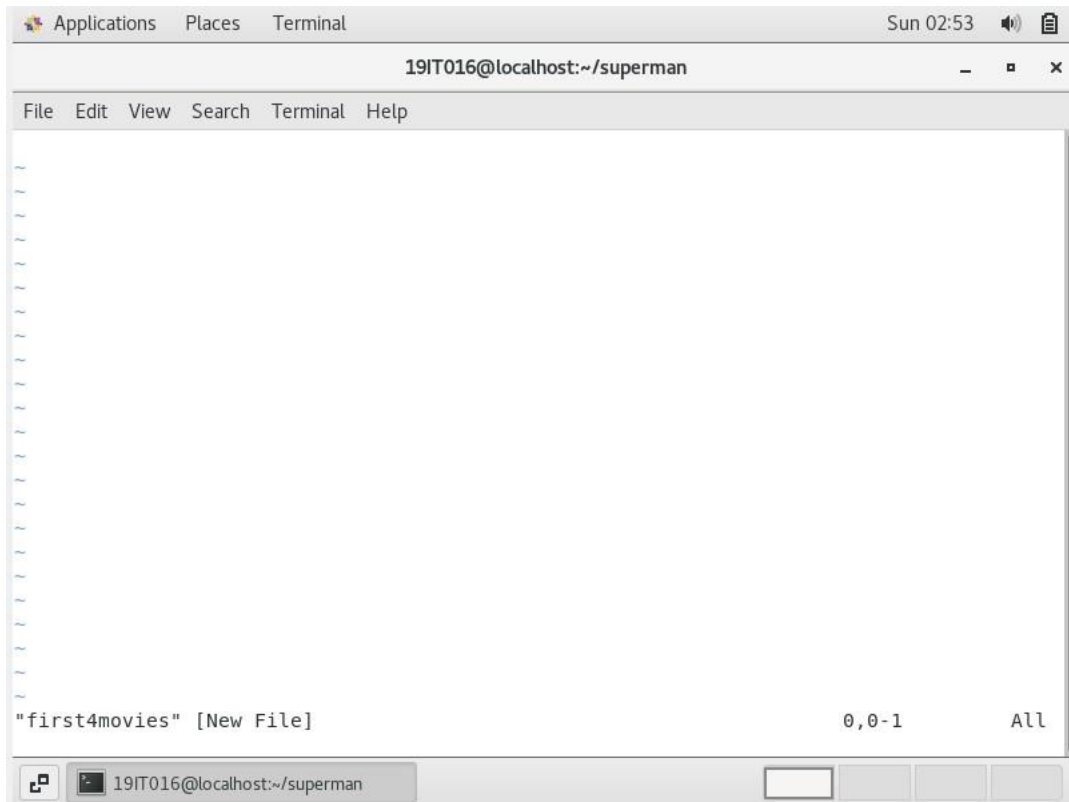
The screenshot shows a Linux terminal window titled "19IT016@localhost:~/superman". The window has a menu bar with "File", "Edit", "View", "Search", "Terminal", and "Help". The terminal output shows the following commands and results:

```
[19IT016@localhost ~]$ ls
Desktop  file2      msg-10    Music      Public    superman  Videos
Documents it343-os  msg-new  Pictures   seinfeld  task
Downloads Jupiter    msg-t20  practice_by_manav simpsons  Templates

[19IT016@localhost ~]$ cd superman/
[19IT016@localhost superman]$
```

The terminal window also shows a taskbar at the bottom with a single active window titled "19IT016@localhost:~/superman".

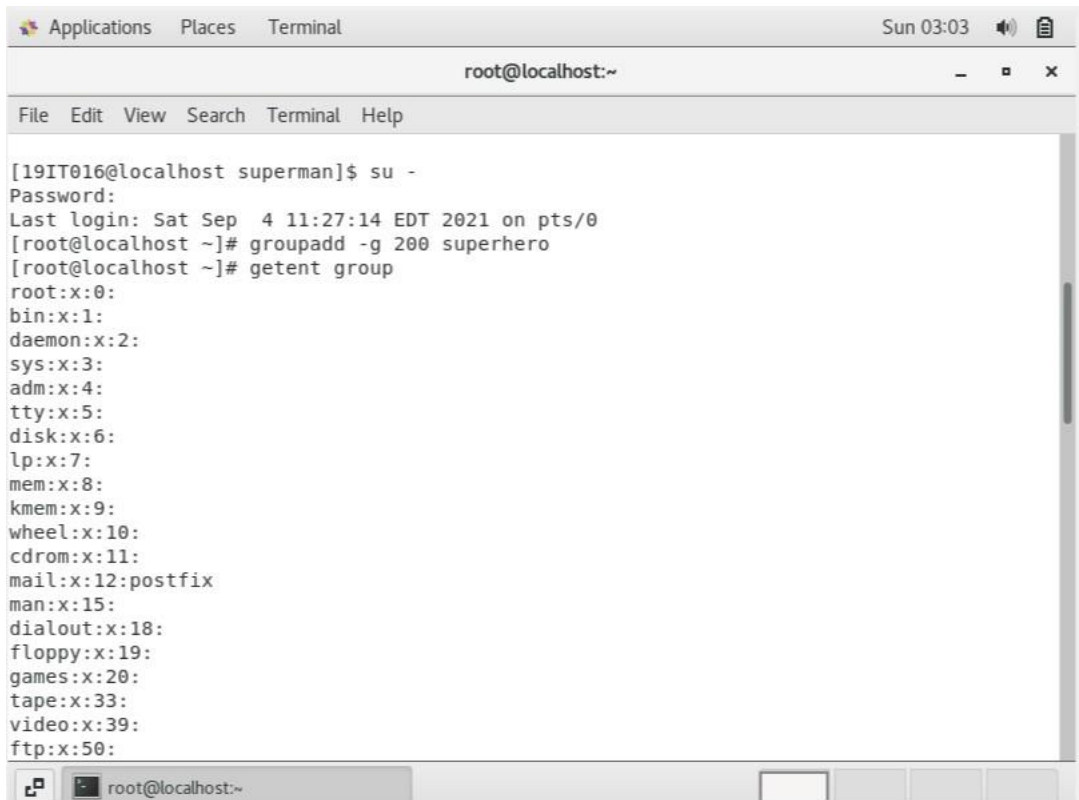
2. Create a new file called "first4movies" using vi command  
OUTPUT:







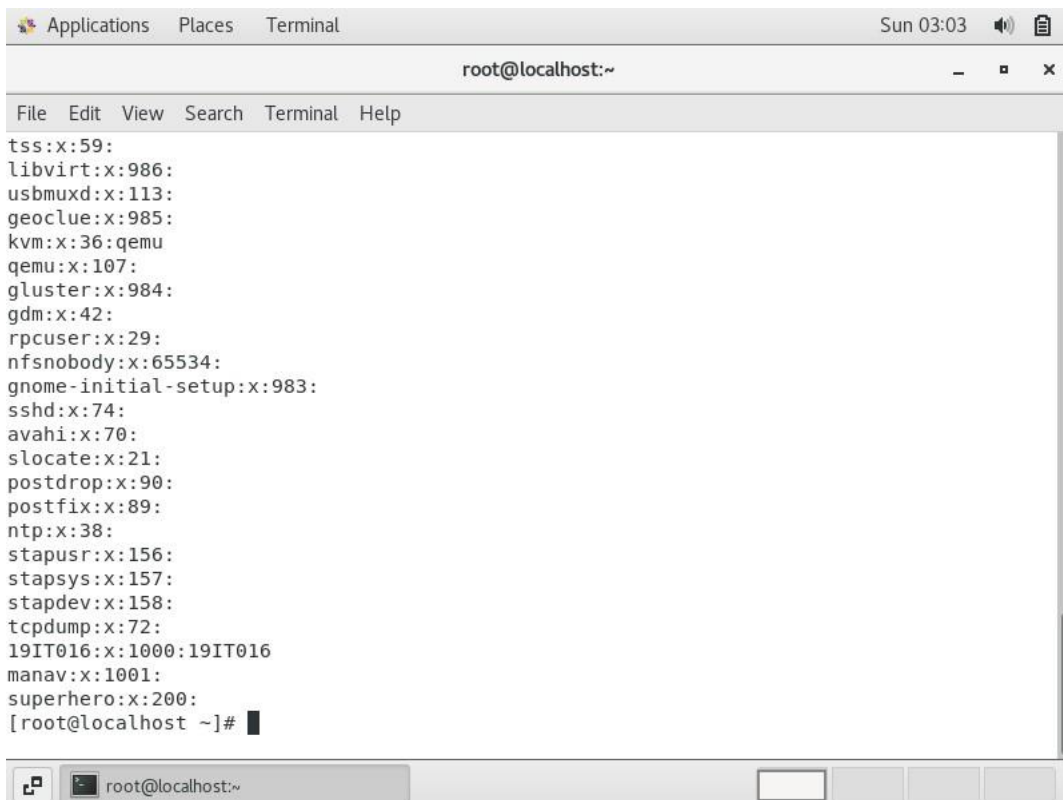
**5. Create a new group superheros (if you don't already have one)**  
**OUTPUT:**



```
Applications Places Terminal Sun 03:03
root@localhost:~

File Edit View Search Terminal Help

[19IT016@localhost superman]$ su -
Password:
Last login: Sat Sep  4 11:27:14 EDT 2021 on pts/0
[root@localhost ~]# groupadd -g 200 superhero
[root@localhost ~]# getent group
root:x:0:
bin:x:1:
daemon:x:2:
sys:x:3:
adm:x:4:
tty:x:5:
disk:x:6:
lp:x:7:
mem:x:8:
kmem:x:9:
wheel:x:10:
cdrom:x:11:
mail:x:12:postfix
man:x:15:
dialout:x:18:
floppy:x:19:
games:x:20:
tape:x:33:
video:x:39:
ftp:x:50:
```



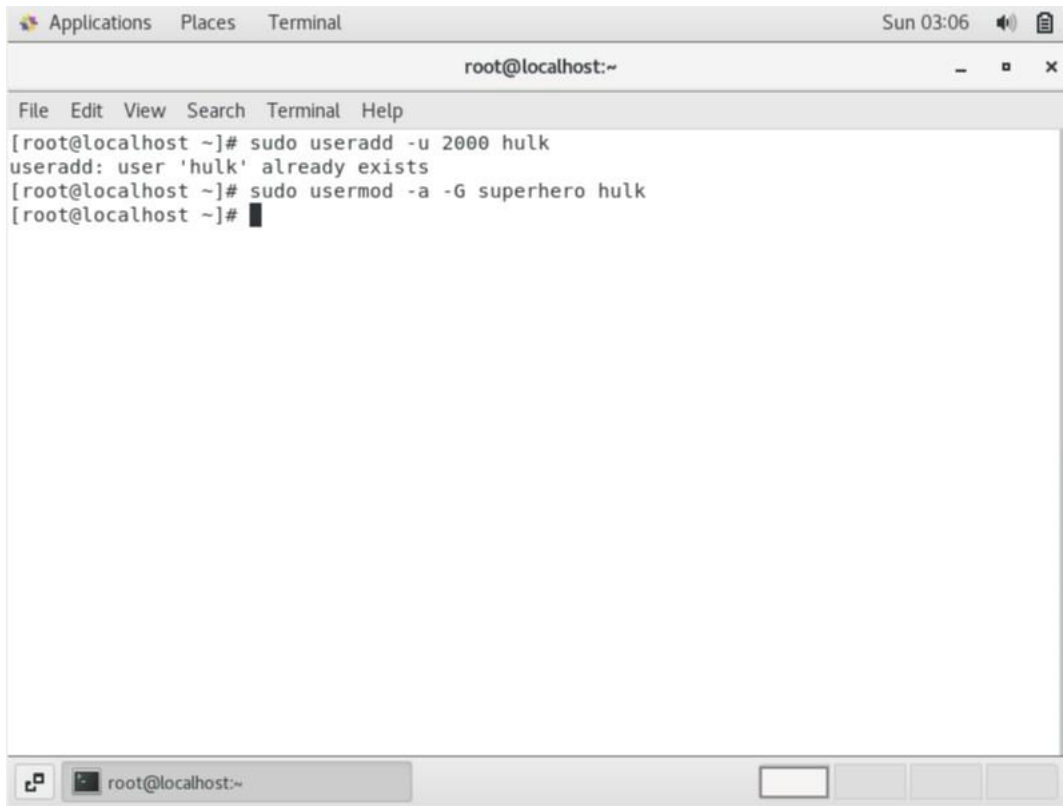
```
Applications Places Terminal Sun 03:03
root@localhost:~

File Edit View Search Terminal Help

tss:x:59:
libvirt:x:986:
usbmuxd:x:113:
geoclue:x:985:
kvm:x:36:qemu
qemu:x:107:
gluster:x:984:
gdm:x:42:
rpcuser:x:29:
nfsnobody:x:65534:
gnome-initial-setup:x:983:
sshd:x:74:
avahi:x:70:
slocate:x:21:
postdrop:x:90:
postfix:x:89:
ntp:x:38:
stapusr:x:156:
stapusr:x:157:
stapdev:x:158:
tcpdump:x:72:
19IT016:x:1000:19IT016
manav:x:1001:
superhero:x:200:
[root@localhost ~]#
```

6. Create a new user hulk and make sure its group should be superheros and its user id should be 2000

OUTPUT:

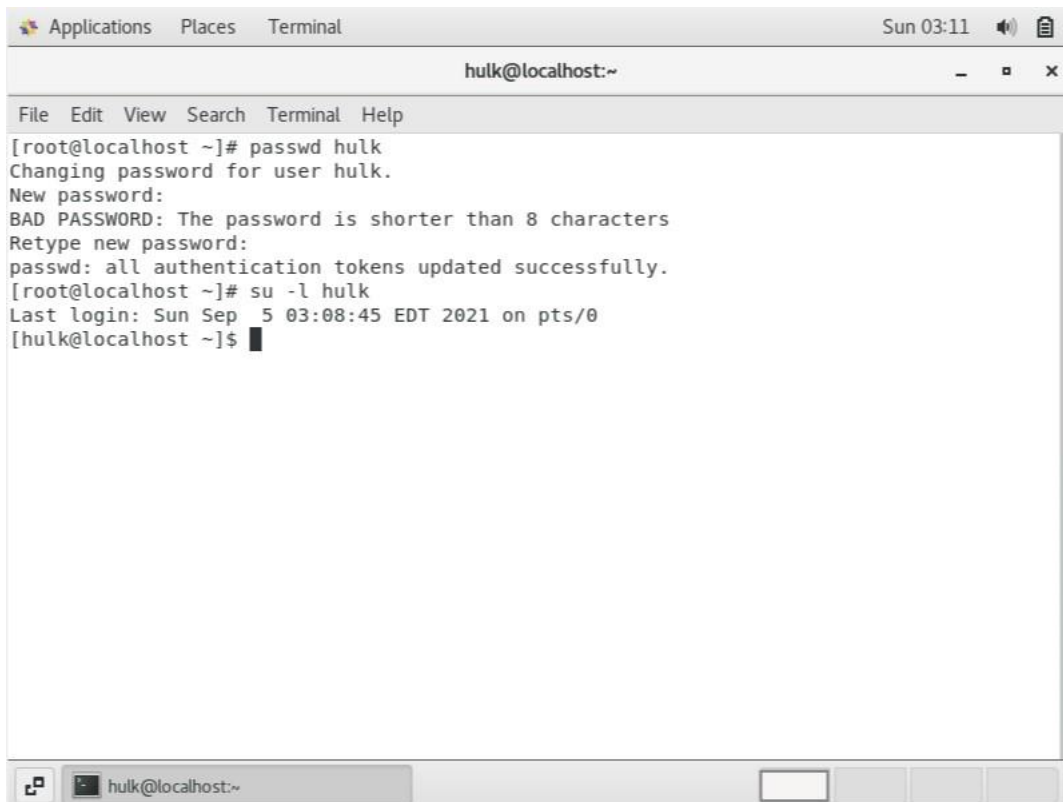


```
Applications  Places  Terminal  Sun 03:06  [Speaker Icon] [Window Icon]
root@localhost:~

File Edit View Search Terminal Help
[root@localhost ~]# sudo useradd -u 2000 hulk
useradd: user 'hulk' already exists
[root@localhost ~]# sudo usermod -a -G superhero hulk
[root@localhost ~]#
```

7. Once the user hulk is created then change the password for hulk and then login as hulk

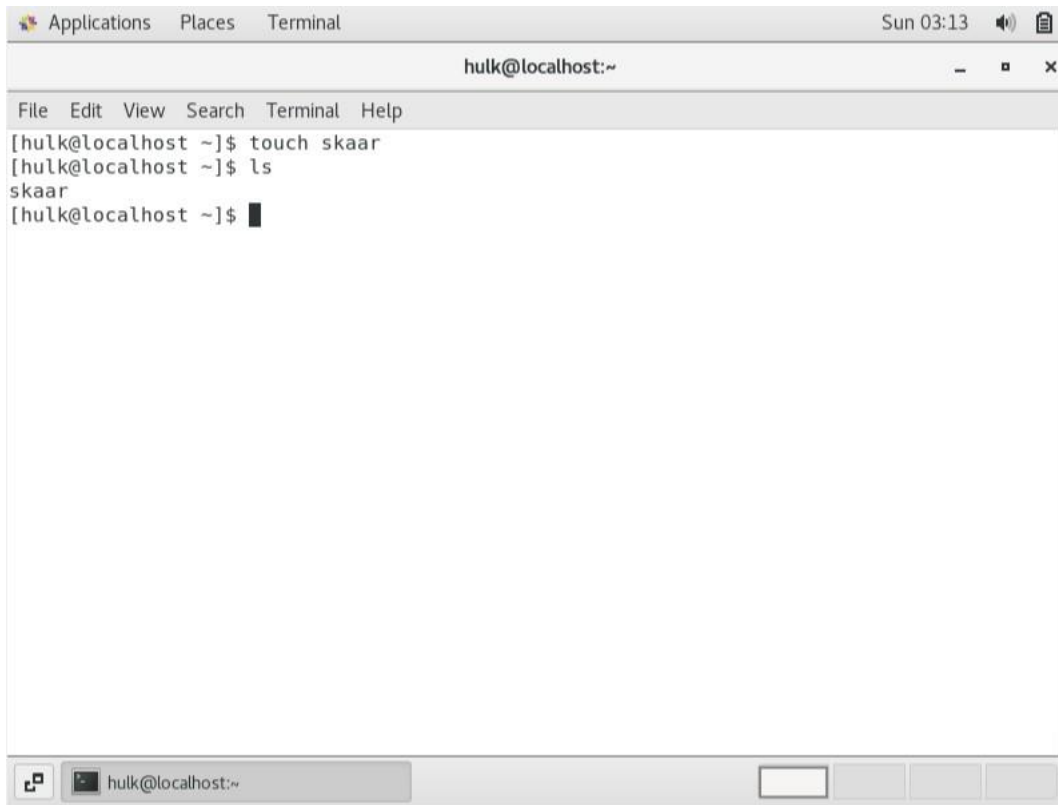
OUTPUT:



A terminal window titled "hulk@localhost:~" with a menu bar (File, Edit, View, Search, Terminal, Help) and a title bar (Applications, Places, Terminal, Sun 03:11). The terminal output shows the following commands and responses:

```
[root@localhost ~]# passwd hulk
Changing password for user hulk.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@localhost ~]# su -l hulk
Last login: Sun Sep  5 03:08:45 EDT 2021 on pts/0
[hulk@localhost ~]$
```

**8. Under hulk home directory create a file Skaar**  
**OUTPUT:**



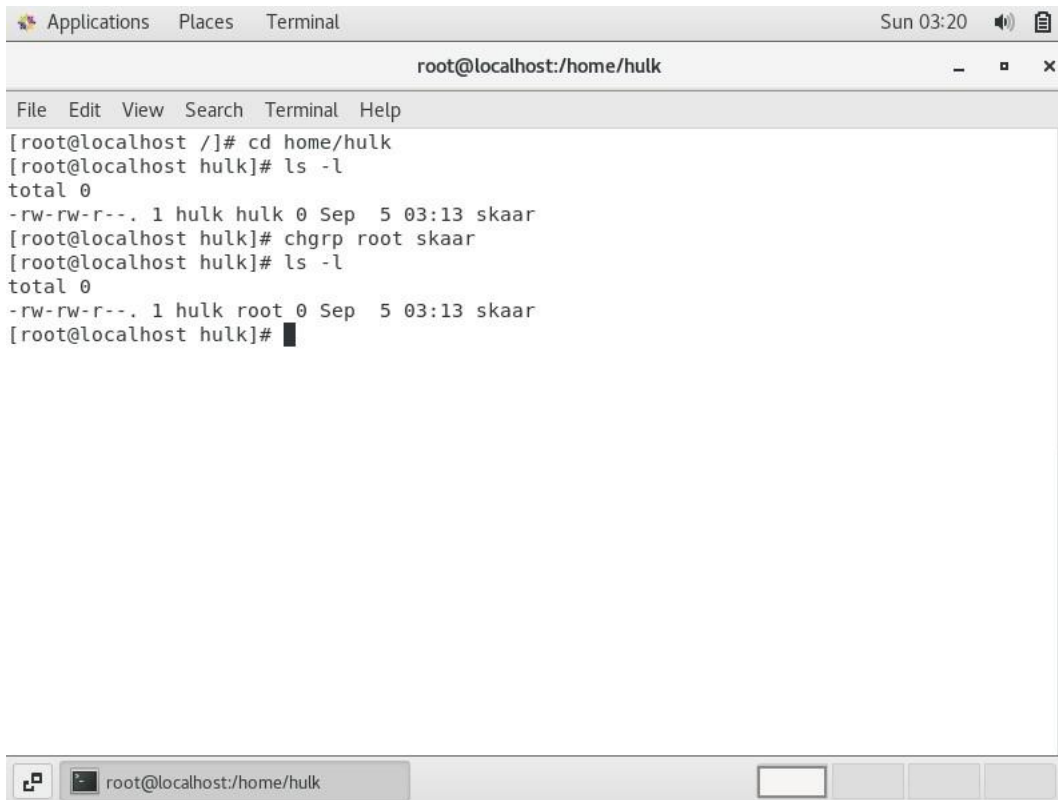
A screenshot of a Linux terminal window. The window title bar shows 'Applications Places Terminal' on the left, 'Sun 03:13' and system icons on the right. The terminal title is 'hulk@localhost:~'. The menu bar includes 'File Edit View Search Terminal Help'. The terminal content shows the following commands and output:

```
[hulk@localhost ~]$ touch skaar
[hulk@localhost ~]$ ls
skaar
[hulk@localhost ~]$
```

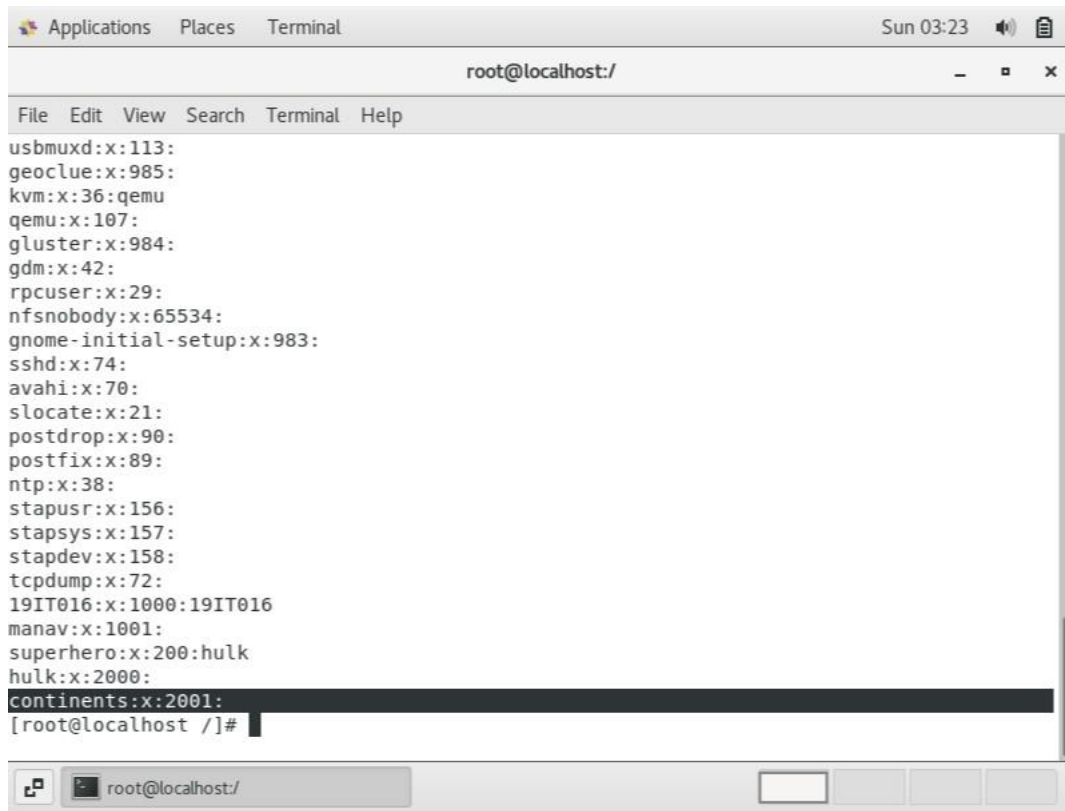
The terminal window has a standard Ubuntu-style interface with a top bar, a menu bar, and a terminal area with a scrollbar on the right. The bottom status bar shows the terminal icon, the title 'hulk@localhost:~', and some window control buttons.



**9. Change group ownership of Skaar from superheroes to root**  
**OUTPUT:**

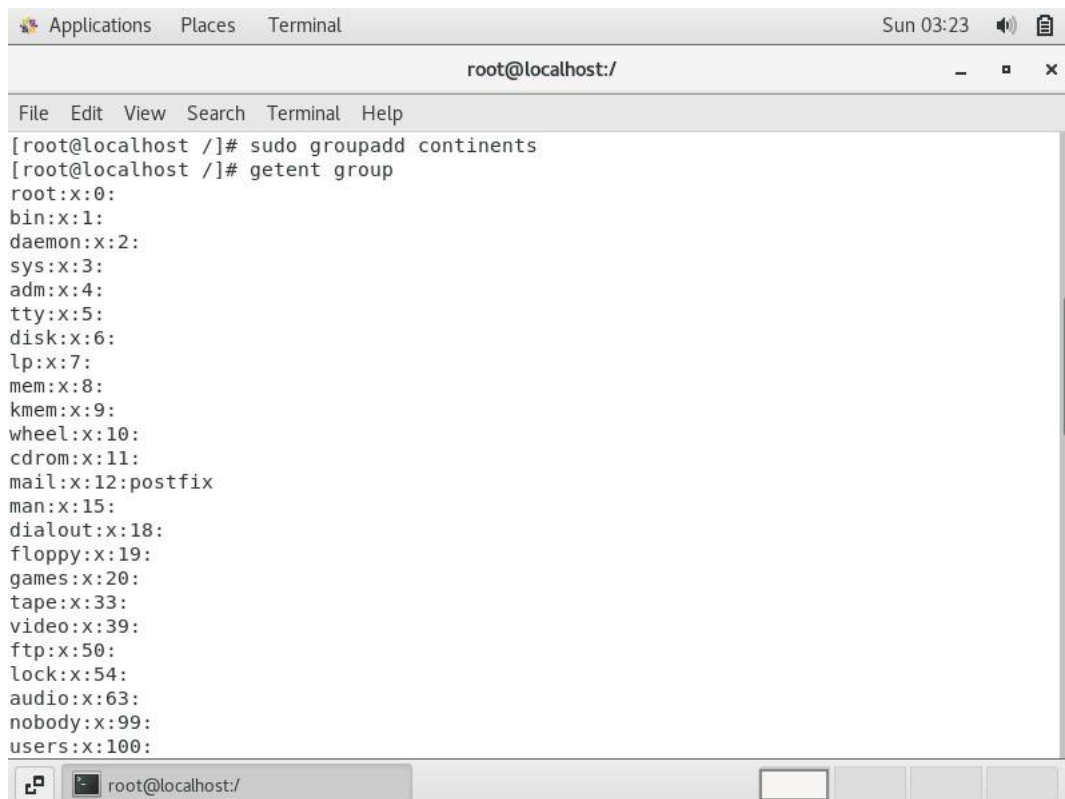


```
Applications  Places  Terminal  Sun 03:20  [icon]
root@localhost:/home/hulk
File Edit View Search Terminal Help
[root@localhost /]# cd home/hulk
[root@localhost hulk]# ls -l
total 0
-rw-rw-r--. 1 hulk hulk 0 Sep  5 03:13 skaar
[root@localhost hulk]# chgrp root skaar
[root@localhost hulk]# ls -l
total 0
-rw-rw-r--. 1 hulk root 0 Sep  5 03:13 skaar
[root@localhost hulk]#
```

**10. Then create a new group continents****OUTPUT:**

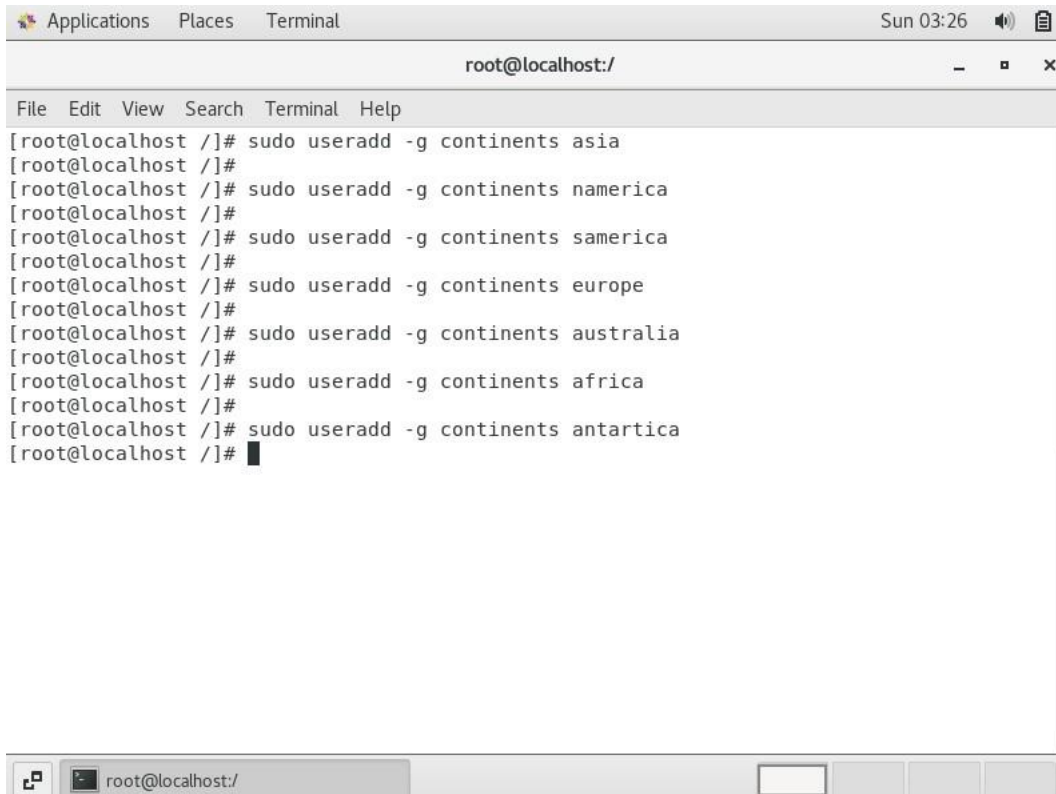
A terminal window titled 'root@localhost:/' with a menu bar (File, Edit, View, Search, Terminal, Help). The window displays a list of system users and groups. The last entry, 'continents:x:2001:', is highlighted with a black background. The prompt '[root@localhost /]#' is visible at the bottom.

```
usbmuxd:x:113:
geoclue:x:985:
kvm:x:36:qemu
qemu:x:107:
gluster:x:984:
gdm:x:42:
rpcuser:x:29:
nfsnobody:x:65534:
gnome-initial-setup:x:983:
sshd:x:74:
avahi:x:70:
slocate:x:21:
postdrop:x:90:
postfix:x:89:
ntp:x:38:
stapusr:x:156:
stapsys:x:157:
stapdev:x:158:
tcpdump:x:72:
19IT016:x:1000:19IT016
manav:x:1001:
superhero:x:200:hulk
hulk:x:2000:
continents:x:2001:
[root@localhost /]#
```



A terminal window titled 'root@localhost:/' with a menu bar (File, Edit, View, Search, Terminal, Help). The window shows the execution of the 'groupadd' command to create a new group named 'continents'. The prompt '[root@localhost /]#' is visible at the bottom.

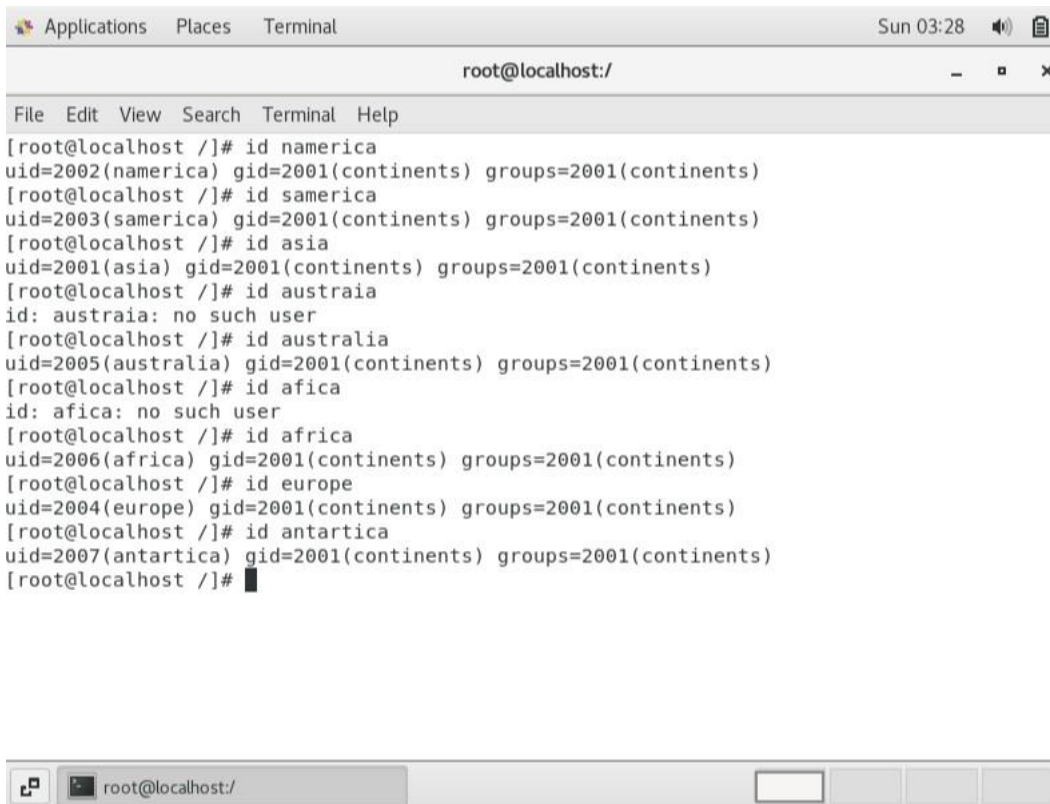
```
[root@localhost /]# sudo groupadd continents
[root@localhost /]# getent group
root:x:0:
bin:x:1:
daemon:x:2:
sys:x:3:
adm:x:4:
tty:x:5:
disk:x:6:
lp:x:7:
mem:x:8:
kmem:x:9:
wheel:x:10:
cdrom:x:11:
mail:x:12:postfix
man:x:15:
dialout:x:18:
floppy:x:19:
games:x:20:
tape:x:33:
video:x:39:
ftp:x:50:
lock:x:54:
audio:x:63:
nobody:x:99:
users:x:100:
```

**11. Create a new users namerica, samerica, asia, europe, australia, africa and antartica****OUTPUT:**

```
Applications  Places  Terminal  Sun 03:26  [Speaker Icon] [Document Icon]
root@localhost:/
File Edit View Search Terminal Help
[root@localhost ~]# sudo useradd -g continents asia
[root@localhost ~]#
[root@localhost ~]# sudo useradd -g continents namerica
[root@localhost ~]#
[root@localhost ~]# sudo useradd -g continents samerica
[root@localhost ~]#
[root@localhost ~]# sudo useradd -g continents europe
[root@localhost ~]#
[root@localhost ~]# sudo useradd -g continents australia
[root@localhost ~]#
[root@localhost ~]# sudo useradd -g continents africa
[root@localhost ~]#
[root@localhost ~]# sudo useradd -g continents antartica
[root@localhost ~]#
```

## 12. Make sure all these user's groups are continents

**OUTPUT:**

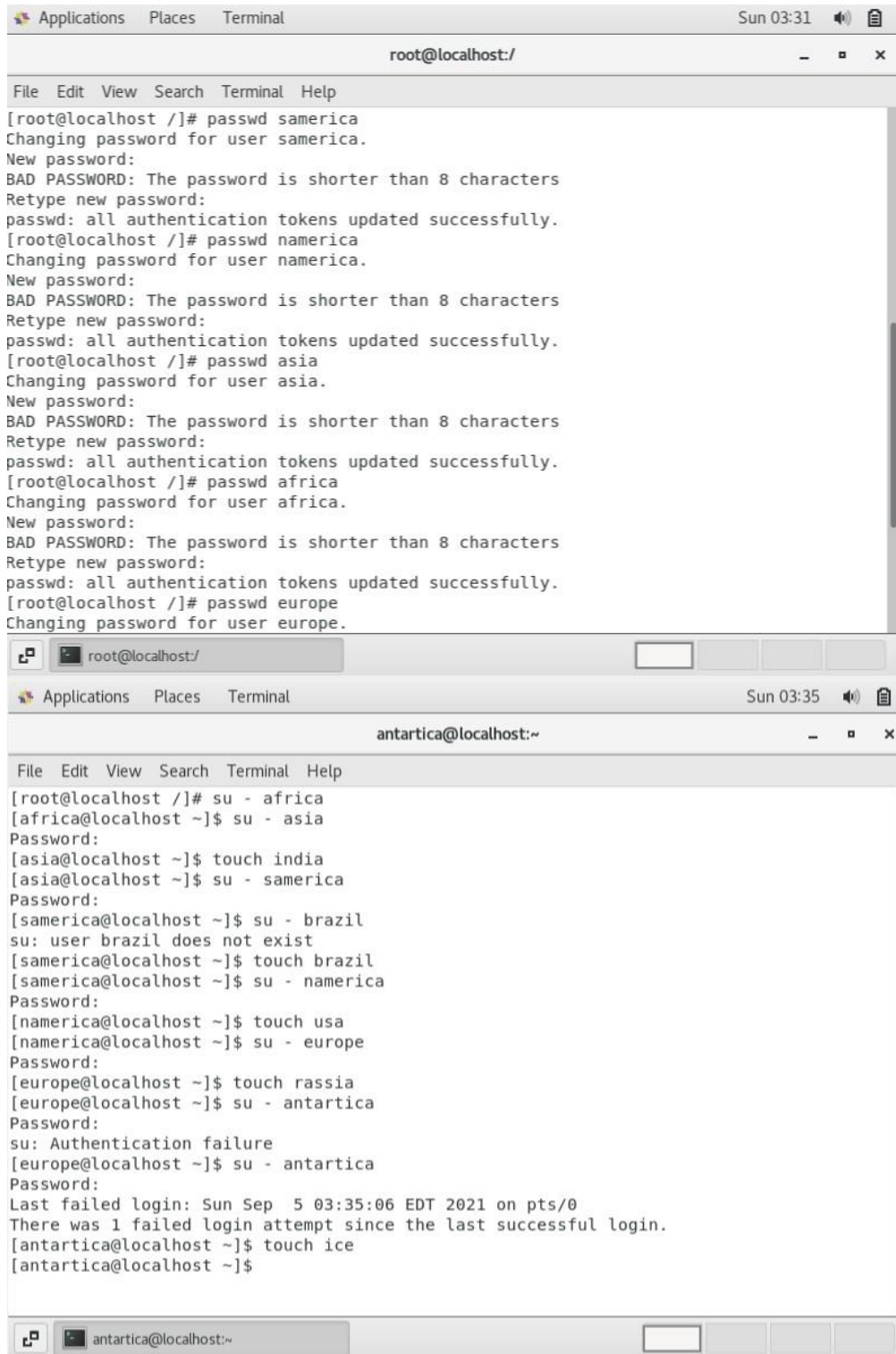


A terminal window titled 'Applications Places Terminal' with a status bar showing 'Sun 03:28'. The terminal prompt is 'root@localhost:/' and the window title bar also displays 'root@localhost:/'.

```
File Edit View Search Terminal Help
[root@localhost /]# id namerica
uid=2002(namerica) gid=2001(continents) groups=2001(continents)
[root@localhost /]# id samerica
uid=2003(samerica) gid=2001(continents) groups=2001(continents)
[root@localhost /]# id asia
uid=2001(asia) gid=2001(continents) groups=2001(continents)
[root@localhost /]# id austraia
id: austraia: no such user
[root@localhost /]# id australia
uid=2005(australia) gid=2001(continents) groups=2001(continents)
[root@localhost /]# id afica
id: afica: no such user
[root@localhost /]# id africa
uid=2006(africa) gid=2001(continents) groups=2001(continents)
[root@localhost /]# id europe
uid=2004(europe) gid=2001(continents) groups=2001(continents)
[root@localhost /]# id antartica
uid=2007(antartica) gid=2001(continents) groups=2001(continents)
[root@localhost /]#
```

The terminal window has a taskbar at the bottom with a window icon, a tab labeled 'root@localhost:', and several empty buttons.

- 13. Change password for every user, then switch into each user one by one using su - username command and create one file in each user account (e.g., england file in europe, usa in namerica, japan in asia and so on)  
OUTPUT:**



The image shows two terminal windows. The top window, titled 'root@localhost:/', shows the process of changing passwords for users 'samerica', 'namerica', 'asia', 'africa', and 'europe'. Each user's password is initially rejected as being shorter than 8 characters. After retyping, the passwords are successfully updated. The bottom window, titled 'antartica@localhost:~', shows the user switching from root to 'africa', then 'asia', 'samerica', 'brazil' (which fails as the user does not exist), 'namerica', 'europe', and finally 'antartica'. After each successful switch, a file is created in the user's home directory: 'india' for asia, 'brazil' for samerica, 'usa' for namerica, 'rassia' for europe, and 'ice' for antartica. The terminal also shows a failed login attempt for 'antartica' before the final successful login.

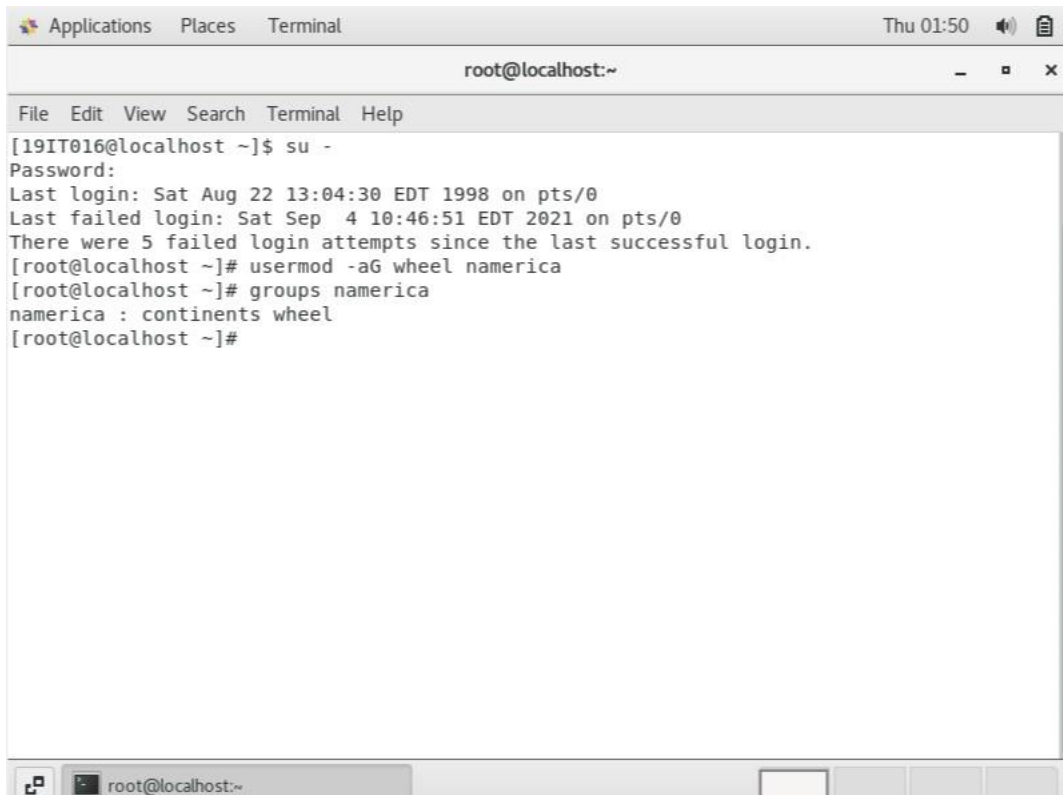
```

root@localhost: /
File Edit View Search Terminal Help
[root@localhost /]# passwd samerica
Changing password for user samerica.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@localhost /]# passwd namerica
Changing password for user namerica.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@localhost /]# passwd asia
Changing password for user asia.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@localhost /]# passwd africa
Changing password for user africa.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@localhost /]# passwd europe
Changing password for user europe.

antartica@localhost: ~
File Edit View Search Terminal Help
[root@localhost /]# su - africa
[africa@localhost ~]$ su - asia
Password:
[asia@localhost ~]$ touch india
[asia@localhost ~]$ su - samerica
Password:
[samerica@localhost ~]$ su - brazil
su: user brazil does not exist
[samerica@localhost ~]$ touch brazil
[samerica@localhost ~]$ su - namerica
Password:
[namerica@localhost ~]$ touch usa
[namerica@localhost ~]$ su - europe
Password:
[europe@localhost ~]$ touch rassia
[europe@localhost ~]$ su - antartica
Password:
su: Authentication failure
[europe@localhost ~]$ su - antartica
Password:
Last failed login: Sun Sep  5 03:35:06 EDT 2021 on pts/0
There was 1 failed login attempt since the last successful login.
[antartica@localhost ~]$ touch ice
[antartica@localhost ~]$

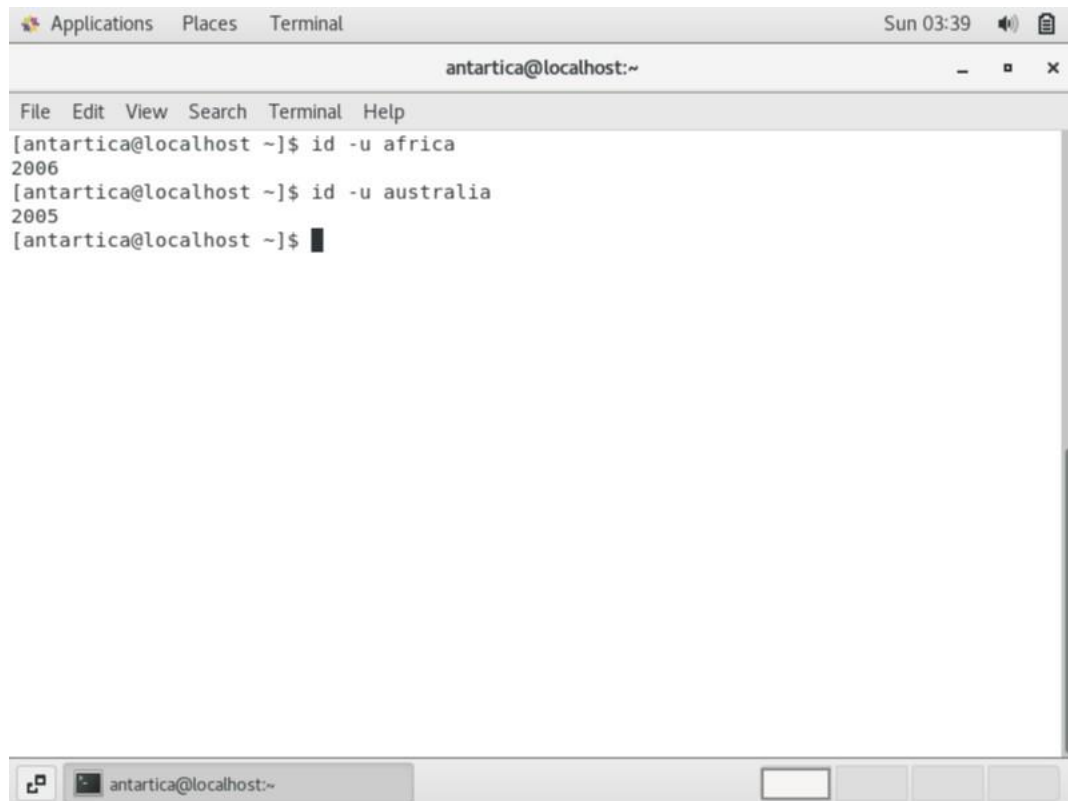
```

- 14. Also add user namerica to wheel group to allow it to run root commands as root and then test it**  
**OUTPUT:**



```
root@localhost:~  
File Edit View Search Terminal Help  
[19IT016@localhost ~]$ su -  
Password:  
Last login: Sat Aug 22 13:04:30 EDT 1998 on pts/0  
Last failed login: Sat Sep  4 10:46:51 EDT 2021 on pts/0  
There were 5 failed login attempts since the last successful login.  
[root@localhost ~]# usermod -aG wheel namerica  
[root@localhost ~]# groups namerica  
namerica : continents wheel  
[root@localhost ~]#
```

**15. Run id command on africa and australia users to verify their user id  
OUTPUT:**



The image shows a terminal window titled 'Applications Places Terminal' with a status bar indicating 'Sun 03:39'. The terminal prompt is 'antartica@localhost:~'. The user has entered the command 'id -u africa', which returned the output '2006'. Then, the user entered 'id -u australia', which returned the output '2005'. The terminal window has a menu bar with 'File Edit View Search Terminal Help' and a taskbar at the bottom showing the terminal icon and the prompt 'antartica@localhost:~'.

```
antartica@localhost:~  
File Edit View Search Terminal Help  
[antartica@localhost ~]$ id -u africa  
2006  
[antartica@localhost ~]$ id -u australia  
2005  
[antartica@localhost ~]$
```

**16. Run the last command and find out the number of users logged in. (Do not count duplicate users)**

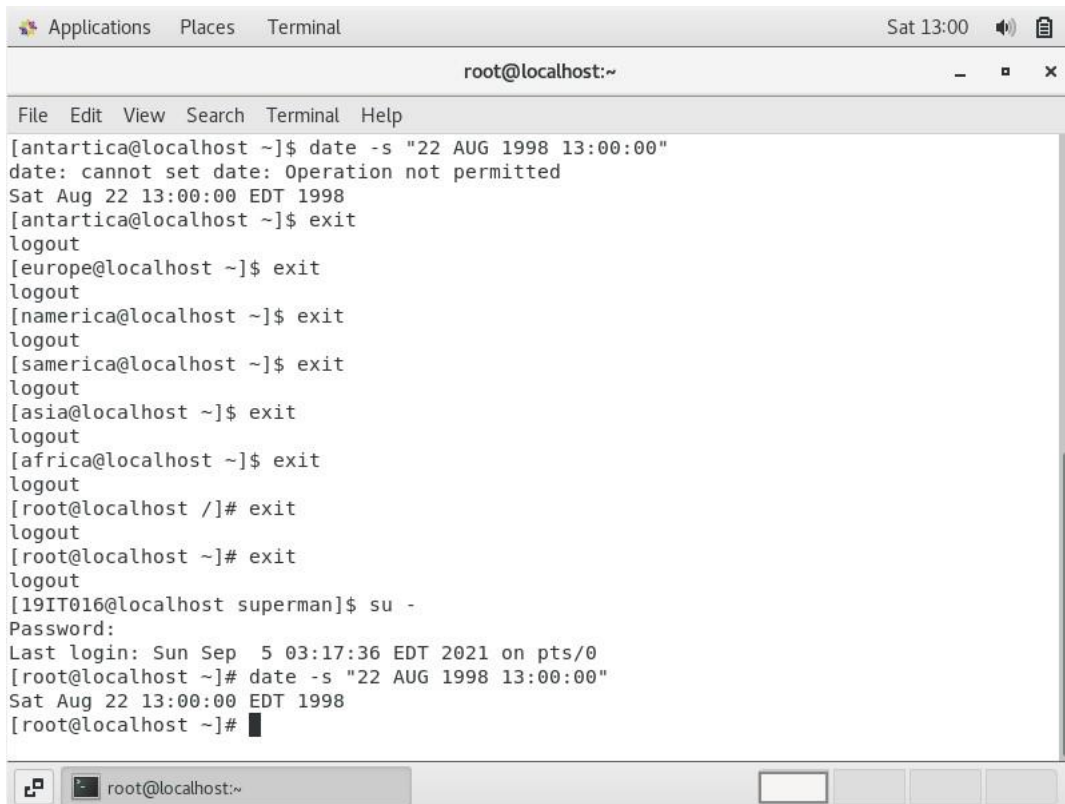
**OUTPUT:**

```

[antartica@localhost ~]$ last
19IT016 pts/0 :0 Sun Sep 5 02:51 still logged in
19IT016 :0 :0 Sun Sep 5 02:51 still logged in
reboot system boot 3.10.0-1160.el7. Sun Sep 5 02:50 - 03:37 (00:47)
19IT016 pts/0 :0 Sat Sep 4 10:36 - 12:00 (01:23)
19IT016 :0 :0 Sat Sep 4 10:36 - down (01:24)
reboot system boot 3.10.0-1160.el7. Sat Sep 4 10:35 - 12:00 (01:25)
19IT016 pts/0 :0 Thu Sep 2 03:00 - 03:05 (00:04)
19IT016 pts/0 :0 Thu Sep 2 02:57 - 02:58 (00:00)
19IT016 pts/0 :0 Thu Sep 2 02:35 - 02:55 (00:20)
19IT016 :0 :0 Thu Sep 2 02:26 - crash (2+08:08)
reboot system boot 3.10.0-1160.el7. Thu Sep 2 02:25 - 12:00 (2+09:35)
19IT016 pts/0 :0 Thu Aug 26 03:02 - 04:05 (01:03)
19IT016 :0 :0 Thu Aug 26 03:02 - crash (6+23:23)
reboot system boot 3.10.0-1160.el7. Thu Aug 26 03:01 - 12:00 (9+08:58)
19IT016 pts/0 :0 Wed Aug 25 12:00 - 12:22 (00:21)
19IT016 pts/0 :0 Wed Aug 25 11:55 - 12:00 (00:05)
19IT016 pts/0 :0 Wed Aug 25 11:24 - 11:52 (00:28)
19IT016 :0 :0 Wed Aug 25 11:15 - down (01:06)
reboot system boot 3.10.0-1160.el7. Wed Aug 25 11:13 - 12:22 (01:08)
19IT016 pts/0 :0 Thu Aug 19 10:57 - 11:50 (00:53)
19IT016 :0 :0 Thu Aug 19 10:56 - down (00:54)
reboot system boot 3.10.0-1160.el7. Thu Aug 19 10:55 - 11:50 (00:55)
19IT016 pts/0 :0 Thu Aug 19 04:51 - 05:40 (00:49)
19IT016 :0 :0 Thu Aug 19 04:46 - down (00:53)
  
```



**17. Change the date of your system to Aug 22 1998 at 1pm and verify  
OUTPUT:**



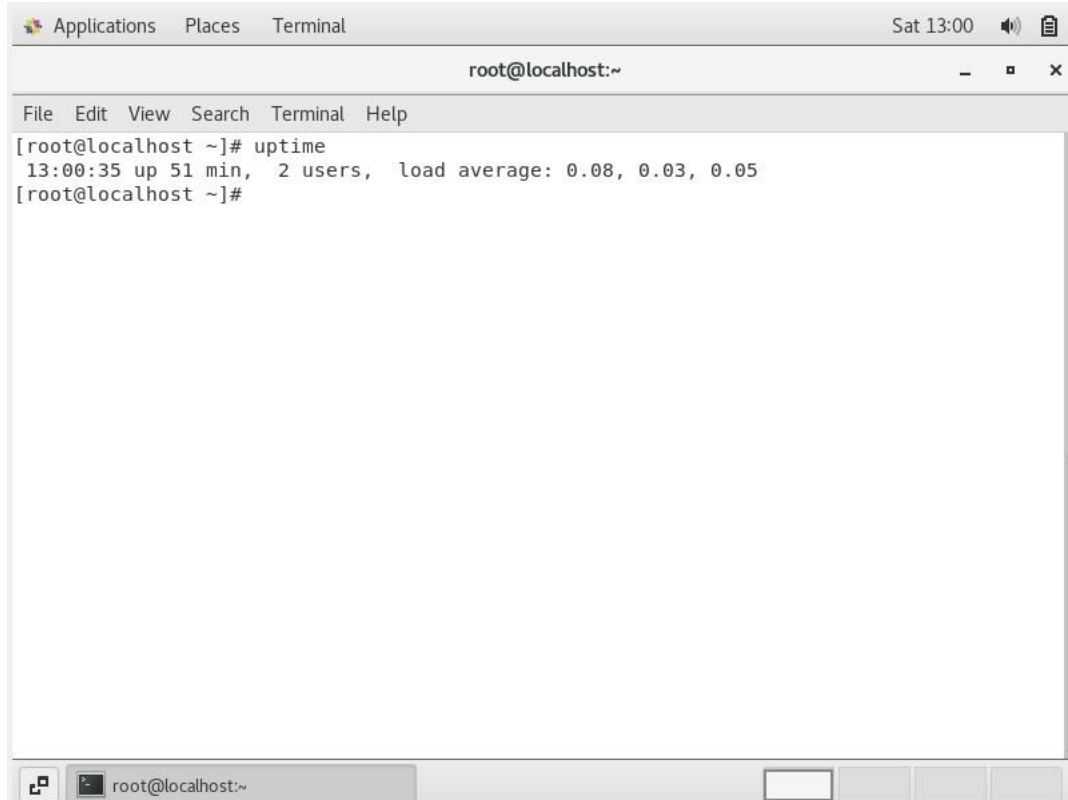
```
Applications  Places  Terminal  Sat 13:00  [Speaker Icon] [Window Icon]
root@localhost:~

File Edit View Search Terminal Help

[antartica@localhost ~]$ date -s "22 AUG 1998 13:00:00"
date: cannot set date: Operation not permitted
Sat Aug 22 13:00:00 EDT 1998
[antartica@localhost ~]$ exit
logout
[europe@localhost ~]$ exit
logout
[namerica@localhost ~]$ exit
logout
[samerica@localhost ~]$ exit
logout
[asia@localhost ~]$ exit
logout
[africa@localhost ~]$ exit
logout
[root@localhost /]# exit
logout
[root@localhost ~]# exit
logout
[19IT016@localhost superman]$ su -
Password:
Last login: Sun Sep  5 03:17:36 EDT 2021 on pts/0
[root@localhost ~]# date -s "22 AUG 1998 13:00:00"
Sat Aug 22 13:00:00 EDT 1998
[root@localhost ~]#
```

## 18. Check system uptime

OUTPUT:



The screenshot shows a terminal window titled "root@localhost:~". The window has a menu bar with "File", "Edit", "View", "Search", "Terminal", and "Help". The terminal output shows the command "uptime" being executed, resulting in the message: "13:00:35 up 51 min, 2 users, load average: 0.08, 0.03, 0.05". The prompt "[root@localhost ~]#" is visible before and after the command. The window's title bar includes "Applications", "Places", "Terminal", and a clock showing "Sat 13:00". The bottom of the window shows a taskbar with a "root@localhost:~" tab and several icons.

```
[root@localhost ~]# uptime
13:00:35 up 51 min,  2 users,  load average: 0.08, 0.03, 0.05
[root@localhost ~]#
```

## 19. List 1999 calendar

OUTPUT:

```

root@localhost:~# cal 1999
      1999

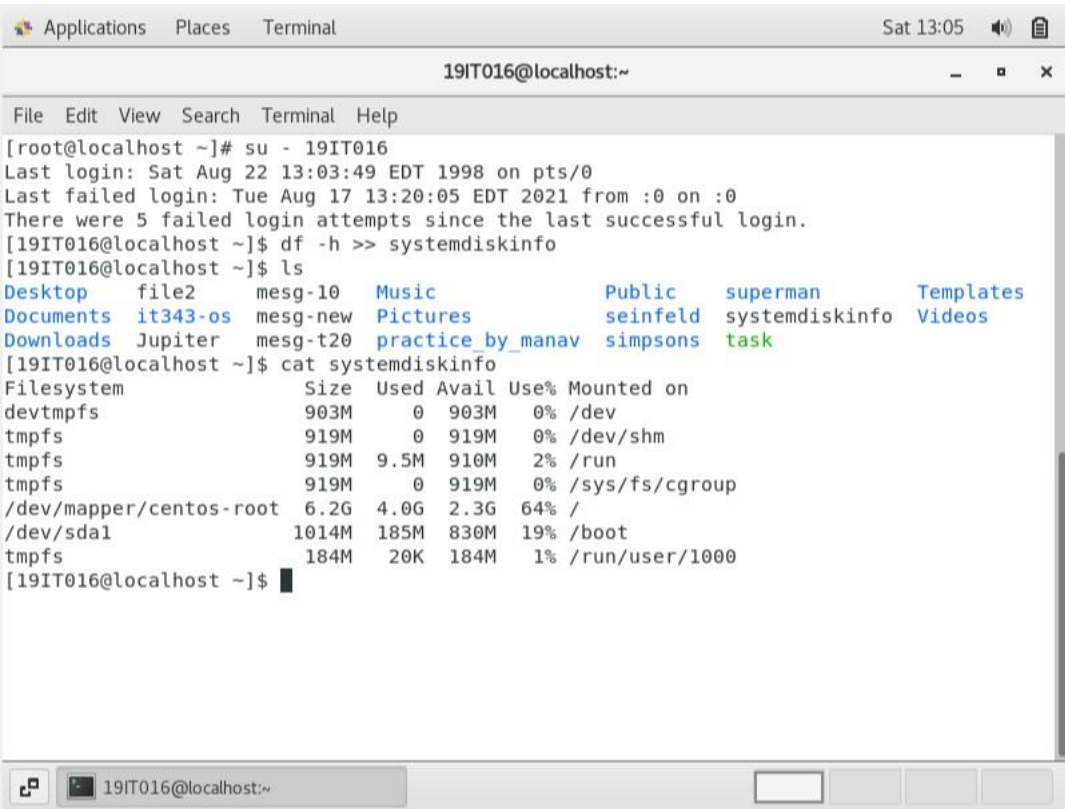
   January                February                March
Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa
                1 2           1 2 3 4 5 6           1 2 3 4 5 6
 3  4  5  6  7  8  9    7  8  9 10 11 12 13    7  8  9 10 11 12 13
10 11 12 13 14 15 16   14 15 16 17 18 19 20   14 15 16 17 18 19 20
17 18 19 20 21 22 23   21 22 23 24 25 26 27   21 22 23 24 25 26 27
24 25 26 27 28 29 30   28                   28 29 30 31
31

   April                  May                  June
Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa
                1 2 3           1                   1 2 3 4 5
 4  5  6  7  8  9 10    2  3  4  5  6  7  8    6  7  8  9 10 11 12
11 12 13 14 15 16 17    9 10 11 12 13 14 15   13 14 15 16 17 18 19
18 19 20 21 22 23 24   16 17 18 19 20 21 22   20 21 22 23 24 25 26
25 26 27 28 29 30     23 24 25 26 27 28 29   27 28 29 30
30 31

   July                  August                September
Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa
                1 2 3           1 2 3 4 5 6 7           1 2 3 4
 4  5  6  7  8  9 10    8  9 10 11 12 13 14    5  6  7  8  9 10 11
11 12 13 14 15 16 17   15 16 17 18 19 20 21   12 13 14 15 16 17 18
18 19 20 21 22 23 24   22 23 24 25 26 27 28   19 20 21 22 23 24 25
25 26 27 28 29 30 31   29 30 31                26 27 28 29 30

```

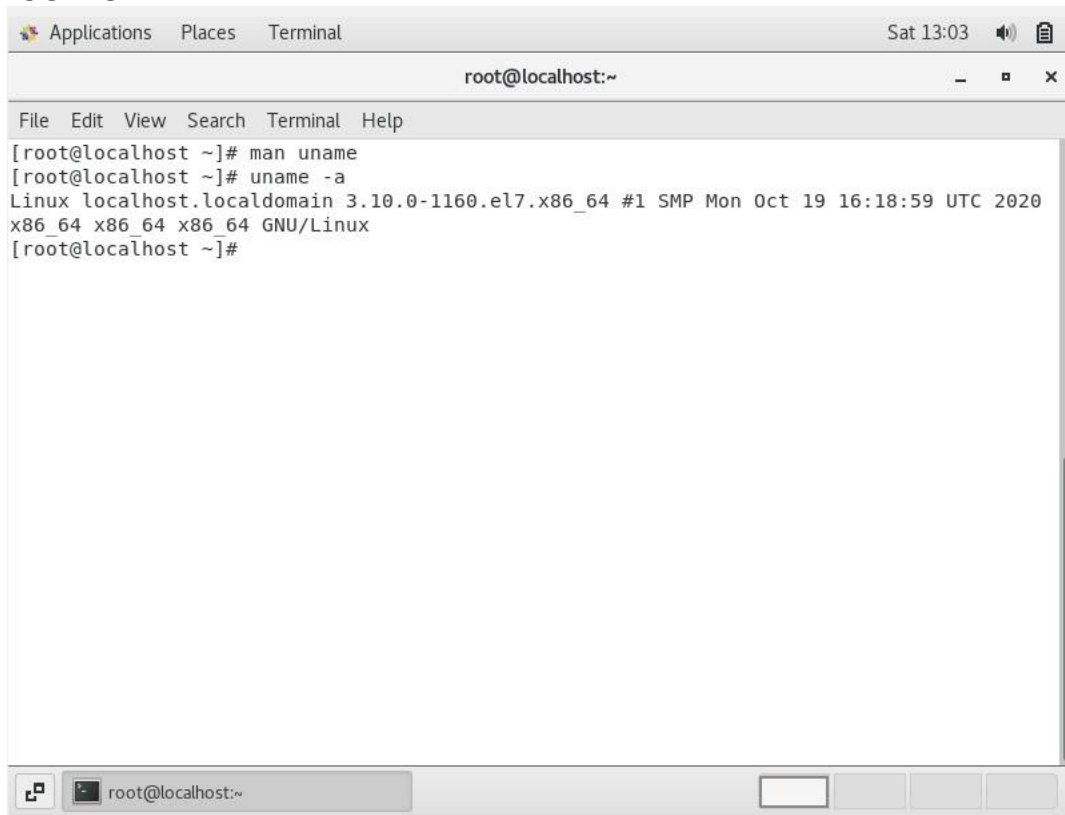
**20. Become yourself "your username" and run df -h command. Output the df -h command to another filename it systemdiskinfo  
OUTPUT:**



```
[root@localhost ~]# su - 19IT016
Last login: Sat Aug 22 13:03:49 EDT 1998 on pts/0
Last failed login: Tue Aug 17 13:20:05 EDT 2021 from :0 on :0
There were 5 failed login attempts since the last successful login.
[19IT016@localhost ~]$ df -h >> systemdiskinfo
[19IT016@localhost ~]$ ls
Desktop      file2      mesg-10    Music      Public      superman    Templates
Documents    it343-os  mesg-new   Pictures    seinfeld    systemdiskinfo Videos
Downloads    Jupiter    mesg-t20   practice_by_manav simpsons    task
[19IT016@localhost ~]$ cat systemdiskinfo
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs         903M   0  903M   0% /dev
tmpfs            919M   0  919M   0% /dev/shm
tmpfs            919M  9.5M  910M   2% /run
tmpfs            919M   0  919M   0% /sys/fs/cgroup
/dev/mapper/centos-root 6.2G  4.0G  2.3G  64% /
/dev/sda1       1014M  185M  830M  19% /boot
tmpfs           184M   20K  184M   1% /run/user/1000
[19IT016@localhost ~]$
```

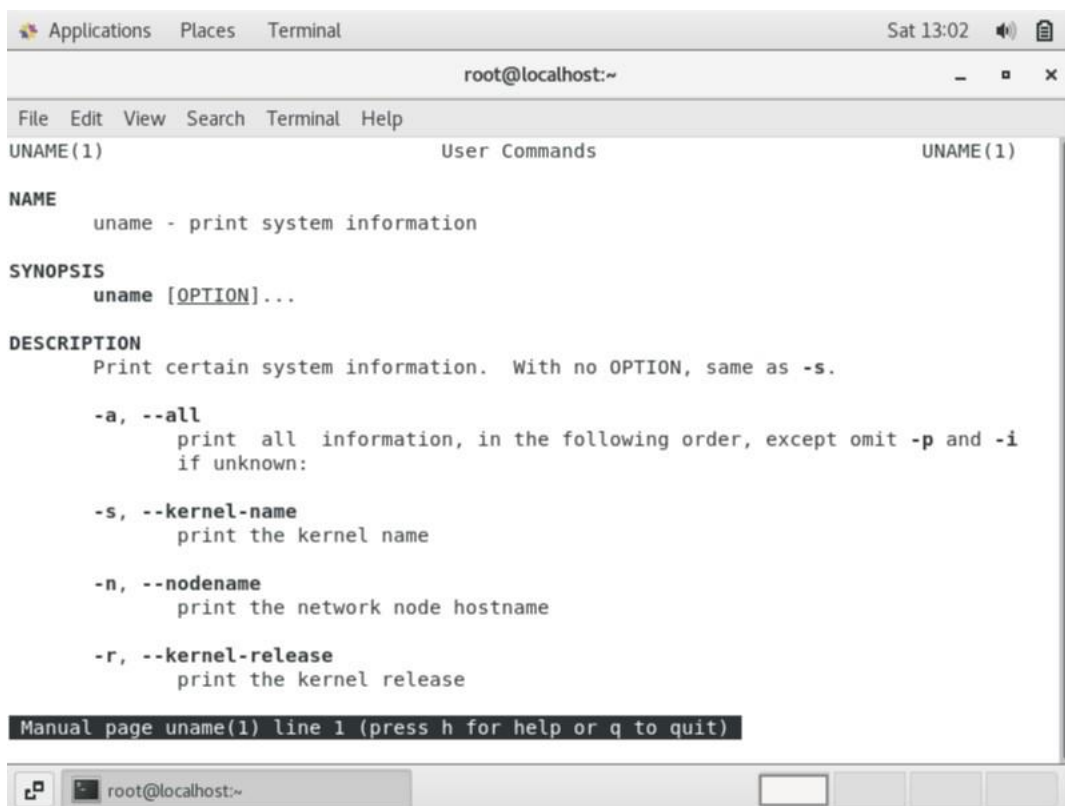
## 21. List everything with uname command and find out where the system architecture information is located

OUTPUT:



```
Applications  Places  Terminal  Sat 13:03
root@localhost:~

File Edit View Search Terminal Help
[root@localhost ~]# man uname
[root@localhost ~]# uname -a
Linux localhost.localdomain 3.10.0-1160.el7.x86_64 #1 SMP Mon Oct 19 16:18:59 UTC 2020
x86_64 x86_64 x86_64 GNU/Linux
[root@localhost ~]#
```



```
Applications  Places  Terminal  Sat 13:02
root@localhost:~

File Edit View Search Terminal Help
NAME                                User Commands                                UNAME(1)

NAME
  uname - print system information

SYNOPSIS
  uname [OPTION]...

DESCRIPTION
  Print certain system information.  With no OPTION, same as -s.

  -a, --all
    print all information, in the following order, except omit -p and -i
    if unknown:

  -s, --kernel-name
    print the kernel name

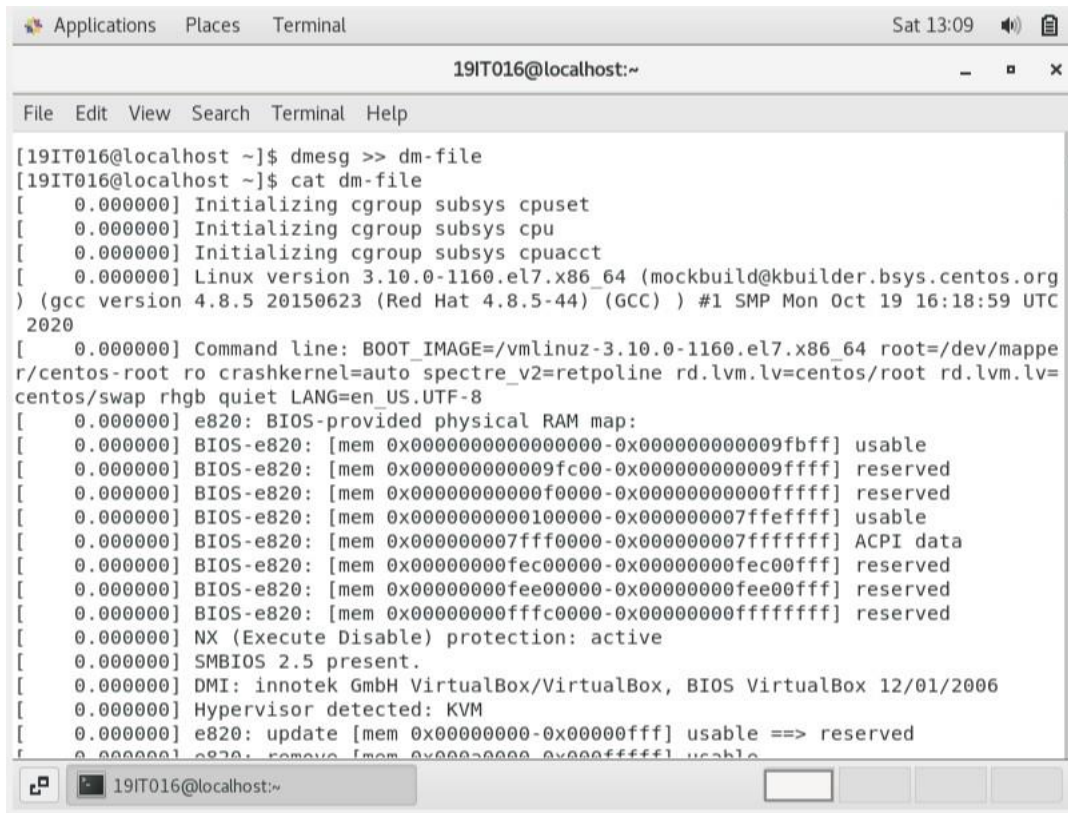
  -n, --nodename
    print the network node hostname

  -r, --kernel-release
    print the kernel release

Manual page uname(1) line 1 (press h for help or q to quit)
```



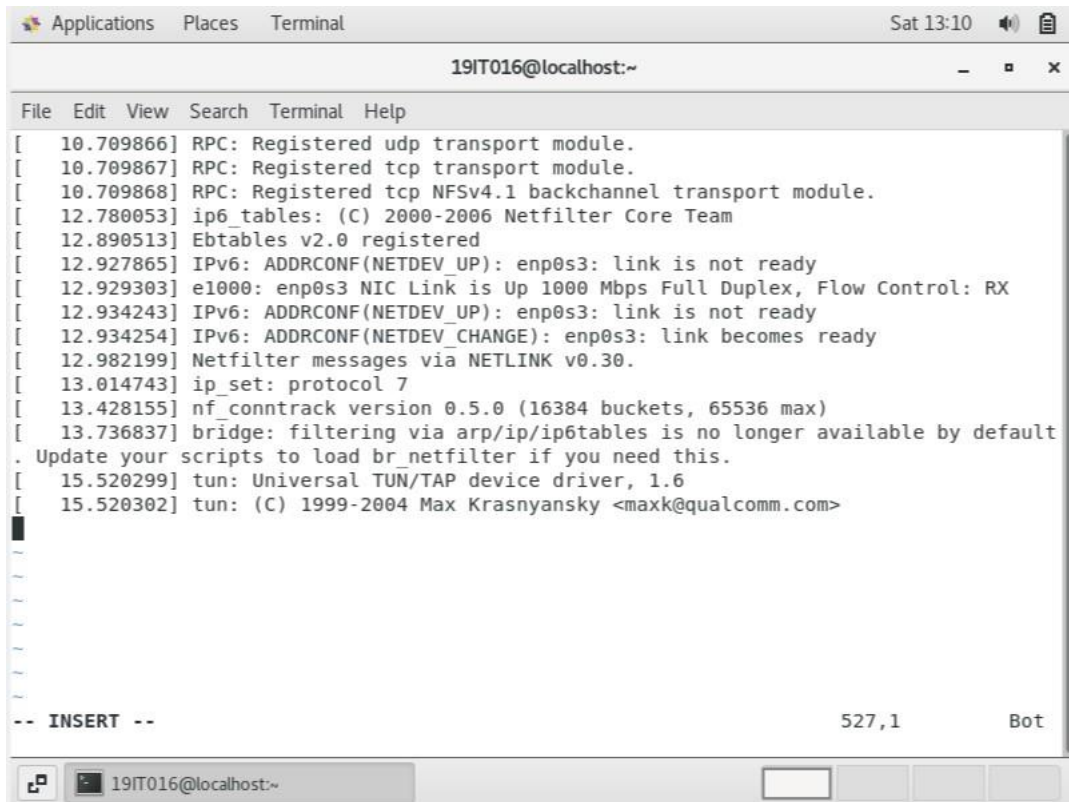
### 23. Run dmesg command and output to dm-file OUTPUT:



```

[19IT016@localhost ~]$ dmesg >> dm-file
[19IT016@localhost ~]$ cat dm-file
[    0.000000] Initializing cgroup subsys cpuset
[    0.000000] Initializing cgroup subsys cpu
[    0.000000] Initializing cgroup subsys cpuacct
[    0.000000] Linux version 3.10.0-1160.el7.x86_64 (mockbuild@kbuilder.bsys.centos.org)
(gcc version 4.8.5 20150623 (Red Hat 4.8.5-44) (GCC) ) #1 SMP Mon Oct 19 16:18:59 UTC
2020
[    0.000000] Command line: BOOT_IMAGE=/vmlinuz-3.10.0-1160.el7.x86_64 root=/dev/mapper/
r/centos-root ro crashkernel=auto spectre_v2=retpoline rd.lvm.lv=centos/root rd.lvm.lv=
centos/swap rhgb quiet LANG=en_US.UTF-8
[    0.000000] e820: BIOS-provided physical RAM map:
[    0.000000] BIOS-e820: [mem 0x0000000000000000-0x000000000009fbff] usable
[    0.000000] BIOS-e820: [mem 0x000000000009fc00-0x000000000009ffff] reserved
[    0.000000] BIOS-e820: [mem 0x00000000000f0000-0x00000000000fffff] reserved
[    0.000000] BIOS-e820: [mem 0x0000000000100000-0x00000000007ffeffff] usable
[    0.000000] BIOS-e820: [mem 0x00000000007fff0000-0x00000000007fffffff] ACPI data
[    0.000000] BIOS-e820: [mem 0x00000000fec00000-0x00000000fec00fff] reserved
[    0.000000] BIOS-e820: [mem 0x00000000fee00000-0x00000000fee00fff] reserved
[    0.000000] BIOS-e820: [mem 0x00000000fffc0000-0x00000000ffffffff] reserved
[    0.000000] NX (Execute Disable) protection: active
[    0.000000] SMBIOS 2.5 present.
[    0.000000] DMI: innotek GmbH VirtualBox/VirtualBox, BIOS VirtualBox 12/01/2006
[    0.000000] Hypervisor detected: KVM
[    0.000000] e820: update [mem 0x00000000-0x00000fff] usable ==> reserved
[    0.000000] e820: remove [mem 0x00000000-0x0000ffff] usable

```

**24. vi dm-file and remove the last 5-7 lines****OUTPUT:**

The screenshot shows a terminal window titled "19IT016@localhost:~" with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Sat 13:10). The terminal displays the following kernel boot logs:

```
[ 10.709866] RPC: Registered udp transport module.  
[ 10.709867] RPC: Registered tcp transport module.  
[ 10.709868] RPC: Registered tcp NFSv4.1 backchannel transport module.  
[ 12.780053] ip6_tables: (C) 2000-2006 Netfilter Core Team  
[ 12.890513] Ebtables v2.0 registered  
[ 12.927865] IPv6: ADDRCONF(NETDEV_UP): enp0s3: link is not ready  
[ 12.929303] e1000: enp0s3 NIC Link is Up 1000 Mbps Full Duplex, Flow Control: RX  
[ 12.934243] IPv6: ADDRCONF(NETDEV_UP): enp0s3: link is not ready  
[ 12.934254] IPv6: ADDRCONF(NETDEV_CHANGE): enp0s3: link becomes ready  
[ 12.982199] Netfilter messages via NETLINK v0.30.  
[ 13.014743] ip_set: protocol 7  
[ 13.428155] nf_conntrack version 0.5.0 (16384 buckets, 65536 max)  
[ 13.736837] bridge: filtering via arp/ip/ip6tables is no longer available by default  
. Update your scripts to load br_netfilter if you need this.  
[ 15.520299] tun: Universal TUN/TAP device driver, 1.6  
[ 15.520302] tun: (C) 1999-2004 Max Krasnyansky <maxk@qualcomm.com>
```

At the bottom of the terminal, there is a status bar showing "-- INSERT --", "527,1", and "Bot".



**25. Add text in the end of file dm-file using vi. Text = This is the end of the file. Then save the file**  
**OUTPUT:**

```

Applications  Places  Terminal  Sat 13:16
19IT016@localhost:~
File Edit View Search Terminal Help
[ 9.740376] snd_intel8x0 0000:00:05.0: measure - unreliable DMA position..
[ 10.093282] snd_intel8x0 0000:00:05.0: measure - unreliable DMA position..
[ 10.446017] snd_intel8x0 0000:00:05.0: measure - unreliable DMA position..
[ 10.446031] snd_intel8x0 0000:00:05.0: clocking to 48000
[ 10.690360] type=1305 audit(1630824644.281:4): audit_pid=663 old=0 auid=4294967295 s
es=4294967295 subj=system_u:system_r:auditd_t:s0 res=1
[ 10.709864] RPC: Registered named UNIX socket transport module.
[ 10.709866] RPC: Registered udp transport module.
[ 10.709867] RPC: Registered tcp transport module.
[ 10.709868] RPC: Registered tcp NFSv4.1 backchannel transport module.
[ 12.780053] ip6_tables: (C) 2000-2006 Netfilter Core Team
[ 12.890513] Ebtables v2.0 registered
[ 12.927865] IPv6: ADDRCONF(NETDEV_UP): enp0s3: link is not ready
[ 12.929303] e1000: enp0s3 NIC Link is Up 1000 Mbps Full Duplex, Flow Control: RX
[ 12.934243] IPv6: ADDRCONF(NETDEV_UP): enp0s3: link is not ready
[ 12.934254] IPv6: ADDRCONF(NETDEV_CHANGE): enp0s3: link becomes ready
[ 12.982199] Netfilter messages via NETLINK v0.30.
[ 13.014743] ip_set: protocol 7
[ 13.428155] nf_conntrack version 0.5.0 (16384 buckets, 65536 max)
[ 13.736837] bridge: filtering via arp/ip/ip6tables is no longer available by default
. Update your scripts to load br_netfilter if you need this.
[ 15.520299] tun: Universal TUN/TAP device driver, 1.6
[ 15.520302] tun: (C) 1999-2004 Max Krasnyansky <maxk@qualcomm.com>
This is End of the file.
527,24 Bot
19IT016@localhost:~

```

**26. Reboot the system using init command****OUTPUT:**