

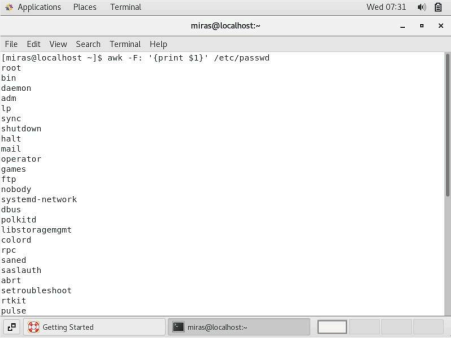
Berikov Miras

220103187

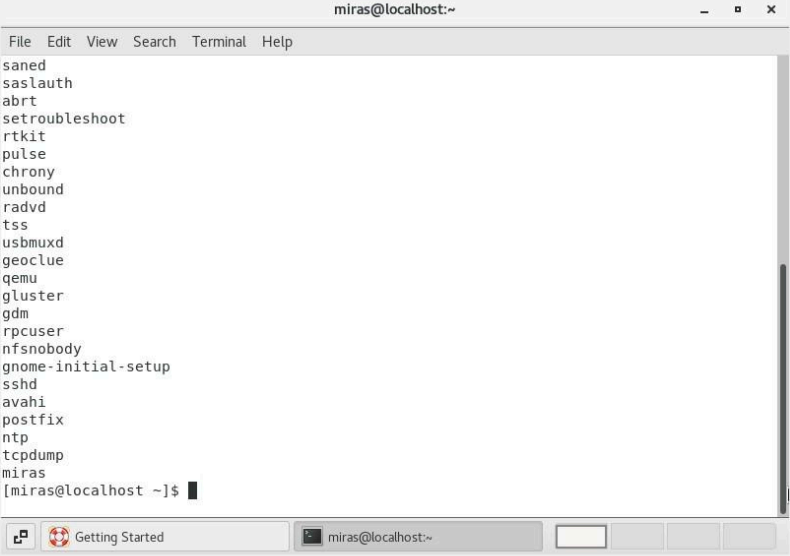
Chapter 5

1) list out all the users in Linux (use the awk command)

Command - `awk -F: '{print $1}' /etc/passwd`



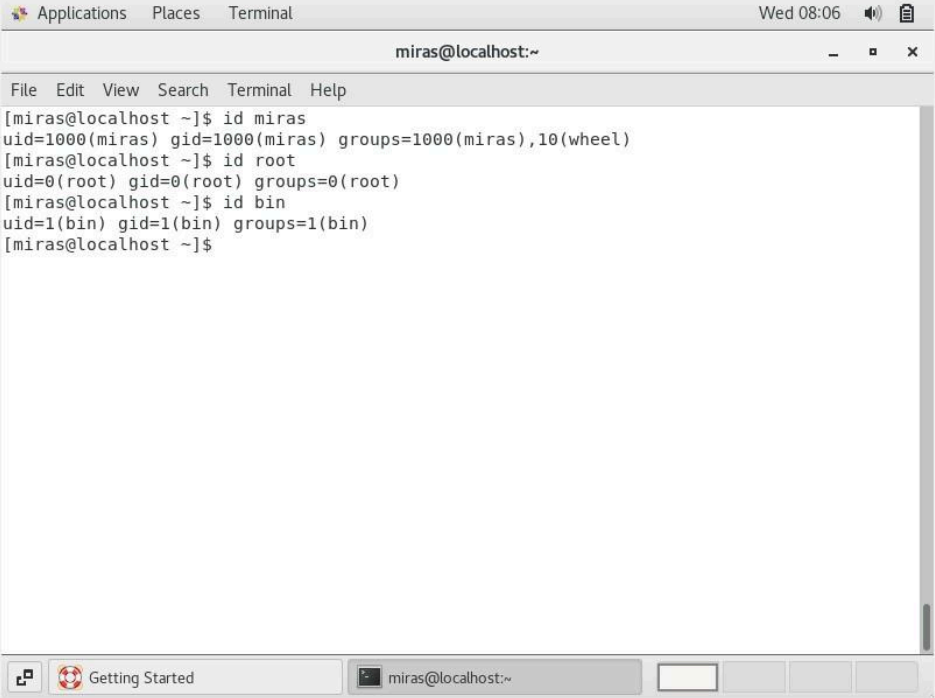
```
File Edit View Search Terminal Help
[~]$ awk -F: '{print $1}' /etc/passwd
root
bin
daemon
adm
lp
sync
shutdown
halt
mail
operator
games
ftp
nobody
systemd-network
dbus
polkitd
libstoragemgmt
colord
rpc
sane
saslauth
abrt
setroubleshoot
rtkit
pulse
```



```
File Edit View Search Terminal Help
[~]$ awk -F: '{print $1}' /etc/passwd
sane
saslauth
abrt
setroubleshoot
rtkit
pulse
chrony
unbound
radvd
tss
usbmuxd
geoclue
qemu
gluster
gdm
rpcuser
nfsnobody
gnome-initial-setup
sshd
avahi
postfix
ntp
tcpdump
mirus
[~]$
```

2) display user and group IDs.

Command - id miras

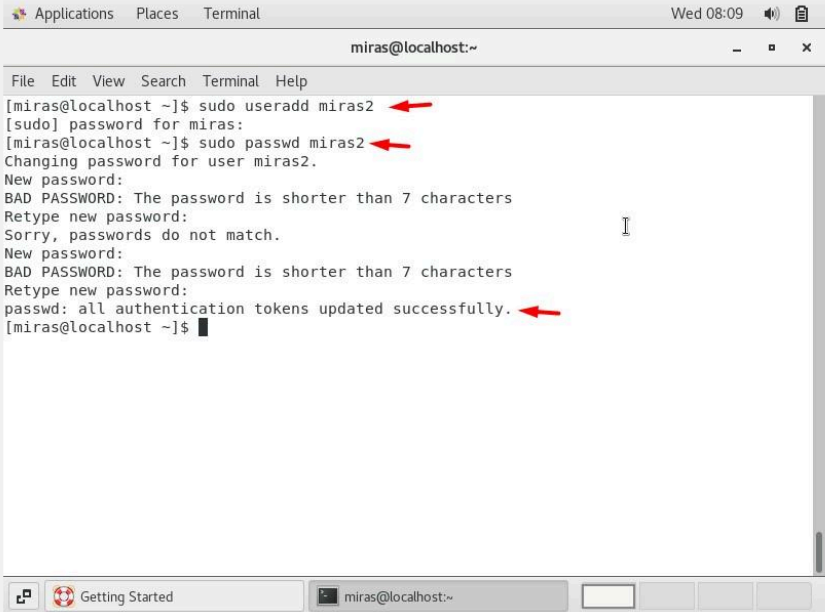


```
Applications  Places  Terminal  Wed 08:06
miras@localhost:~

File Edit View Search Terminal Help
[miras@localhost ~]$ id miras
uid=1000(miras) gid=1000(miras) groups=1000(miras),10(wheel)
[miras@localhost ~]$ id root
uid=0(root) gid=0(root) groups=0(root)
[miras@localhost ~]$ id bin
uid=1(bin) gid=1(bin) groups=1(bin)
[miras@localhost ~]$
```

3) add a user and assign a password to a user

useradd
passwd

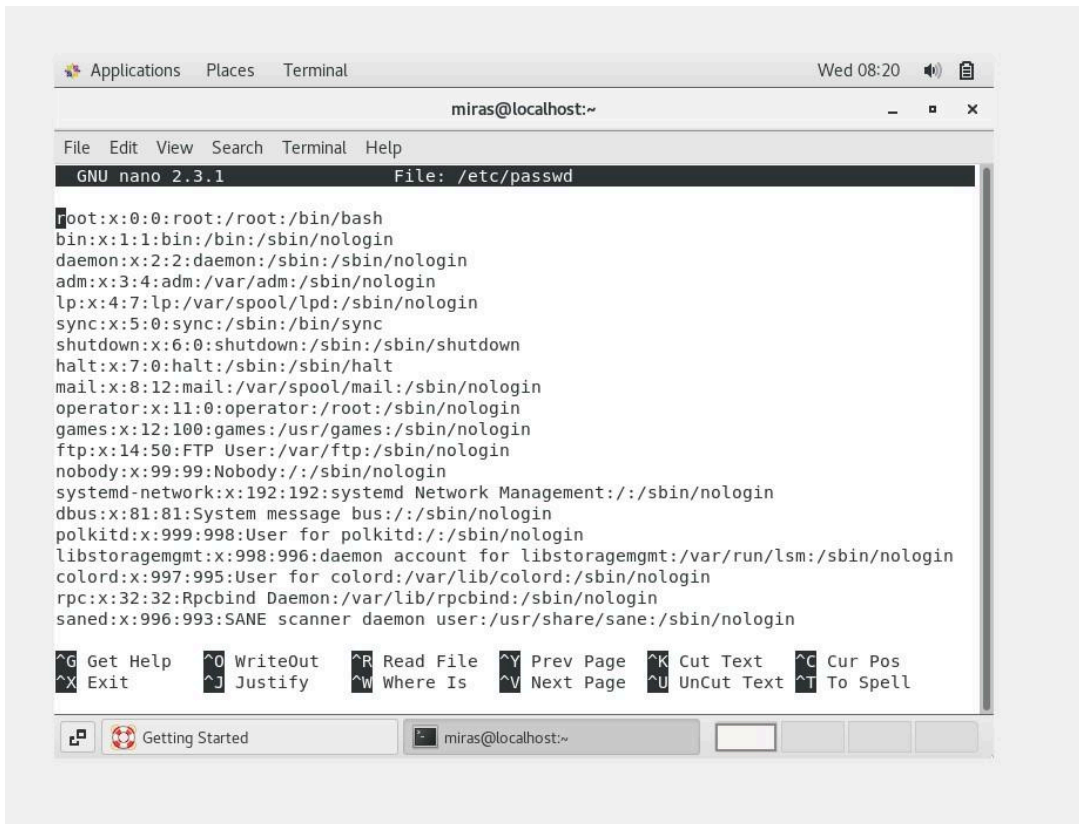


```
Applications  Places  Terminal  Wed 08:09
miras@localhost:~

File Edit View Search Terminal Help
[miras@localhost ~]$ sudo useradd miras2
[sudo] password for miras:
[miras@localhost ~]$ sudo passwd miras2
Changing password for user miras2.
New password:
BAD PASSWORD: The password is shorter than 7 characters
Retype new password:
Sorry, passwords do not match.
New password:
BAD PASSWORD: The password is shorter than 7 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[miras@localhost ~]$
```

4) accessing a user configuration file, what kind of information contains this file.

Command - nano /etc/passwd



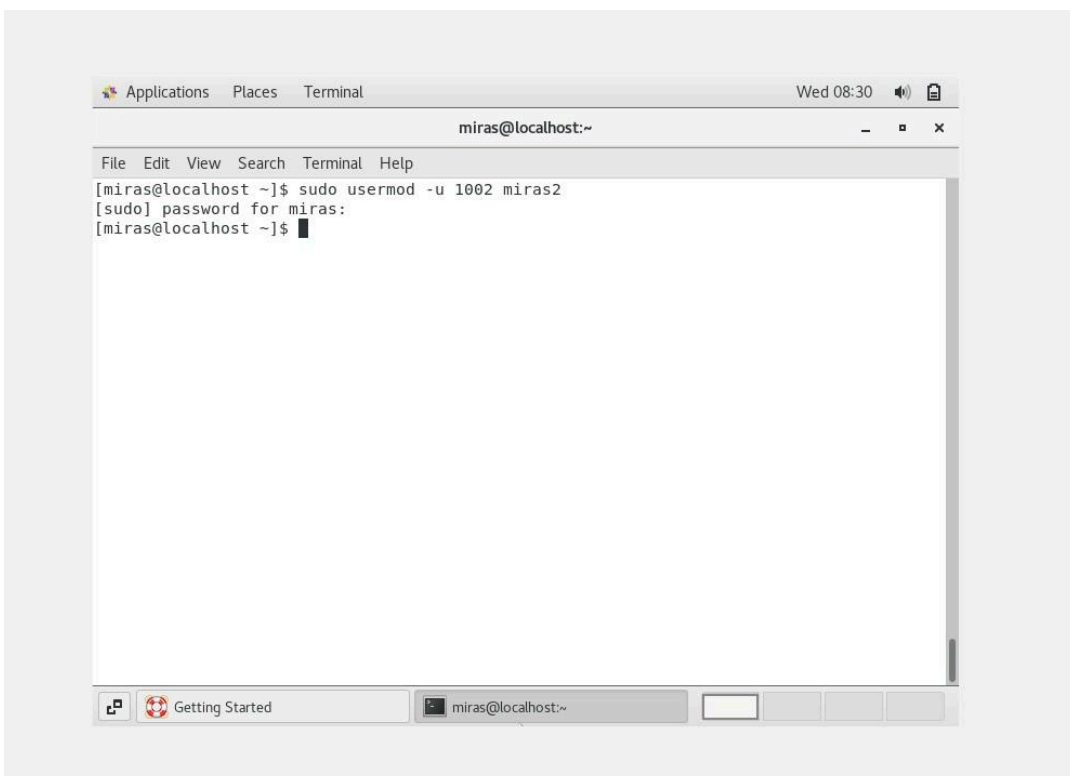
The screenshot shows a terminal window titled "miras@localhost:~" with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Getting Started, miras@localhost:~). The terminal is running the nano 2.3.1 editor, editing the file /etc/passwd. The file contains the following text:

```
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
daemon:x:2:2:daemon:/sbin:/sbin/nologin
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:99:99:Nobody:/:/sbin/nologin
systemd-network:x:192:192:systemd Network Management:/:/sbin/nologin
dbus:x:81:81:System message bus:/:/sbin/nologin
polkitd:x:999:998:User for polkitd:/:/sbin/nologin
libstoragemgmt:x:998:996:daemon account for libstoragemgmt:/var/run/lsm:/sbin/nologin
colord:x:997:995:User for colord:/var/lib/colord:/sbin/nologin
rpc:x:32:32:Rpcbind Daemon:/var/lib/rpcbind:/sbin/nologin
sane:x:996:993:SANE scanner daemon user:/usr/share/sane:/sbin/nologin
```

At the bottom of the editor, there is a row of keyboard shortcuts: ^G Get Help, ^O WriteOut, ^R Read File, ^Y Prev Page, ^K Cut Text, ^C Cur Pos, ^X Exit, ^J Justify, ^W Where Is, ^V Next Page, ^U UnCut Text, and ^T To Spell.

5) change the user ID for any user

Command - sudo usermod -u 1002 miras2

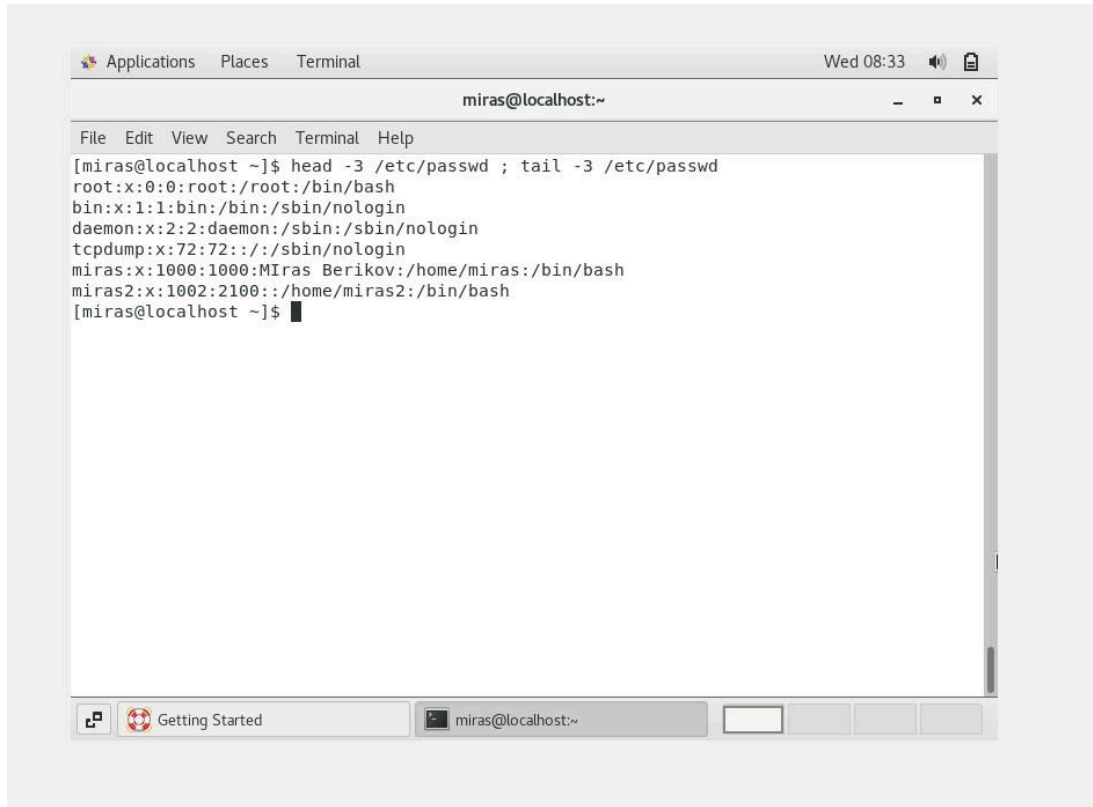


The screenshot shows a terminal window titled "miras@localhost:~" with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Getting Started, miras@localhost:~). The terminal shows the following commands and output:

```
[miras@localhost ~]$ sudo usermod -u 1002 miras2
[sudo] password for miras:
[miras@localhost ~]$
```

6) What is this commands and diffs between them:

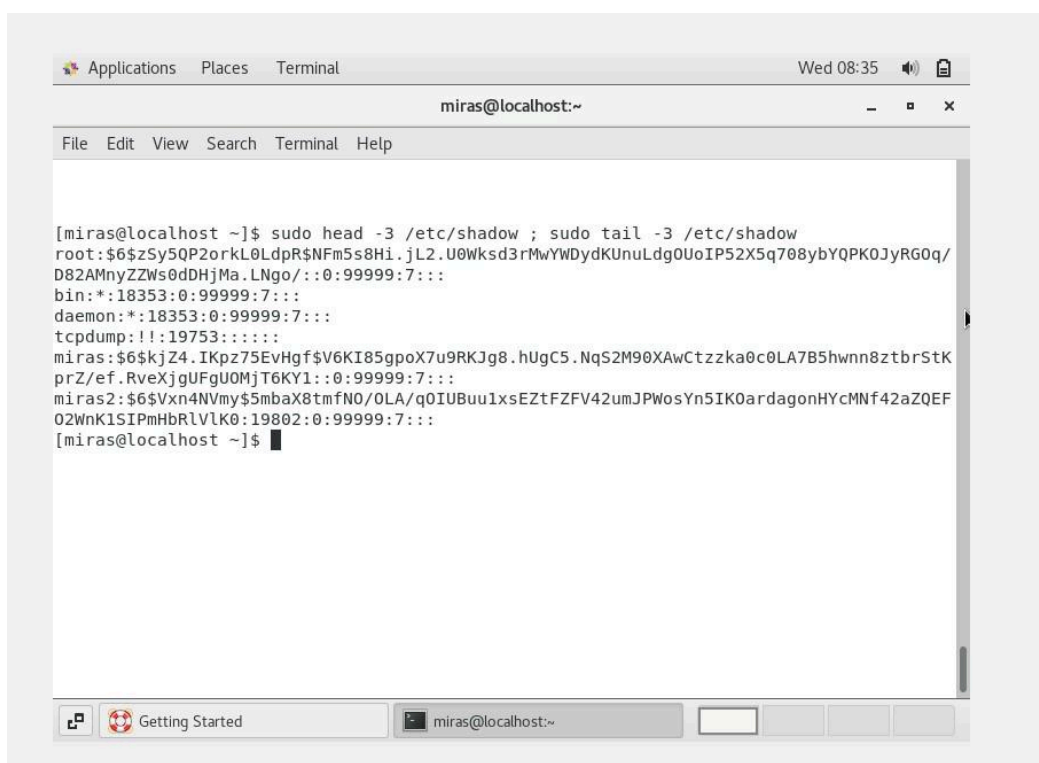
Command - `head -3 /etc/passwd ; tail -3 /etc/passwd`



A terminal window titled "miras@localhost:~" showing the execution of the command `head -3 /etc/passwd ; tail -3 /etc/passwd`. The output displays the first three and last three lines of the `/etc/passwd` file. The window includes a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar at the bottom with a "Getting Started" button and a taskbar showing the terminal icon.

```
[miras@localhost ~]$ head -3 /etc/passwd ; tail -3 /etc/passwd
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
daemon:x:2:2:daemon:/sbin:/sbin/nologin
tcpdump:x:72:72:./:/sbin/nologin
miras:x:1000:1000:MIras Berikov:/home/miras:/bin/bash
miras2:x:1002:2100:./home/miras2:/bin/bash
[miras@localhost ~]$
```

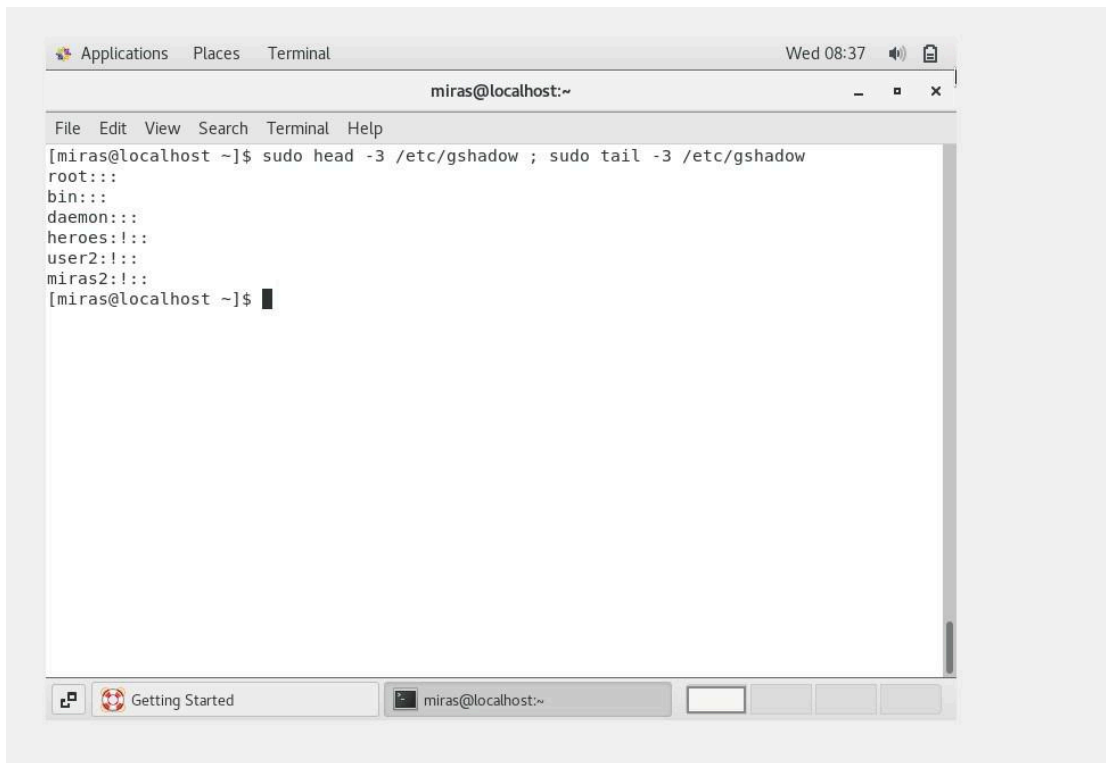
Command - `head -3 /etc/shadow ; tail -3 /etc/shadow`



A terminal window titled "miras@localhost:~" showing the execution of the command `sudo head -3 /etc/shadow ; sudo tail -3 /etc/shadow`. The output displays the first three and last three lines of the `/etc/shadow` file. The window includes a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar at the bottom with a "Getting Started" button and a taskbar showing the terminal icon.

```
[miras@localhost ~]$ sudo head -3 /etc/shadow ; sudo tail -3 /etc/shadow
root:$6$zSy5QP2orkL0LdpR$NFm5s8Hi.jL2.U0Wksd3rMwYWDydKUnuLdg0UoIP52X5q708ybYQPK0JyRG0q/
D82AMnyZZWs0dDHjMa.LNgo/::0:99999:7:::
bin:*.18353:0:99999:7:::
daemon:*.18353:0:99999:7:::
tcpdump:!!:19753:~::~:
miras:$6$kjZ4.IKpz75EvHgf$V6KI85gpoX7u9RKJg8.hUgC5.NqS2M90XAwCtzzka0c0LA7B5hwnn8ztbrStK
prZ/ef.RveXjgUFGU0MjT6KY1::0:99999:7:::
miras2:$6$Vxn4NVmy$5mbaX8tmfNO/OLA/q0IUBuu1xsEZtFZfV42umJPWosYn5IK0ardagonHYcMNf42aZQEF
02WnK1SIPmHbRlVlK0:19802:0:99999:7:::
[miras@localhost ~]$
```

Command - `head -3 /etc/gshadow ; tail -3 /etc/gshadow`

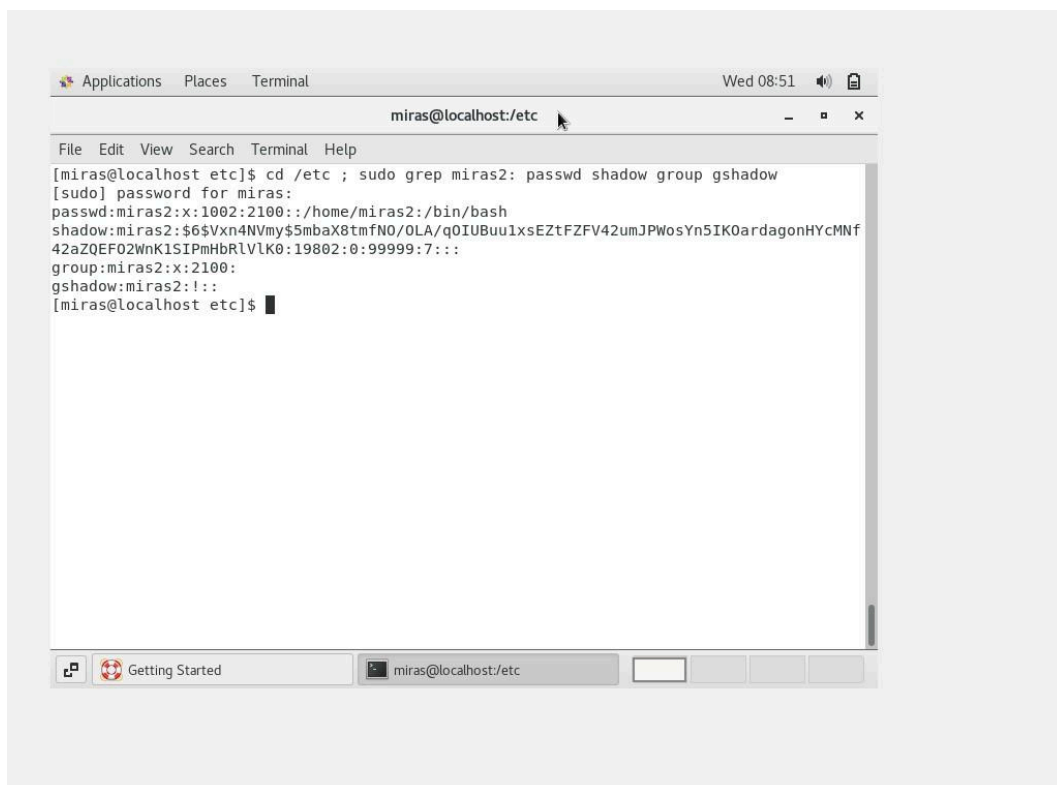


A terminal window titled "miras@localhost:~" with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Getting Started, miras@localhost:~). The terminal shows the command `sudo head -3 /etc/gshadow ; sudo tail -3 /etc/gshadow` being executed. The output lists the first three and last three lines of the `/etc/gshadow` file.

```
[miras@localhost ~]$ sudo head -3 /etc/gshadow ; sudo tail -3 /etc/gshadow
root:::
bin:::
daemon:::
heroes:!:
user2:!:
miras2:!:
[miras@localhost ~]$
```

7) grep any user: on the authentication files to examine what the useradd command has added:

Command - `cd /etc ; grep username: passwd shadow group gshadow`



A terminal window titled "miras@localhost:/etc" with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Getting Started, miras@localhost:/etc). The terminal shows the command `cd /etc ; sudo grep miras2: passwd shadow group gshadow` being executed. The output shows the password, shadow, group, and gshadow entries for the user `miras2`.

```
[miras@localhost etc]$ cd /etc ; sudo grep miras2: passwd shadow group gshadow
[sudo] password for miras:
passwd:miras2:x:1002:2100::/home/miras2:/bin/bash
shadow:miras2:$6$Vxn4NVmy$5mbaX8tmfN0/OLA/q0IUBuu1xsEZtFZfV42umJPWosYn5IK0ardagonHYcMnf
42aZQEF02WnK1SIPmHbRlVLK0:19802:0:99999:7:::
group:miras2:x:2100:
gshadow:miras2:!:
[miras@localhost etc]$
```

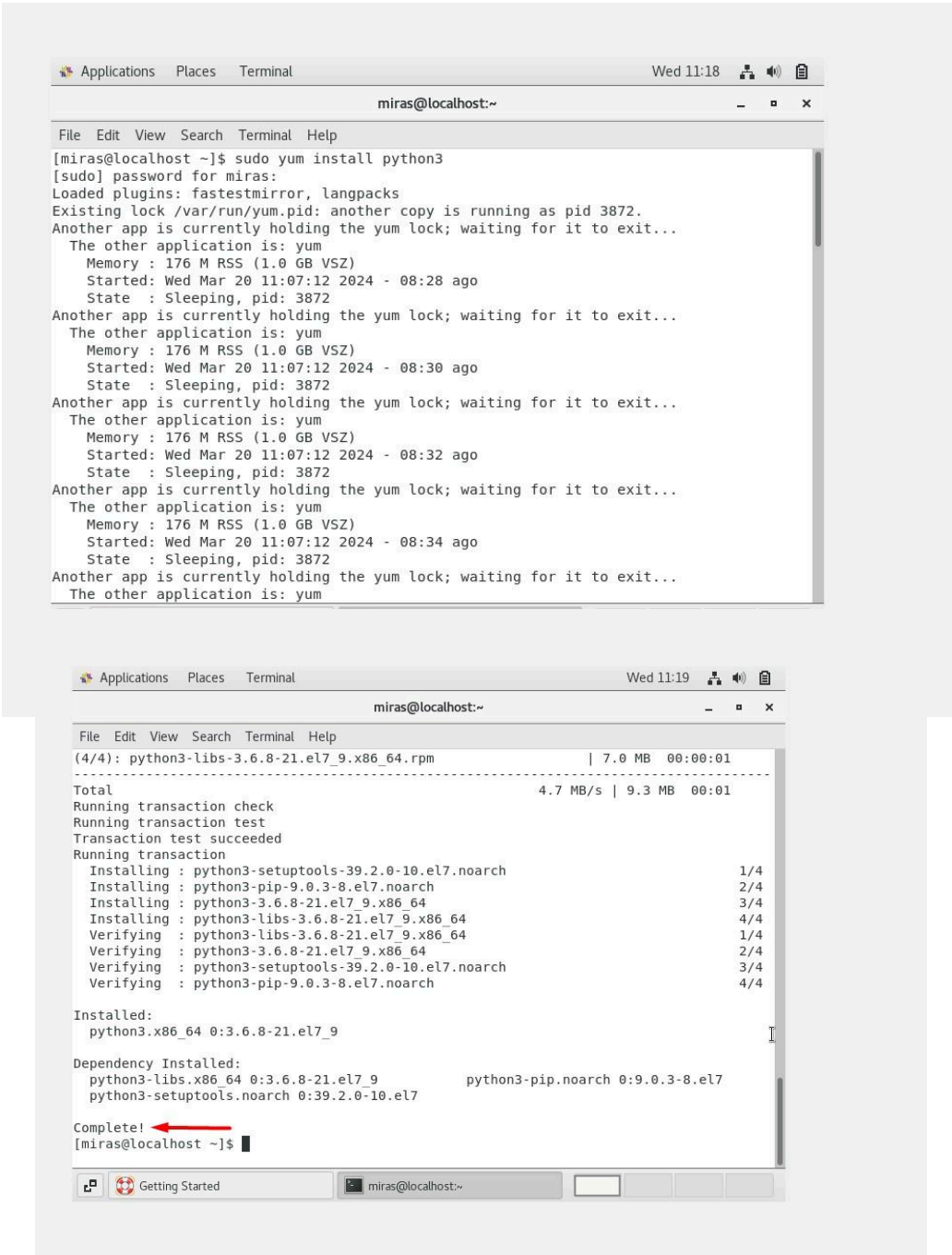
Chapter 9

1) What are YUM and RPM, what do they represent?

YUM and RPM are tools for managing software on Linux systems. YUM handles package management at a higher level, automating tasks like installing and updating packages, while RPM is used for installing individual packages. Together, they make managing software installations and updates easier on Linux.

2) Install a new package on the system, then Refresh the local package information to ensure that you have the latest information about available packages.

Commands - 1. `sudo yum install python3` 2. `sudo yum update`



The image displays two terminal windows from a Linux system, showing the execution of YUM commands. The top window shows the command `sudo yum install python3` being executed. It prompts for a password and then displays a series of messages indicating that the yum lock is held by another process (pid 3872) and that the process is sleeping. The bottom window shows the output of `sudo yum update`. It lists the packages to be updated, including `python3-libs-3.6.8-21.el7_9.x86_64.rpm`, and shows the progress of the transaction. The output includes a progress bar for the total transaction, a list of packages being installed and verified, and a final "Complete!" message with a red arrow pointing to it.

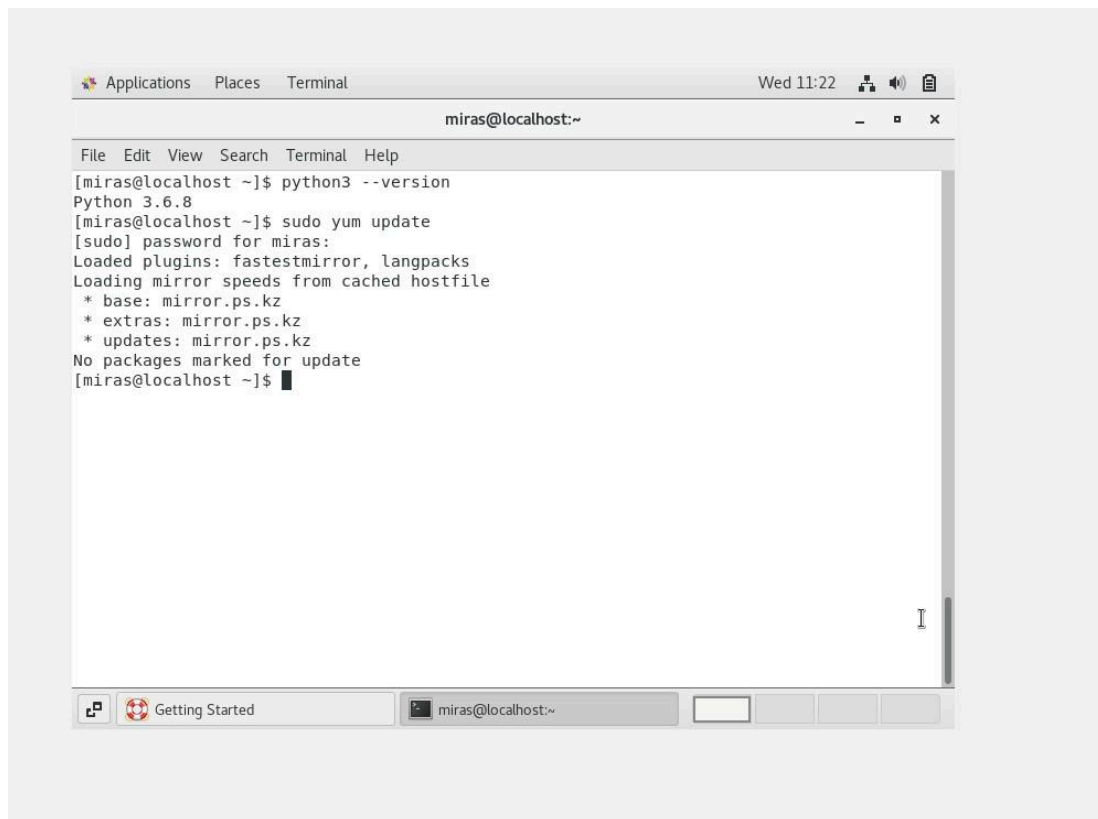
```
[miras@localhost ~]$ sudo yum install python3
[sudo] password for miras:
Loaded plugins: fastestmirror, langpacks
Existing lock /var/run/yum.pid: another copy is running as pid 3872.
Another app is currently holding the yum lock; waiting for it to exit...
  The other application is: yum
    Memory : 176 M RSS (1.0 GB VSZ)
    Started: Wed Mar 20 11:07:12 2024 - 08:28 ago
    State : Sleeping, pid: 3872
Another app is currently holding the yum lock; waiting for it to exit...
  The other application is: yum
    Memory : 176 M RSS (1.0 GB VSZ)
    Started: Wed Mar 20 11:07:12 2024 - 08:30 ago
    State : Sleeping, pid: 3872
Another app is currently holding the yum lock; waiting for it to exit...
  The other application is: yum
    Memory : 176 M RSS (1.0 GB VSZ)
    Started: Wed Mar 20 11:07:12 2024 - 08:32 ago
    State : Sleeping, pid: 3872
Another app is currently holding the yum lock; waiting for it to exit...
  The other application is: yum
    Memory : 176 M RSS (1.0 GB VSZ)
    Started: Wed Mar 20 11:07:12 2024 - 08:34 ago
    State : Sleeping, pid: 3872
Another app is currently holding the yum lock; waiting for it to exit...
  The other application is: yum

(4/4): python3-libs-3.6.8-21.el7_9.x86_64.rpm | 7.0 MB 00:00:01
-----
Total                                         4.7 MB/s | 9.3 MB 00:01
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : python3-setuptools-39.2.0-10.el7.noarch 1/4
  Installing : python3-pip-9.0.3-8.el7.noarch          2/4
  Installing : python3-3.6.8-21.el7_9.x86_64          3/4
  Installing : python3-libs-3.6.8-21.el7_9.x86_64     4/4
  Verifying   : python3-libs-3.6.8-21.el7_9.x86_64    1/4
  Verifying   : python3-3.6.8-21.el7_9.x86_64        2/4
  Verifying   : python3-setuptools-39.2.0-10.el7.noarch 3/4
  Verifying   : python3-pip-9.0.3-8.el7.noarch        4/4

Installed:
python3.x86_64 0:3.6.8-21.el7_9

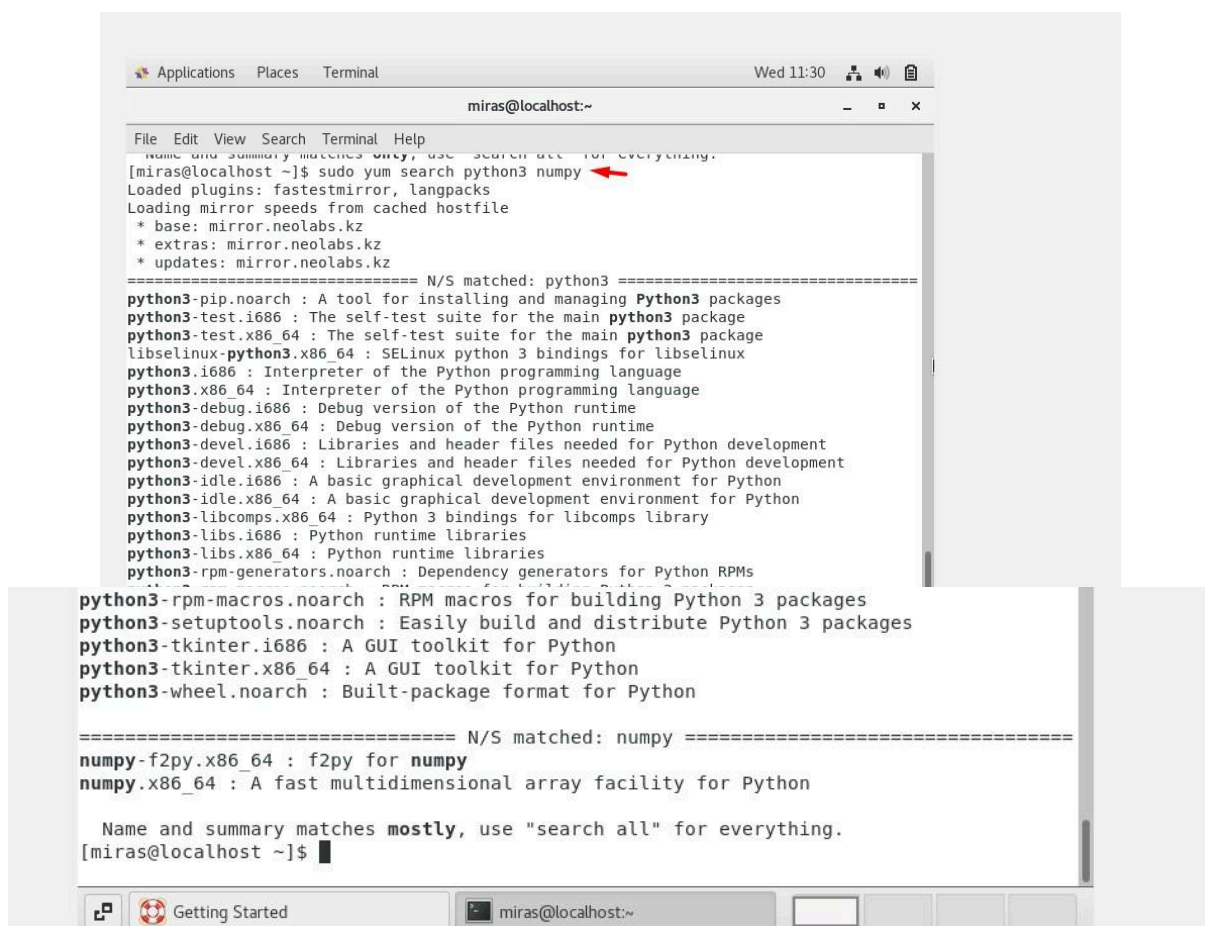
Dependency Installed:
python3-libs.x86_64 0:3.6.8-21.el7_9 python3-pip.noarch 0:9.0.3-8.el7
python3-setuptools.noarch 0:39.2.0-10.el7

Complete!
[miras@localhost ~]$
```



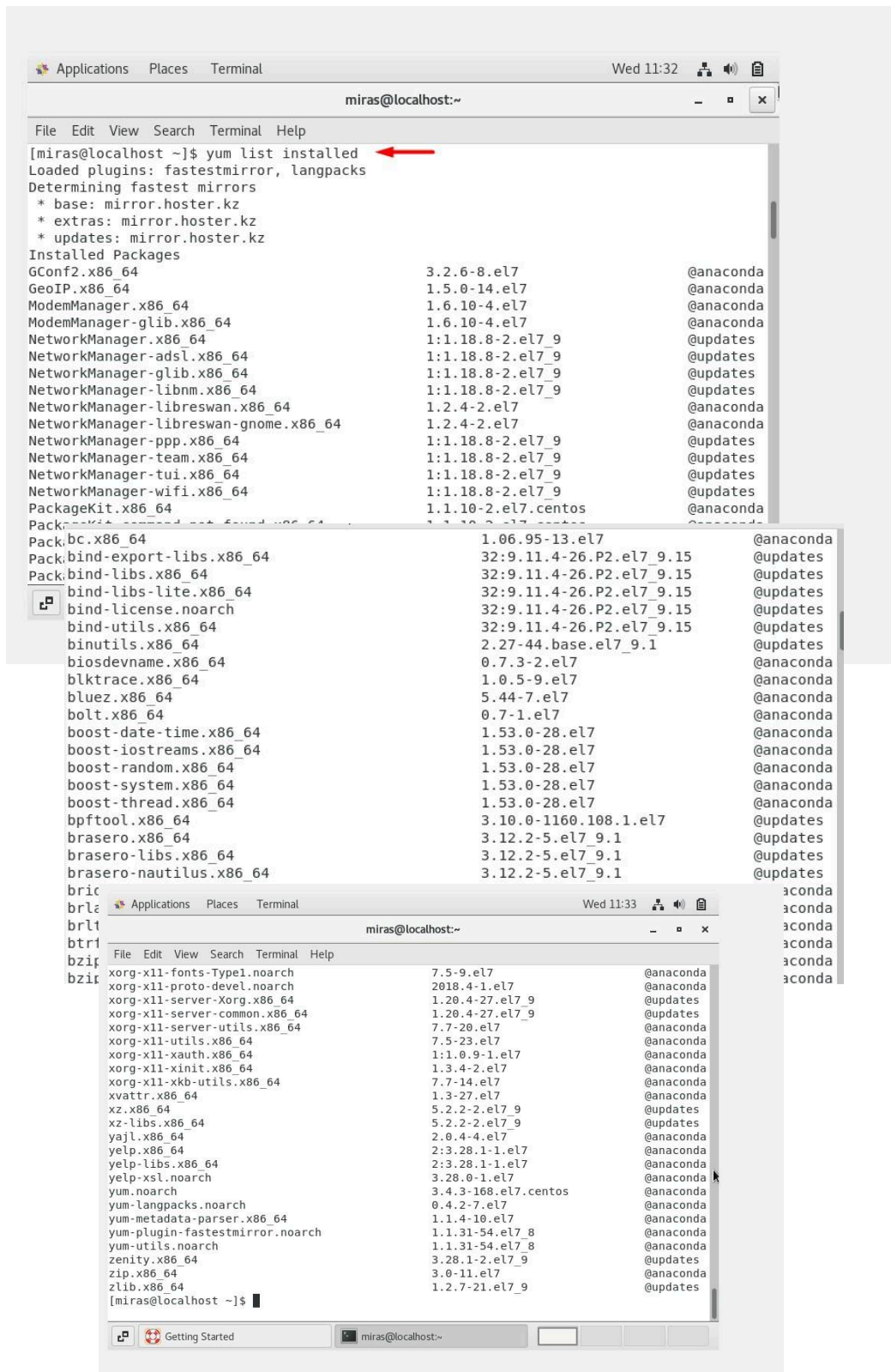
3) Search for packages based on keywords

Command - `sudo yum search python3 numpy`



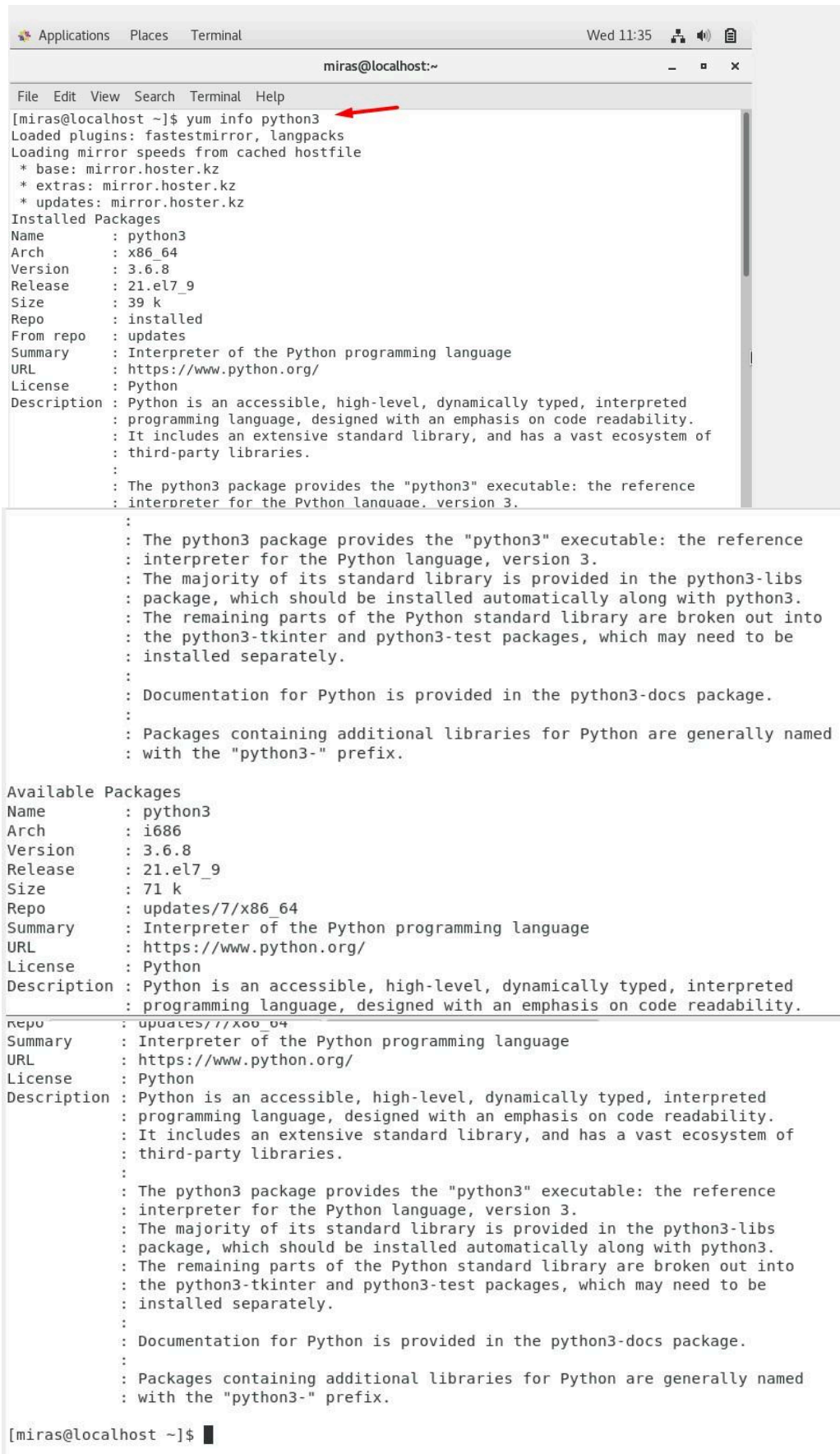
4) Display a list of all installed packages on the system

Command - yum list installed



5) Show Information about a Package. Retrieve detailed information about a specific package

Command - `yum info python3`



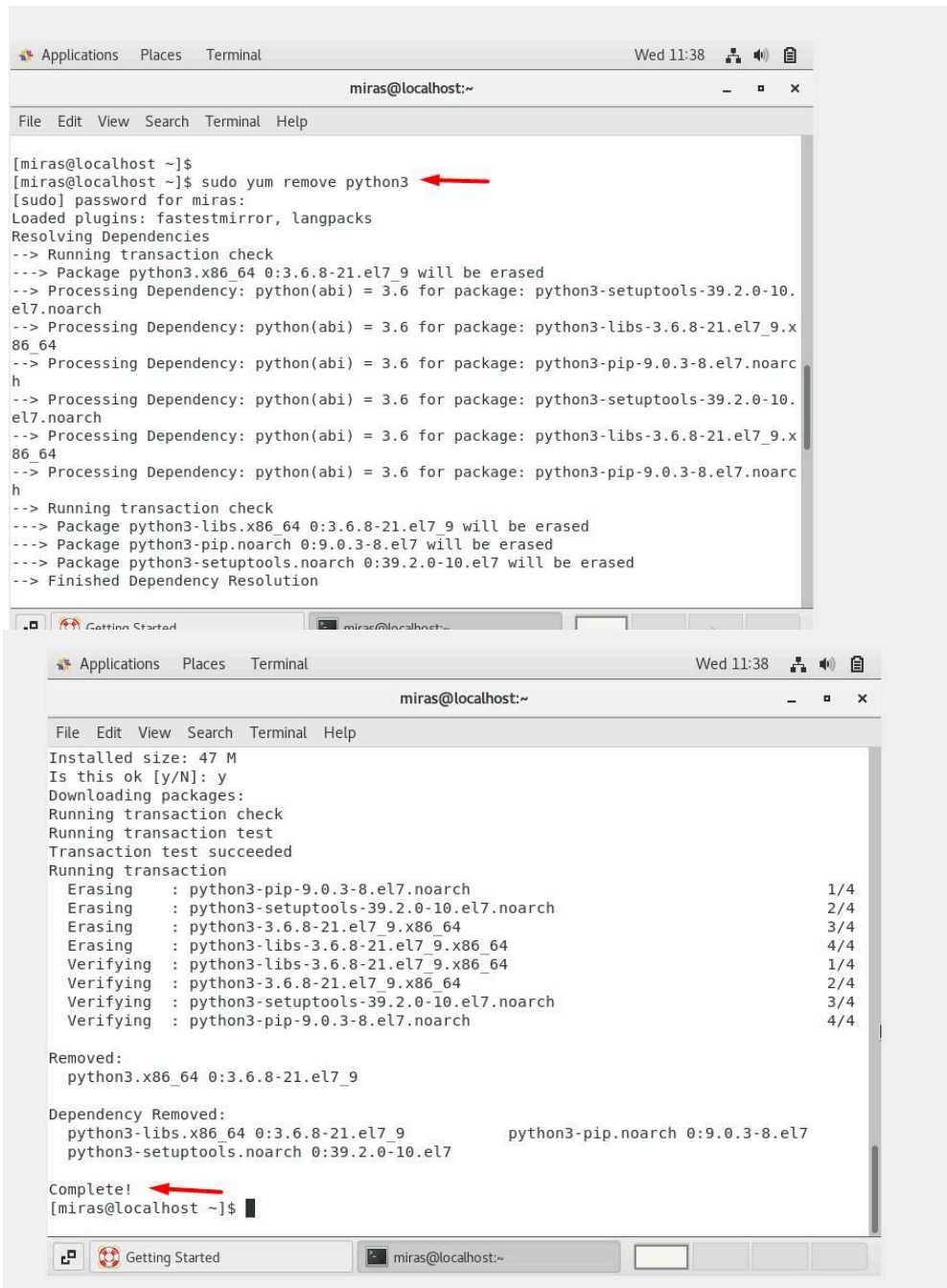
```
Applications Places Terminal Wed 11:35
miras@localhost:~
File Edit View Search Terminal Help
[miras@localhost ~]$ yum info python3
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: mirror.hoster.kz
 * extras: mirror.hoster.kz
 * updates: mirror.hoster.kz
Installed Packages
Name       : python3
Arch       : x86_64
Version    : 3.6.8
Release    : 21.el7_9
Size       : 39 k
Repo       : installed
From repo  : updates
Summary    : Interpreter of the Python programming language
URL        : https://www.python.org/
License    : Python
Description : Python is an accessible, high-level, dynamically typed, interpreted
            : programming language, designed with an emphasis on code readability.
            : It includes an extensive standard library, and has a vast ecosystem of
            : third-party libraries.
            :
            : The python3 package provides the "python3" executable: the reference
            : interpreter for the Python language, version 3.
            :
            : The python3 package provides the "python3" executable: the reference
            : interpreter for the Python language, version 3.
            : The majority of its standard library is provided in the python3-libs
            : package, which should be installed automatically along with python3.
            : The remaining parts of the Python standard library are broken out into
            : the python3-tkinter and python3-test packages, which may need to be
            : installed separately.
            :
            : Documentation for Python is provided in the python3-docs package.
            :
            : Packages containing additional libraries for Python are generally named
            : with the "python3-" prefix.

Available Packages
Name       : python3
Arch       : i686
Version    : 3.6.8
Release    : 21.el7_9
Size       : 71 k
Repo       : updates/7/x86_64
Summary    : Interpreter of the Python programming language
URL        : https://www.python.org/
License    : Python
Description : Python is an accessible, high-level, dynamically typed, interpreted
            : programming language, designed with an emphasis on code readability.
            :
            : updates/7/x86_64
            : Summary    : Interpreter of the Python programming language
            : URL        : https://www.python.org/
            : License    : Python
            : Description : Python is an accessible, high-level, dynamically typed, interpreted
            : programming language, designed with an emphasis on code readability.
            : It includes an extensive standard library, and has a vast ecosystem of
            : third-party libraries.
            :
            : The python3 package provides the "python3" executable: the reference
            : interpreter for the Python language, version 3.
            : The majority of its standard library is provided in the python3-libs
            : package, which should be installed automatically along with python3.
            : The remaining parts of the Python standard library are broken out into
            : the python3-tkinter and python3-test packages, which may need to be
            : installed separately.
            :
            : Documentation for Python is provided in the python3-docs package.
            :
            : Packages containing additional libraries for Python are generally named
            : with the "python3-" prefix.

[miras@localhost ~]$
```

6) Remove a Package

Command - `sudo yum remove python3`



The image shows two screenshots of a terminal window on a Linux system. The top screenshot shows the command `sudo yum remove python3` being executed. The output shows the resolution of dependencies and the packages to be removed. The bottom screenshot shows the final steps of the removal process, including the transaction test and the packages being erased.

```
[miras@localhost ~]$  
[miras@localhost ~]$ sudo yum remove python3  
[sudo] password for miras:  
Loaded plugins: fastestmirror, langpacks  
Resolving Dependencies  
--> Running transaction check  
--> Package python3.x86_64 0:3.6.8-21.el7_9 will be erased  
--> Processing Dependency: python(ab) = 3.6 for package: python3-setuptools-39.2.0-10.el7.noarch  
--> Processing Dependency: python(ab) = 3.6 for package: python3-libs-3.6.8-21.el7_9.x86_64  
--> Processing Dependency: python(ab) = 3.6 for package: python3-pip-9.0.3-8.el7.noarch  
--> Processing Dependency: python(ab) = 3.6 for package: python3-setuptools-39.2.0-10.el7.noarch  
--> Processing Dependency: python(ab) = 3.6 for package: python3-libs-3.6.8-21.el7_9.x86_64  
--> Processing Dependency: python(ab) = 3.6 for package: python3-pip-9.0.3-8.el7.noarch  
--> Running transaction check  
--> Package python3-libs.x86_64 0:3.6.8-21.el7_9 will be erased  
--> Package python3-pip.noarch 0:9.0.3-8.el7 will be erased  
--> Package python3-setuptools.noarch 0:39.2.0-10.el7 will be erased  
--> Finished Dependency Resolution  
  
Installed size: 47 M  
Is this ok [y/N]: y  
Downloading packages:  
Running transaction check  
Running transaction test  
Transaction test succeeded  
Running transaction  
Erasing : python3-pip-9.0.3-8.el7.noarch 1/4  
Erasing : python3-setuptools-39.2.0-10.el7.noarch 2/4  
Erasing : python3-3.6.8-21.el7_9.x86_64 3/4  
Erasing : python3-libs-3.6.8-21.el7_9.x86_64 4/4  
Verifying : python3-libs-3.6.8-21.el7_9.x86_64 1/4  
Verifying : python3-3.6.8-21.el7_9.x86_64 2/4  
Verifying : python3-setuptools-39.2.0-10.el7.noarch 3/4  
Verifying : python3-pip-9.0.3-8.el7.noarch 4/4  
  
Removed:  
python3.x86_64 0:3.6.8-21.el7_9  
  
Dependency Removed:  
python3-libs.x86_64 0:3.6.8-21.el7_9 python3-pip.noarch 0:9.0.3-8.el7  
python3-setuptools.noarch 0:39.2.0-10.el7  
  
Complete!  
[miras@localhost ~]$
```

7) Install a group of related packages, such as development tools or graphical environments.

Command - `sudo yum groupinstall "Development Tools"`

```
Applications  Places  Terminal  Wed 11:45

miras@localhost:~

File Edit View Search Terminal Help

[miras@localhost ~]$ sudo yum groupinstall "Development Tools"
[sudo] password for miras:
Loaded plugins: fastestmirror, langpacks
There is no installed groups file.
Maybe run: yum groups mark convert (see man yum)
Loading mirror speeds from cached hostfile
 * base: mirror.neolabs.kz
 * extras: mirror.neolabs.kz
 * updates: mirror.neolabs.kz
Resolving Dependencies
--> Running transaction check
--> Package autoconf.noarch 0:2.69-11.el7 will be installed
--> Processing Dependency: m4 >= 1.4.14 for package: autoconf-2.69-11.el7.noarch
--> Package automake.noarch 0:1.13.4-3.el7 will be installed
--> Processing Dependency: perl(Thread::Queue) for package: automake-1.13.4-3.el7.noarch
--> Processing Dependency: perl(TAP::Parser) for package: automake-1.13.4-3.el7.noarch
--> Package bison.x86_64 0:3.0.4-2.el7 will be installed
--> Package byacc.x86_64 0:1.9.20130304-3.el7 will be installed
--> Package cscope.x86_64 0:15.8-10.el7 will be installed
--> Package ctags.x86_64 0:5.8-13.el7 will be installed
--> Package diffstat.x86_64 0:1.57-4.el7 will be installed
--> Package doxygen.x86_64 1:1.8.5-4.el7 will be installed
--> Package flex.x86_64 0:2.5.37-6.el7 will be installed
--> Package gcc.x86_64 0:4.8.5-44.el7 will be installed
--> Processing Dependency: gcc-c++-4.8.5-44.el7 for package: gcc-4.8.5-44.el7.x86_64

Install 25 Packages (+26 Dependent packages)

Total download size: 90 M
Installed size: 223 M
Is this ok [y/d/N]: y
Downloading packages:
(1/51): apr-util-1.5.2-6.el7_9.1.x86_64.rpm | 92 kB 00:00:00
(2/51): apr-1.4.8-7.el7.x86_64.rpm | 104 kB 00:00:00
(3/51): autoconf-2.69-11.el7.noarch.rpm | 701 kB 00:00:00
(4/51): bison-3.0.4-2.el7.x86_64.rpm | 674 kB 00:00:00
(5/51): automake-1.13.4-3.el7.noarch.rpm | 679 kB 00:00:00
(6/51): byacc-1.9.20130304-3.el7.x86_64.rpm | 65 kB 00:00:00
(7/51): cscope-15.8-10.el7.x86_64.rpm | 203 kB 00:00:00
(8/51): ctags-5.8-13.el7.x86_64.rpm | 155 kB 00:00:00
(9/51): diffstat-1.57-4.el7.x86_64.rpm | 35 kB 00:00:00
(10/51): doxygen-1.8.5-4.el7.x86_64.rpm | 3.6 MB 00:00:01
(11/51): dwz-0.11-3.el7.x86_64.rpm | 99 kB 00:00:00
(12/51): flex-2.5.37-6.el7.x86_64.rpm | 293 kB 00:00:00
(13/51): cpp-4.8.5-44.el7.x86_64.rpm | 5.9 MB 00:00:02
(14/51): gcc-c++-4.8.5-44.el7.x86_64.rpm | 7.2 MB 00:00:03
(15/51): gcc-gfortran-4.8.5-44.el7.x86_64.rpm | 6.7 MB 00:00:02
(16/51): gcc-4.8.5-44.el7.x86_64.rpm | 16 MB 00:00:05
(17/51): gettext-common-devel-0.19.8.1-3.el7.noarch.rpm | 410 kB 00:00:00
(18/51): gettext-devel-0.19.8.1-3.el7.x86_64.rpm | 320 kB 00:00:00
(19/51): indent-2.2.11-13.el7.x86_64.rpm | 150 kB 00:00:00
(20/51): intltool-0.50.2-7.el7.noarch.rpm | 59 kB 00:00:00
```

```
Installed:
autoconf.noarch 0:2.69-11.el7
bison.x86_64 0:3.0.4-2.el7
cscope.x86_64 0:15.8-10.el7
diffstat.x86_64 0:1.57-4.el7
flex.x86_64 0:2.5.37-6.el7
gcc-c++.x86_64 0:4.8.5-44.el7
git.x86_64 0:1.8.3.1-25.el7_9
intltool.noarch 0:0.50.2-7.el7
patch.x86_64 0:2.7.1-12.el7_7
rcs.x86_64 0:5.9.0-7.el7
rpm-build.x86_64 0:4.11.3-48.el7_9
subversion.x86_64 0:1.7.14-16.el7
systemtap.x86_64 0:4.0-13.el7

automake.noarch 0:1.13.4-3.el7
byacc.x86_64 0:1.9.20130304-3.el7
ctags.x86_64 0:5.8-13.el7
doxygen.x86_64 1:1.8.5-4.el7
gcc.x86_64 0:4.8.5-44.el7
gcc-gfortran.x86_64 0:4.8.5-44.el7
indent.x86_64 0:2.2.11-13.el7
libtool.x86_64 0:2.4.2-22.el7_3
patchutils.x86_64 0:0.3.3-5.el7_9
redhat-rpm-config.noarch 0:9.1.0-88.el7_9
rpm-sign.x86_64 0:4.11.3-48.el7_9
swig.x86_64 0:2.0.10-5.el7

Dependency Installed:
apr.x86_64 0:1.4.8-7.el7
apr-util.x86_64 0:1.5.2-6.el7_9.1
cpp.x86_64 0:4.8.5-44.el7
dwz.x86_64 0:0.11-3.el7
gettext-common-devel.noarch 0:0.19.8.1-3.el7
gettext-devel.x86_64 0:0.19.8.1-3.el7
glibc-devel.x86_64 0:2.17-326.el7_9
glibc-headers.x86_64 0:2.17-326.el7_9
kernel-debug-devel.x86_64 0:3.10.0-1160.108.1.el7
```

```
Applications  Places  Terminal  Wed 11:47

miras@localhost:~

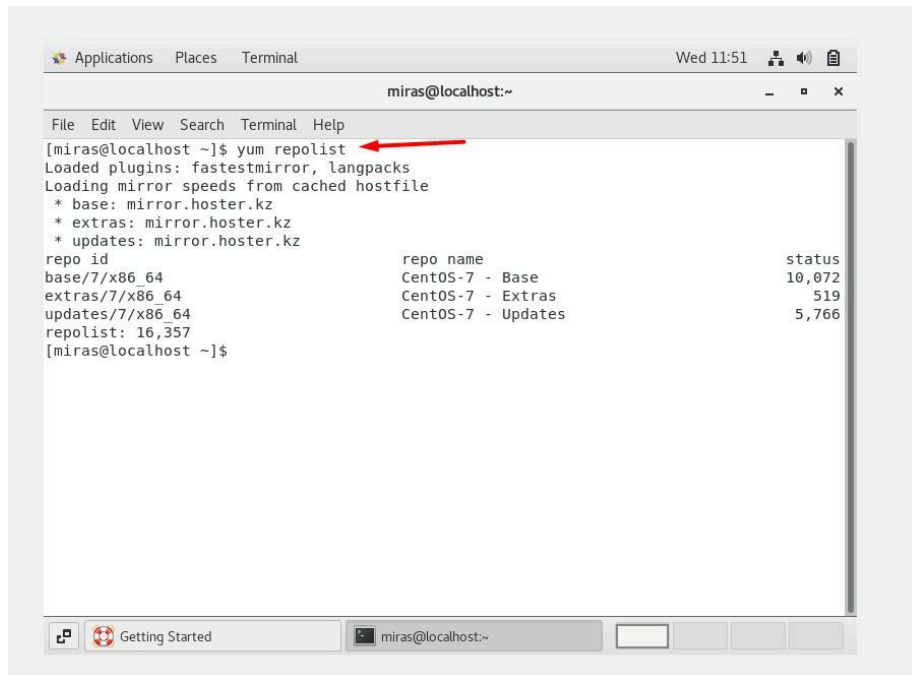
File Edit View Search Terminal Help

gettext-common-devel.noarch 0:0.19.8.1-3.el7
gettext-devel.x86_64 0:0.19.8.1-3.el7
glibc-devel.x86_64 0:2.17-326.el7_9
glibc-headers.x86_64 0:2.17-326.el7_9
kernel-debug-devel.x86_64 0:3.10.0-1160.108.1.el7
kernel-headers.x86_64 0:3.10.0-1160.108.1.el7
libgfortran.x86_64 0:4.8.5-44.el7
libquadmath.x86_64 0:4.8.5-44.el7
libquadmath-devel.x86_64 0:4.8.5-44.el7
libstdc++.devel.x86_64 0:4.8.5-44.el7
m4.x86_64 0:1.4.16-10.el7
perl-Error.noarch 1:0.17020-2.el7
perl-Git.noarch 0:1.8.3.1-25.el7_9
perl-TermReadKey.x86_64 0:2.30-20.el7
perl-Test-Harness.noarch 0:3.28-3.el7
perl-Thread-Queue.noarch 0:3.02-2.el7
perl-XML-Parser.x86_64 0:2.41-10.el7
perl-srpm-macros.noarch 0:1-8.el7
python-srpm-macros.noarch 0:3-34.el7
subversion-libs.x86_64 0:1.7.14-16.el7
systemtap-client.x86_64 0:4.0-13.el7
systemtap-devel.x86_64 0:4.0-13.el7

Complete!
[miras@localhost ~]$
```

8) Display a list of enabled repositories on the system.

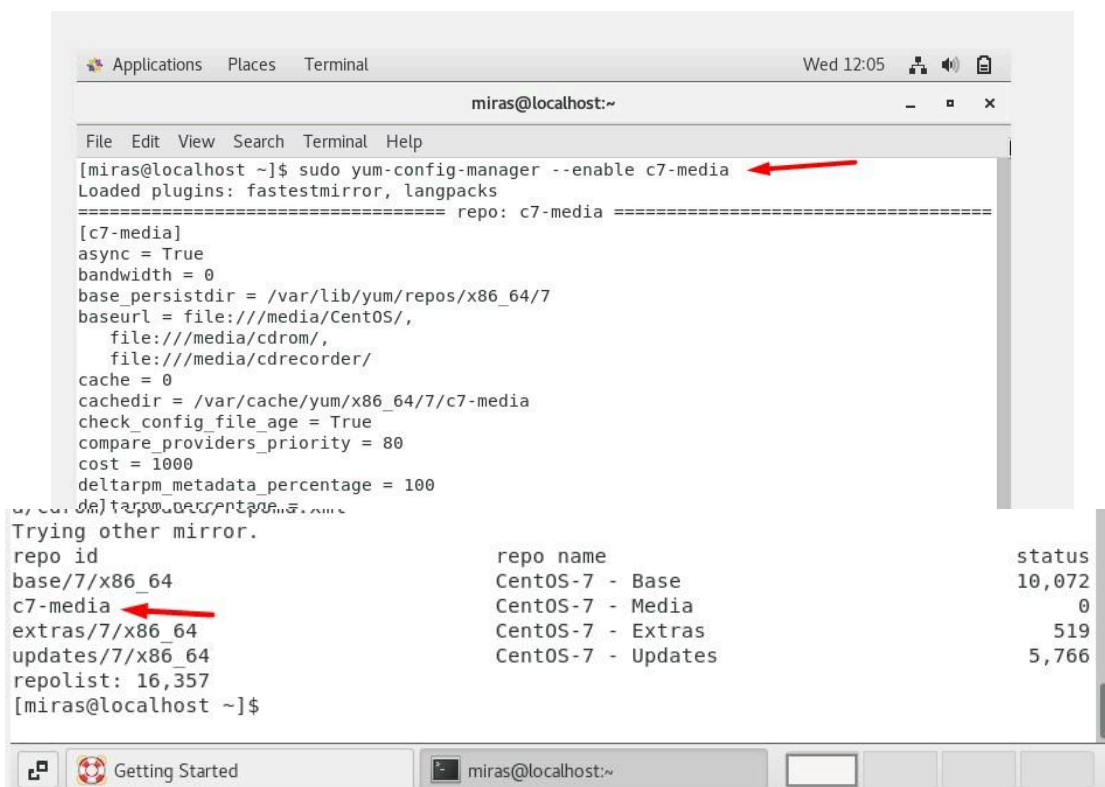
Command - `yum repolist`



```
File Edit View Search Terminal Help
[miras@localhost ~]$ yum repolist
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
* base: mirror.hoster.kz
* extras: mirror.hoster.kz
* updates: mirror.hoster.kz
repo id                                repo name                                status
base/7/x86_64                          CentOS-7 - Base                          10,072
extras/7/x86_64                        CentOS-7 - Extras                        519
updates/7/x86_64                       CentOS-7 - Updates                      5,766
repolist: 16,357
[miras@localhost ~]$
```

9) Enable or disable a specific repository

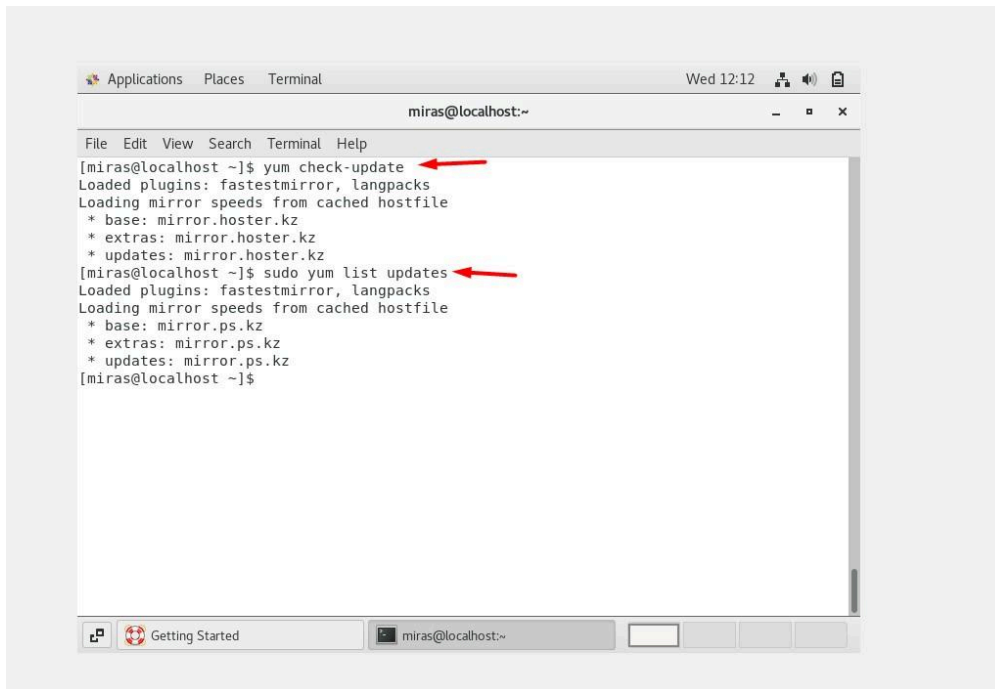
Command - 1. `sudo yum-config-manager --enable c7-media` 2. `yum repolist`



```
File Edit View Search Terminal Help
[miras@localhost ~]$ sudo yum-config-manager --enable c7-media
Loaded plugins: fastestmirror, langpacks
===== repo: c7-media =====
[c7-media]
async = True
bandwidth = 0
base_persistdir = /var/lib/yum/repos/x86_64/7
baseurl = file:///media/CentOS/,
         file:///media/cdrom/,
         file:///media/cdrecorder/
cache = 0
cachedir = /var/cache/yum/x86_64/7/c7-media
check_config_file_age = True
compare_providers_priority = 80
cost = 1000
deltarpm_metadata_percentage = 100
Trying other mirror.
repo id                                repo name                                status
base/7/x86_64                          CentOS-7 - Base                          10,072
c7-media                               CentOS-7 - Media                         0
extras/7/x86_64                        CentOS-7 - Extras                        519
updates/7/x86_64                       CentOS-7 - Updates                      5,766
repolist: 16,357
[miras@localhost ~]$
```


10) Check for updates without actually installing them

Commands - 1. yum check-update 2. sudo yum list updates



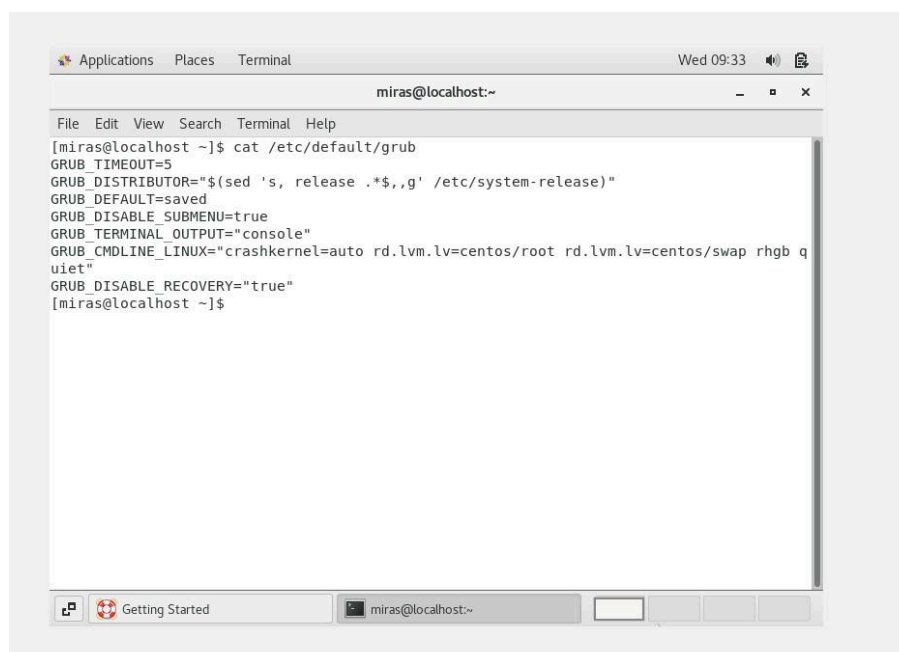
A terminal window titled 'miras@localhost:~' showing the output of two yum commands. The first command, 'yum check-update', is highlighted with a red arrow. The second command, 'sudo yum list updates', is also highlighted with a red arrow. The output shows the loaded plugins (fastestmirror, langpacks) and the mirror speeds from the cached hostfile. The first command shows updates for base, extras, and updates repositories from mirror.hoster.kz. The second command shows updates for base, extras, and updates repositories from mirror.ps.kz.

```
[miras@localhost ~]$ yum check-update
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
* base: mirror.hoster.kz
* extras: mirror.hoster.kz
* updates: mirror.hoster.kz
[miras@localhost ~]$ sudo yum list updates
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
* base: mirror.ps.kz
* extras: mirror.ps.kz
* updates: mirror.ps.kz
[miras@localhost ~]$
```

Chapter 11

1) View the Grub configuration file to see the settings.

Command - cat /etc/default/grub

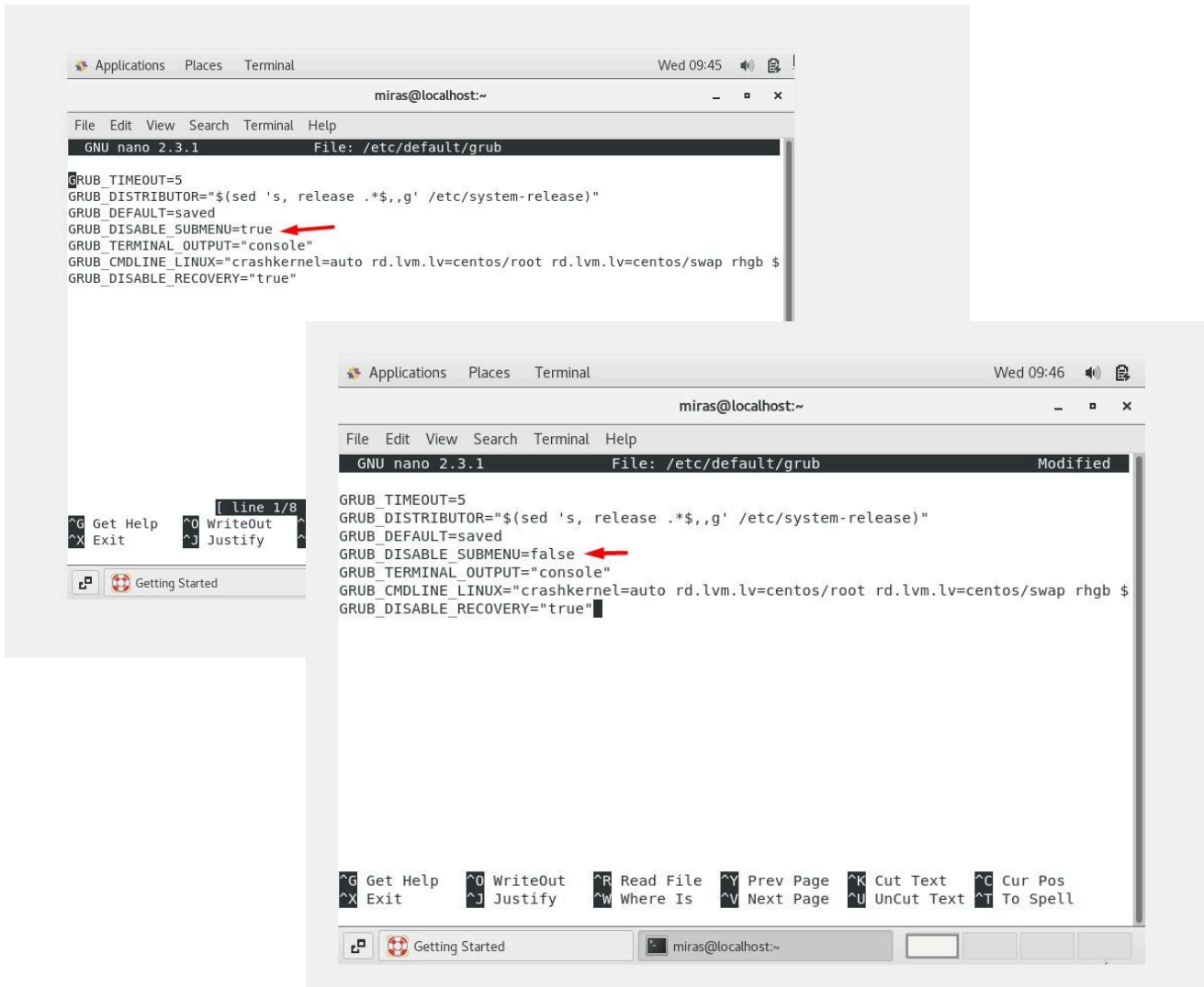


A terminal window titled 'miras@localhost:~' showing the output of the 'cat /etc/default/grub' command. The output displays the contents of the grub configuration file, including settings for GRUB_TIMEOUT, GRUB_DISTRIBUTOR, GRUB_DEFAULT, GRUB_DISABLE_SUBMENU, GRUB_TERMINAL_OUTPUT, GRUB_CMDLINE_LINUX, and GRUB_DISABLE_RECOVERY.

```
[miras@localhost ~]$ cat /etc/default/grub
GRUB_TIMEOUT=5
GRUB_DISTRIBUTOR="$(sed 's, release .*$,g' /etc/system-release)"
GRUB_DEFAULT=saved
GRUB_DISABLE_SUBMENU=true
GRUB_TERMINAL_OUTPUT="console"
GRUB_CMDLINE_LINUX="crashkernel=auto rd.lvm.lv=centos/root rd.lvm.lv=centos/swap rhgb q
uiet"
GRUB_DISABLE_RECOVERY="true"
[miras@localhost ~]$
```

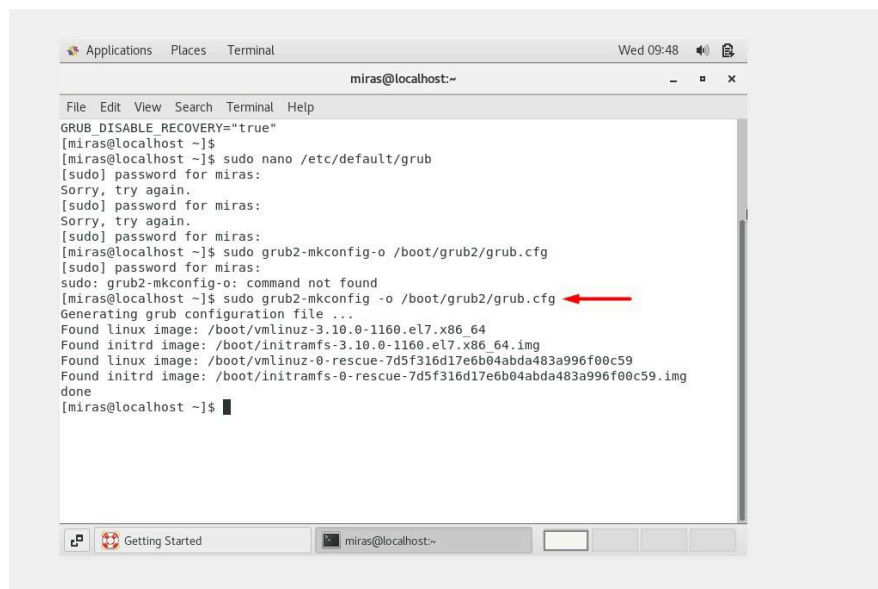
2) Edit the Grub configuration file to modify boot settings

Commands - 1.sudo nano /etc/default/grub 2. GRUB_DISABLE_SUBMENU=false



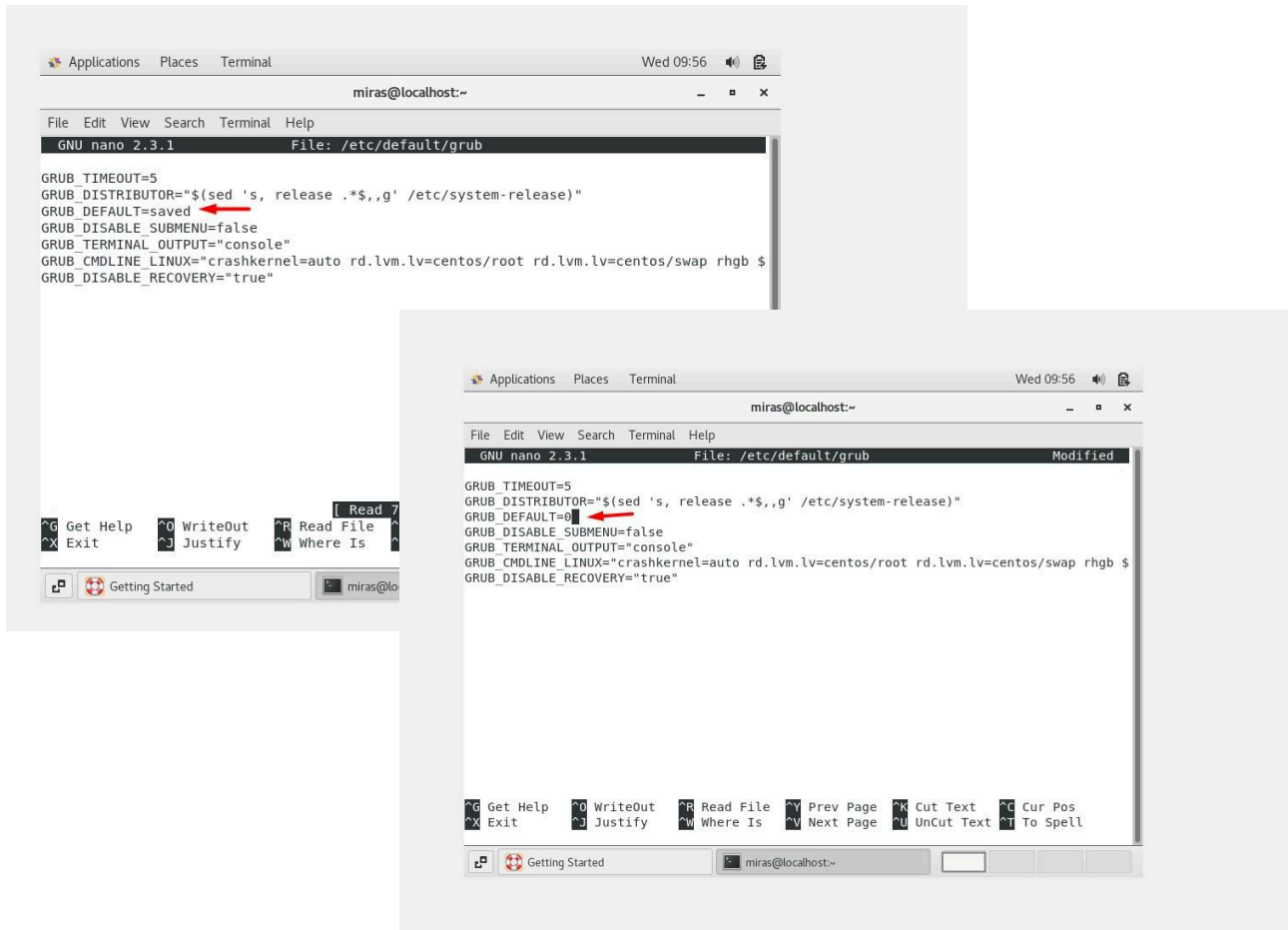
3) After editing the configuration file, update Grub to apply the changes

Command - sudo grub2-mkconfig -o /boot/grub2/grub.cfg



4) Set the default operating system or kernel to boot

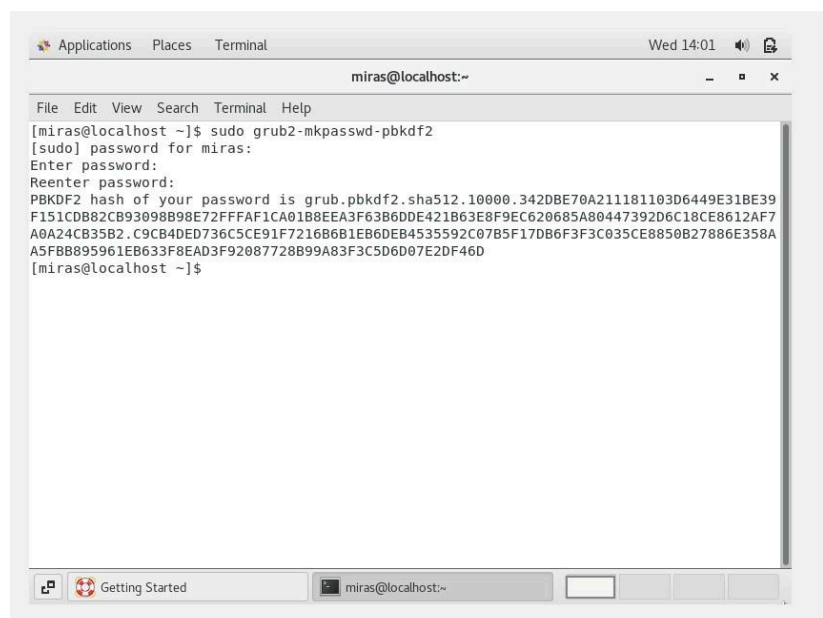
Commands - 1. `sudo nano /etc/default/grub` 2. `GRUB_DEFAULT=0`

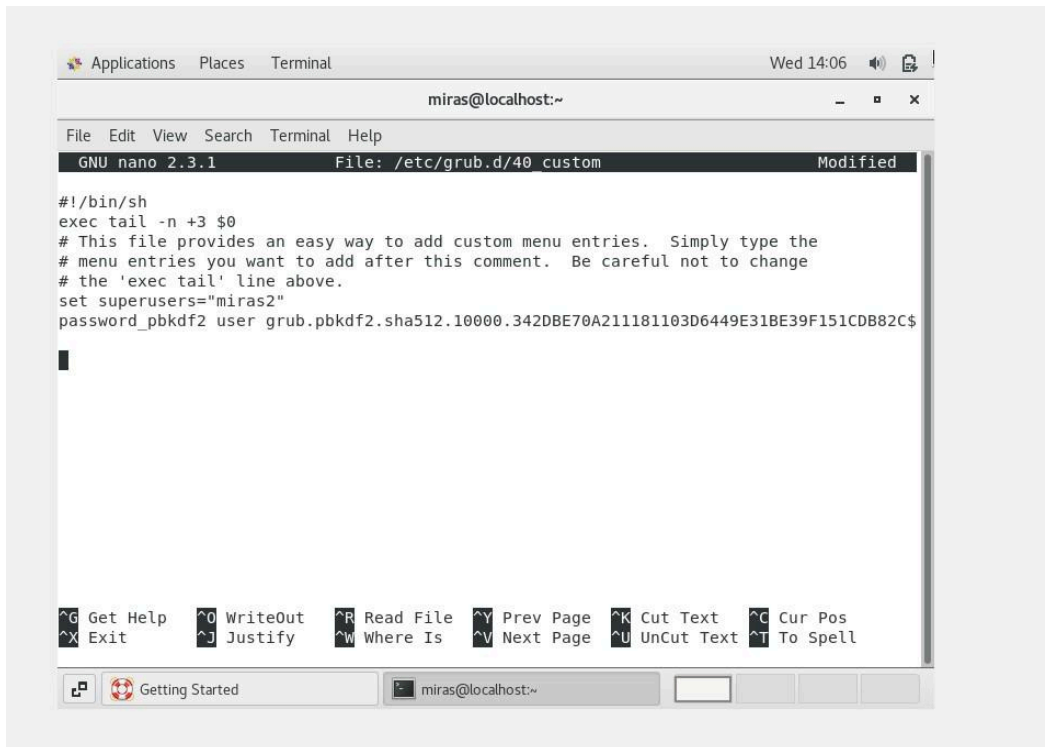


5) Set a password to protect the Grub menu and restrict access to certain options.

Command - 1. `sudo grub2-mkpasswd-pbkdf2` 2. `sudo nano /etc/grub.d/40_custom`

3. `set superusers="miras2"`
`password_pbkdf2 user <hash>`





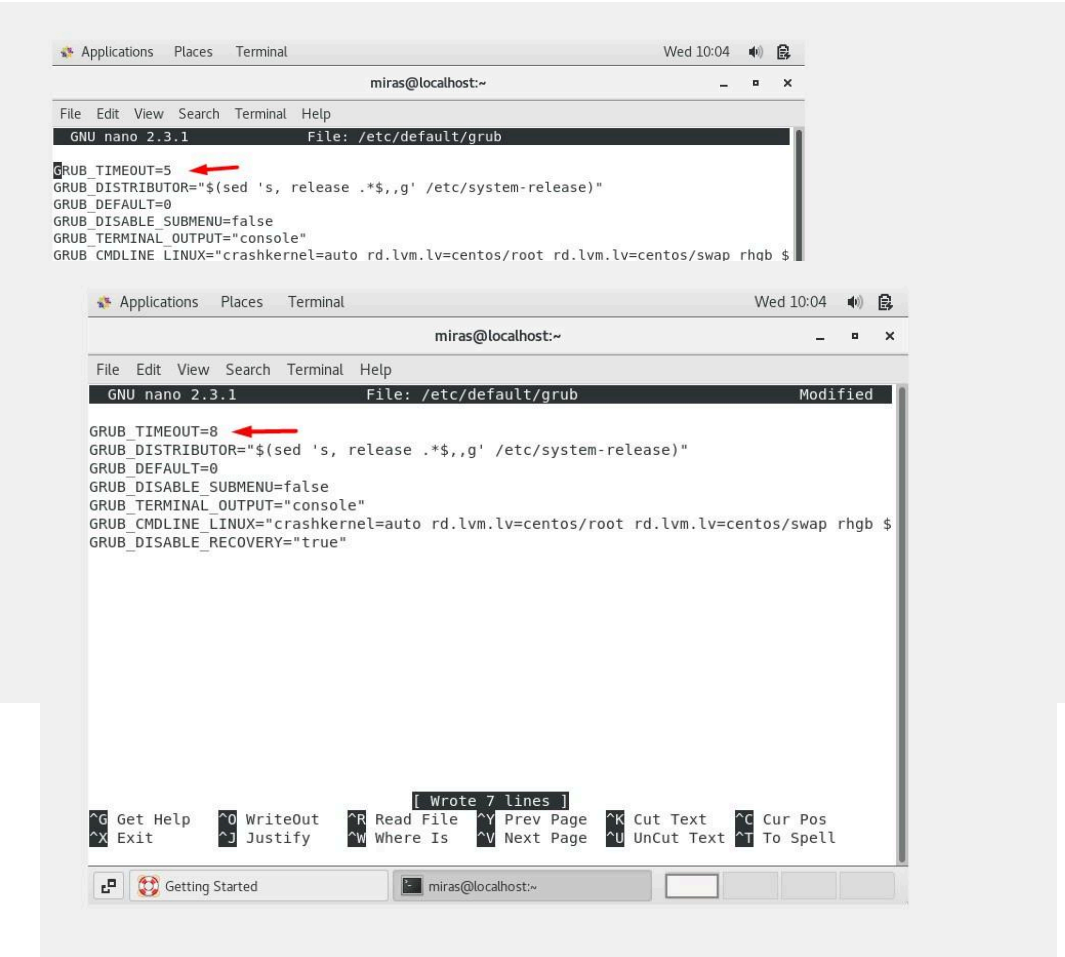
```
GNU nano 2.3.1 File: /etc/grub.d/40_custom Modified

#!/bin/sh
exec tail -n +3 $0
# This file provides an easy way to add custom menu entries.  Simply type the
# menu entries you want to add after this comment.  Be careful not to change
# the 'exec tail' line above.
set superusers="miras2"
password_pbkdf2 user grub.pbkdf2.sha512.10000.342DBE70A211181103D6449E31BE39F151CDB82C$

^G Get Help ^O WriteOut ^R Read File ^Y Prev Page ^K Cut Text ^C Cur Pos
^X Exit ^J Justify ^W Where Is ^V Next Page ^U UnCut Text ^T To Spell
```

6) Change the boot timeout. Adjust the time Grub waits for user input before booting the default entry

Command - 1. `sudo nano /etc/default/grub` 2. `GRUB_TIMEOUT=8`



```
GRUB_TIMEOUT=5
GRUB_DISTRIBUTOR="$(sed 's, release .*$,g' /etc/system-release)"
GRUB_DEFAULT=0
GRUB_DISABLE_SUBMENU=false
GRUB_TERMINAL_OUTPUT="console"
GRUB_CMDLINE_LINUX="crashkernel=auto rd.lvm.lv=centos/root rd.lvm.lv=centos/swap rhgb $"
```

```
GRUB_TIMEOUT=8
GRUB_DISTRIBUTOR="$(sed 's, release .*$,g' /etc/system-release)"
GRUB_DEFAULT=0
GRUB_DISABLE_SUBMENU=false
GRUB_TERMINAL_OUTPUT="console"
GRUB_CMDLINE_LINUX="crashkernel=auto rd.lvm.lv=centos/root rd.lvm.lv=centos/swap rhgb $
GRUB_DISABLE_RECOVERY="true"
```