

Lab (4)

1. Compress a file by compress, gzip, zip commands and decompress it again. State the differences between compress and gzip commands.

Compress: faster than gzip and use less memory.

```
[amr@localhost ~]$ ll file
-rw-rw-r--. 1 amr amr 2554 Apr 16 15:30 file
[amr@localhost ~]$ compress file
[amr@localhost ~]$ ll file.Z
-rw-rw-r--. 1 amr amr 1420 Apr 16 15:30 file.Z
[amr@localhost ~]$ uncompress file.Z
```

gzip: faster than zip and saves more space more than zip but needs the help of another command like tar to archive/package the files

```
[amr@localhost ~]$ gzip file
[amr@localhost ~]$ ll file.gz
-rw-rw-r--. 1 amr amr 1015 Apr 16 15:30 file.gz
[amr@localhost ~]$ gunzip file.gz
```

zip: slower than gzip ZIP, files can package and compress files/directories on by it's own

```
[amr@localhost ~]$ zip file.zip file
  adding: file (deflated 61%)
[amr@localhost ~]$ ll file
file      file.zip
[amr@localhost ~]$ unzip file.zip
Archive:  file.zip
replace file? [y]es, [n]o, [A]ll, [N]one, [r]ename: y
  inflating: file
```

2. What is the command used to view the content of a compressed file.

Zcat command

```
[amr@localhost ~]$ zcat file.gz
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
utdel:x:6:0:utdel:/sbin:/bin/utdel
```

3. Backup /etc directory using tar utility.

```
[amr@localhost ~]$ sudo tar -cvf tarbackup.tar /etc/
[sudo] password for amr:
tar: Removing leading `/' from member names
/etc/
/etc/mtab
/etc/fstab
/etc/crypttab
/etc/dnf/
/etc/dnf/modules.d/
/etc/dnf/modules.d/container-tools.module
/etc/dnf/modules.d/llvm-toolset.module
/etc/dnf/modules.d/perl.module
/etc/dnf/modules.d/perl-DBD-SQLite.module
/etc/dnf/modules.d/perl-DBI.module
/etc/dnf/modules.d/perl-I0-Socket-SSL.module
/etc/dnf/modules.d/perl-libwww-perl.module
/etc/dnf/modules.d/python36.module
/etc/dnf/modules.d/virt.module
/etc/dnf/aliases.d/
/etc/dnf/dnf.conf
/etc/dnf/modules.defaults.d/
/etc/dnf/plugins/
```

4. Starting from your home directory, find all files that were modified in the last two day.

```
[amr@localhost ~]$ find /home -mtime -2
/home/amr
/home/amr/.config/pulse/1df4747460a749d3bbb580140e7b5dfd-default-sink
/home/amr/.config/pulse/1df4747460a749d3bbb580140e7b5dfd-default-source
/home/amr/.config/ibus/bus
/home/amr/.config/ibus/bus/1df4747460a749d3bbb580140e7b5dfd-unix-0
/home/amr/.config/dconf
/home/amr/.config/dconf/user
/home/amr/.config/gtk-3.0
/home/amr/.config/gtk-3.0/bookmarks
/home/amr/.ICEauthority
/home/amr/.local/share/keyrings
/home/amr/.local/share/gnome-shell
/home/amr/.local/share/gnome-shell/application_state
/home/amr/.local/share/evolution/addressbook/system
```

5. Starting from /etc, find files owned by root user.

```
[amr@localhost ~]$ find /etc -user root
/etc
/etc/mtab
/etc/fstab
/etc/crypttab
/etc/dnf
/etc/dnf/modules.d
/etc/dnf/modules.d/container-tools.module
/etc/dnf/modules.d/llvm-toolset.module
/etc/dnf/modules.d/perl.module
/etc/dnf/modules.d/perl-DBD-SQLite.module
/etc/dnf/modules.d/perl-DBI.module
/etc/dnf/modules.d/perl-IO-Socket-SSL.module
/etc/dnf/modules.d/perl-libwww-perl.module
/etc/dnf/modules.d/python36.module
/etc/dnf/modules.d/virt.module
```

6. Find all directories in your home directory.

```
[amr@localhost ~]$ find /home -type d
/home
/home/amr
/home/amr/.mozilla
/home/amr/.mozilla/extensions
/home/amr/.mozilla/plugins
/home/amr/.config
/home/amr/.config/pulse
/home/amr/.config/gnome-session
/home/amr/.config/gnome-session/saved-session
/home/amr/.config/ibus
/home/amr/.config/ibus/bus
```

8. Identify the file types of the following: /etc/passwd, /dev/pts/0, /etc, /dev/sda

```
[amr@localhost ~]$ file /etc/passwd /dev/pts/0 /etc /dev/sda
/etc/passwd: ASCII text
/dev/pts/0: character special (136/0)
/etc: directory
/dev/sda: cannot open `/dev/sda' (No such file or directory)
```

10. Copy /etc/passwd to your home directory, use the commands diff and cmp, and Edit in the file you copied, and then use these commands again, and check the output.

```
[amr@localhost ~]$ cp /etc/passwd mypasswd
[amr@localhost ~]$ diff /etc/passwd mypasswd
[amr@localhost ~]$ cmp /etc/passwd mypasswd
[amr@localhost ~]$ vim mypasswd
[amr@localhost ~]$ diff /etc/passwd mypasswd
1,2d0
< root:x:0:0:root:/root:/bin/bash
< bin:x:1:1:bin:/bin:/sbin/nologin
[amr@localhost ~]$ cmp /etc/passwd mypasswd
/etc/passwd mypasswd differ: byte 1, line 1
[amr@localhost ~]$
```