

Assignment #1 - Linux Concepts

Explain Linux distributions, the different types, and their purposes.

Linux distributions can be likened to car parts. Each one being a different size or performing a different function, but they all work together to perform the functions of a car. Each Linux distribution varies in function and caters to its respective audience. The Linux Operating System has general-purpose, specialized, and enterprise distributions.

The General-purpose Distributions are for typical day-to-day operations. They consist of Ubuntu, Fedora, Debian and openSUSE. Ubuntu is famous for its user-friendliness. It is probably the easiest to learn. Fedora, like the hat, is known for its open-source compatibility and is popular for being innovation oriented. Debian is often the building block for many other distributions due to its known stability. Lastly, openSUSE; this distribution is supported by SUSE and has various open-source versions available to the general public.

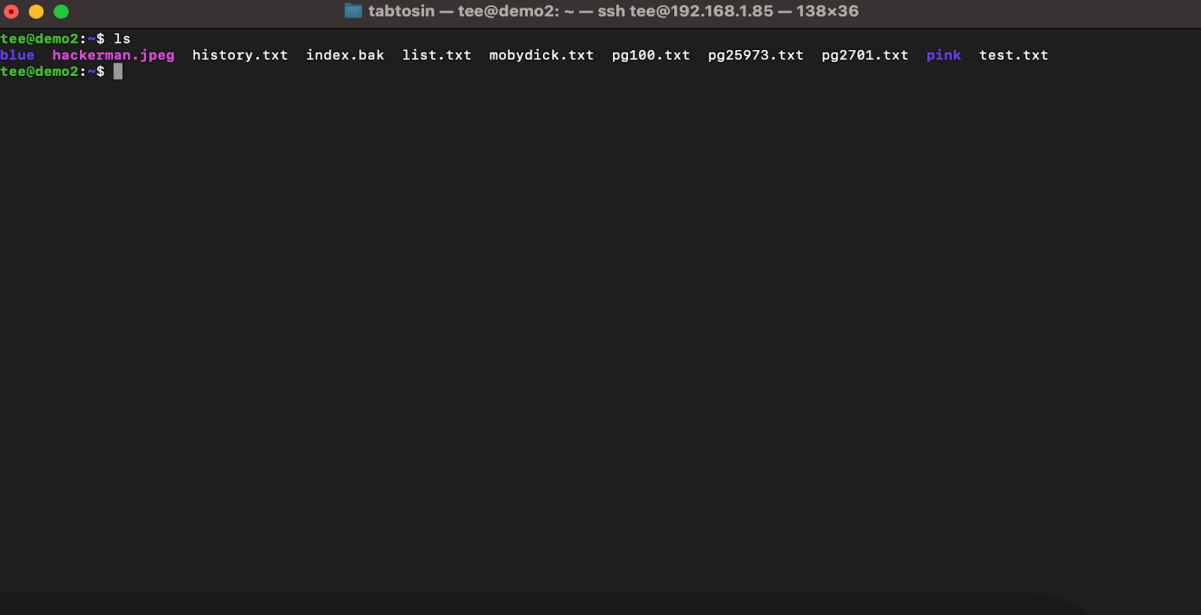
Specialized distributions include Kali Linux, Tails, Ubuntu Studio, and Raspberry Pi OS. Like the name states, these distributions are used for special functions. Kali comes with a collection of tools for security testing and ethical hacking, Tails focuses on privacy and anonymity, Ubuntu Studio is used for multimedia creation, and Raspberry Pi OS can be used for educational purposes.

When Enterprise Distributions are concerned, Red Hat Enterprise Linux (RHEL) and SUSE Linux Enterprise Server (SLES) are used. These two are known for their stability, scalability, reliability, availability, and long-term support.

Linux distributions are designed for desktop use, server use, development and programming, specialized tasks, and education and learning purposes. Desktop use provides user-friendly GUI for a wide range of computer operations. Linux distributions can be used to set up servers according to user need. Some distributions are used by developers and programmers as a result of the wide range of tools they offer. Specialized tasks such as digital forensics, multimedia production, and security testing can also be carried out using Linux distributions. Lastly, they can also be used as a learning tool to teach computer science and programming due to their user-friendliness, ease of access, and open-source nature.

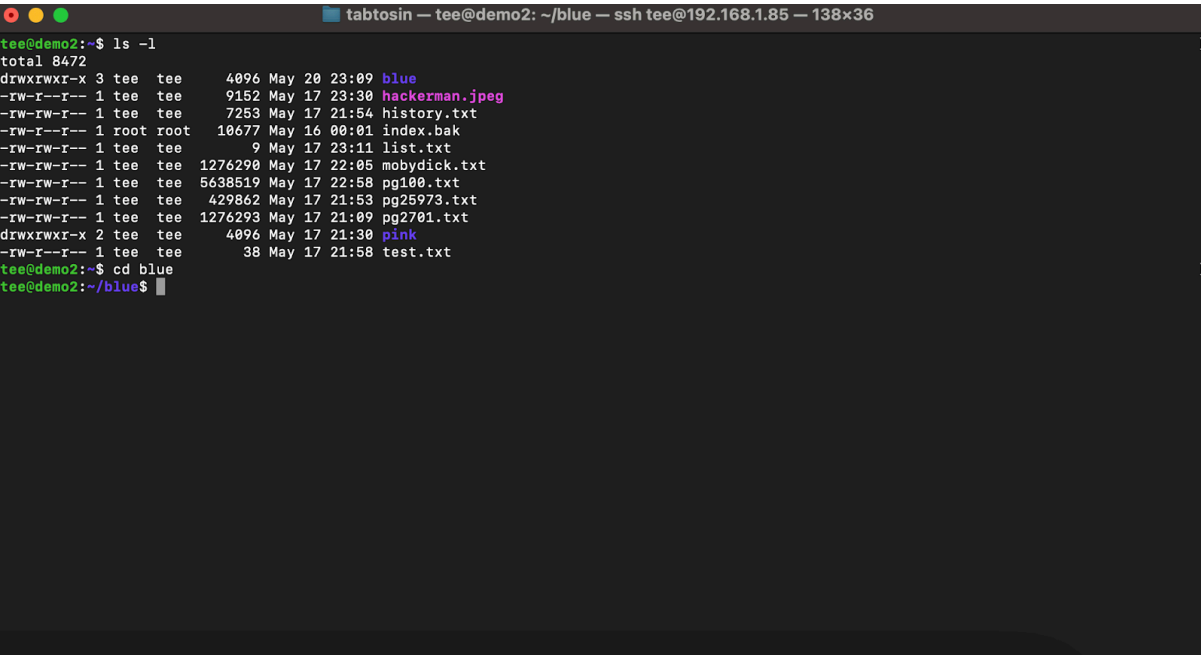
Assignment #2 - Linux Concepts

ls - this command lists the files and directories contained in the current directory the user is in.



```
tabtosin — tee@demo2: ~ — ssh tee@192.168.1.85 — 138x36
tee@demo2:~$ ls
blue  hackerman.jpeg  history.txt  index.bak  list.txt  mobyduck.txt  pg100.txt  pg25973.txt  pg2701.txt  pink  test.txt
tee@demo2:~$
```

cd - this command is used to change directories. The command is an abbreviation for the action it performs “change directory”.



```
tabtosin — tee@demo2: ~/blue — ssh tee@192.168.1.85 — 138x36
tee@demo2:~$ ls -l
total 8472
drwxrwxr-x 3 tee tee 4096 May 20 23:09 blue
-rw-r--r-- 1 tee tee 9152 May 17 23:30 hackerman.jpeg
-rw-rw-r-- 1 tee tee 7253 May 17 21:54 history.txt
-rw-r--r-- 1 root root 10677 May 16 00:01 index.bak
-rw-rw-r-- 1 tee tee 9 May 17 23:11 list.txt
-rw-rw-r-- 1 tee tee 1276290 May 17 22:05 mobyduck.txt
-rw-rw-r-- 1 tee tee 5638519 May 17 22:58 pg100.txt
-rw-rw-r-- 1 tee tee 429862 May 17 21:53 pg25973.txt
-rw-rw-r-- 1 tee tee 1276293 May 17 21:09 pg2701.txt
drwxrwxr-x 2 tee tee 4096 May 17 21:30 pink
-rw-r--r-- 1 tee tee 38 May 17 21:58 test.txt
tee@demo2:~$ cd blue
tee@demo2:~/blue$
```

pwd - this command line is used to check the present working directory the user is currently in.

```
tabtosin — tee@demo2: ~/blue — ssh tee@192.168.1.85 — 138x36
tee@demo2:~$ ls -l
total 8472
drwxrwxr-x 3 tee tee 4096 May 20 23:09 blue
-rw-r--r-- 1 tee tee 9152 May 17 23:30 hackerman.jpeg
-rw-rw-r-- 1 tee tee 7253 May 17 21:54 history.txt
-rw-r--r-- 1 root root 10677 May 16 00:01 index.bak
-rw-rw-r-- 1 tee tee 9 May 17 23:11 list.txt
-rw-rw-r-- 1 tee tee 1276290 May 17 22:05 mobydick.txt
-rw-rw-r-- 1 tee tee 5638519 May 17 22:58 pg100.txt
-rw-rw-r-- 1 tee tee 429862 May 17 21:53 pg25973.txt
-rw-rw-r-- 1 tee tee 1276293 May 17 21:09 pg2701.txt
drwxrwxr-x 2 tee tee 4096 May 17 21:30 pink
-rw-r--r-- 1 tee tee 38 May 17 21:58 test.txt
tee@demo2:~$ cd blue
tee@demo2:~/blue$ pwd
/home/tee/blue
tee@demo2:~/blue$
```

mkdir - this command is used to create a new directory. The command line can be interpreted to mean “make directory”

```
tabtosin — tee@demo2: ~ — ssh tee@192.168.1.85 — 138x36
tee@demo2:~$ mkdir Femi
tee@demo2:~$ ls -l
total 8476
drwxrwxr-x 3 tee tee 4096 May 20 23:09 blue
drwxrwxr-x 2 tee tee 4096 May 23 20:36 Femi
-rw-r--r-- 1 tee tee 9152 May 17 23:30 hackerman.jpeg
-rw-rw-r-- 1 tee tee 7253 May 17 21:54 history.txt
-rw-r--r-- 1 root root 10677 May 16 00:01 index.bak
-rw-rw-r-- 1 tee tee 9 May 17 23:11 list.txt
-rw-rw-r-- 1 tee tee 1276290 May 17 22:05 mobydick.txt
-rw-rw-r-- 1 tee tee 5638519 May 17 22:58 pg100.txt
-rw-rw-r-- 1 tee tee 429862 May 17 21:53 pg25973.txt
-rw-rw-r-- 1 tee tee 1276293 May 17 21:09 pg2701.txt
drwxrwxr-x 2 tee tee 4096 May 17 21:30 pink
-rw-r--r-- 1 tee tee 38 May 17 21:58 test.txt
tee@demo2:~$
```

rmdir - this is the opposite of the previous line command. It is used to delete a directory. The command line can be interpreted to mean “remove directory”

```
tabtosin — tee@demo2: ~ — ssh tee@192.168.1.85 — 138x36
tee@demo2:~$ rmdir Femi
tee@demo2:~$ ls -l
total 8472
drwxrwxr-x 3 tee tee 4096 May 20 23:09 blue
-rw-r--r-- 1 tee tee 9152 May 17 23:30 hackerman.jpeg
-rw-rw-r-- 1 tee tee 7253 May 17 21:54 history.txt
-rw-r--r-- 1 root root 10677 May 16 00:01 index.bak
-rw-rw-r-- 1 tee tee 9 May 17 23:11 list.txt
-rw-rw-r-- 1 tee tee 1276290 May 17 22:05 moby dick.txt
-rw-rw-r-- 1 tee tee 5638519 May 17 22:58 pg100.txt
-rw-rw-r-- 1 tee tee 429862 May 17 21:53 pg25973.txt
-rw-rw-r-- 1 tee tee 1276293 May 17 21:09 pg2701.txt
drwxrwxr-x 2 tee tee 4096 May 17 21:30 pink
-rw-r--r-- 1 tee tee 38 May 17 21:58 test.txt
tee@demo2:~$
```

rm - this command is used to remove files and directories.

```
tabtosin — tee@demo2: ~ — ssh tee@192.168.1.85 — 138x36
tee@demo2:~$ ls -l
total 8476
drwxrwxr-x 3 tee tee 4096 May 20 23:09 blue
drwxrwxr-x 2 tee tee 4096 May 23 20:40 Femi
-rw-r--r-- 1 tee tee 9152 May 17 23:30 hackerman.jpeg
-rw-rw-r-- 1 tee tee 7253 May 17 21:54 history.txt
-rw-r--r-- 1 root root 10677 May 16 00:01 index.bak
-rw-rw-r-- 1 tee tee 9 May 17 23:11 list.txt
-rw-rw-r-- 1 tee tee 1276290 May 17 22:05 moby dick.txt
-rw-rw-r-- 1 tee tee 5638519 May 17 22:58 pg100.txt
-rw-rw-r-- 1 tee tee 429862 May 17 21:53 pg25973.txt
-rw-rw-r-- 1 tee tee 1276293 May 17 21:09 pg2701.txt
drwxrwxr-x 2 tee tee 4096 May 17 21:30 pink
-rw-r--r-- 1 tee tee 38 May 17 21:58 test.txt
tee@demo2:~$ rm list.txt && rmdir Femi
tee@demo2:~$ ls -l
total 8468
drwxrwxr-x 3 tee tee 4096 May 20 23:09 blue
-rw-r--r-- 1 tee tee 9152 May 17 23:30 hackerman.jpeg
-rw-rw-r-- 1 tee tee 7253 May 17 21:54 history.txt
-rw-r--r-- 1 root root 10677 May 16 00:01 index.bak
-rw-rw-r-- 1 tee tee 1276290 May 17 22:05 moby dick.txt
-rw-rw-r-- 1 tee tee 5638519 May 17 22:58 pg100.txt
-rw-rw-r-- 1 tee tee 429862 May 17 21:53 pg25973.txt
-rw-rw-r-- 1 tee tee 1276293 May 17 21:09 pg2701.txt
drwxrwxr-x 2 tee tee 4096 May 17 21:30 pink
-rw-r--r-- 1 tee tee 38 May 17 21:58 test.txt
tee@demo2:~$
```

cp - this command is used to copy files and directories from one location to another.

```
tabtosin — tee@demo2: ~ — ssh tee@192.168.1.85 — 138x36
[tee@demo2:~]$ cat test.txt
This is my test file for Rapid Ascent
[tee@demo2:~]$ cp test.txt test2.txt
[tee@demo2:~]$ cat test2.txt
This is my test file for Rapid Ascent
[tee@demo2:~]$
```

mv - this command is used to move or rename files and directories.

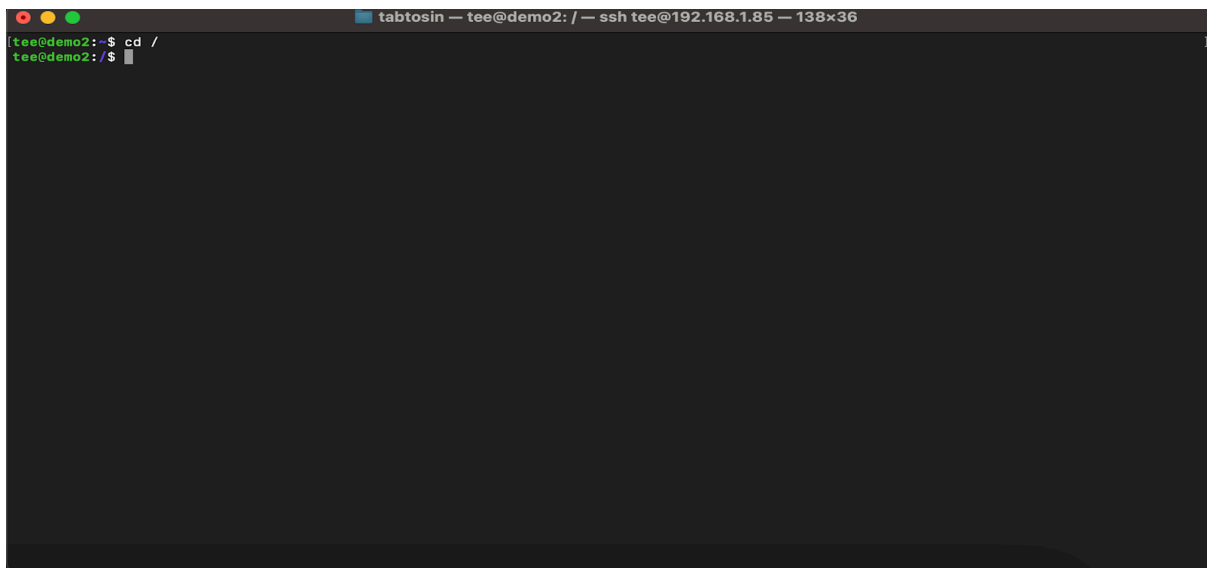
```
tabtosin — tee@demo2: ~ — ssh tee@192.168.1.85 — 138x36
[tee@demo2:~]$ touch test2.txt
[tee@demo2:~]$ cat test.txt
This is my test file for Rapid Ascent
[tee@demo2:~]$ mv test.txt test2.txt
[tee@demo2:~]$ cat test2.txt
This is my test file for Rapid Ascent
[tee@demo2:~]$ mv test2.txt test3.txt
[tee@demo2:~]$ cat test3.txt
This is my test file for Rapid Ascent
[tee@demo2:~]$ ls -l
total 8472
drwxrwxr-x 3 tee tee 4096 May 20 23:09 blue
-rw-r--r-- 1 tee tee 9152 May 17 23:30 hackerman.jpeg
-rw-rw-r-- 1 tee tee 7253 May 17 21:54 history.txt
-rw-r--r-- 1 root root 10677 May 16 00:01 index.bak
-rw-rw-r-- 1 tee tee 1276290 May 17 22:05 mobydict.txt
-rw-rw-r-- 1 tee tee 5638519 May 17 22:58 pg100.txt
-rw-rw-r-- 1 tee tee 429862 May 17 21:53 pg25973.txt
-rw-rw-r-- 1 tee tee 1276293 May 17 21:09 pg2701.txt
drwxrwxr-x 2 tee tee 4096 May 23 20:55 pink
drwxrwxr-x 2 tee tee 4096 May 23 20:56 red
-rw-r--r-- 1 tee tee 38 May 23 20:57 test3.txt
[tee@demo2:~]$
```

Assignment #3 - Linux Concepts

Linux File System: this can be compared to a big tree whose branches hold files and folders in a well organized format.

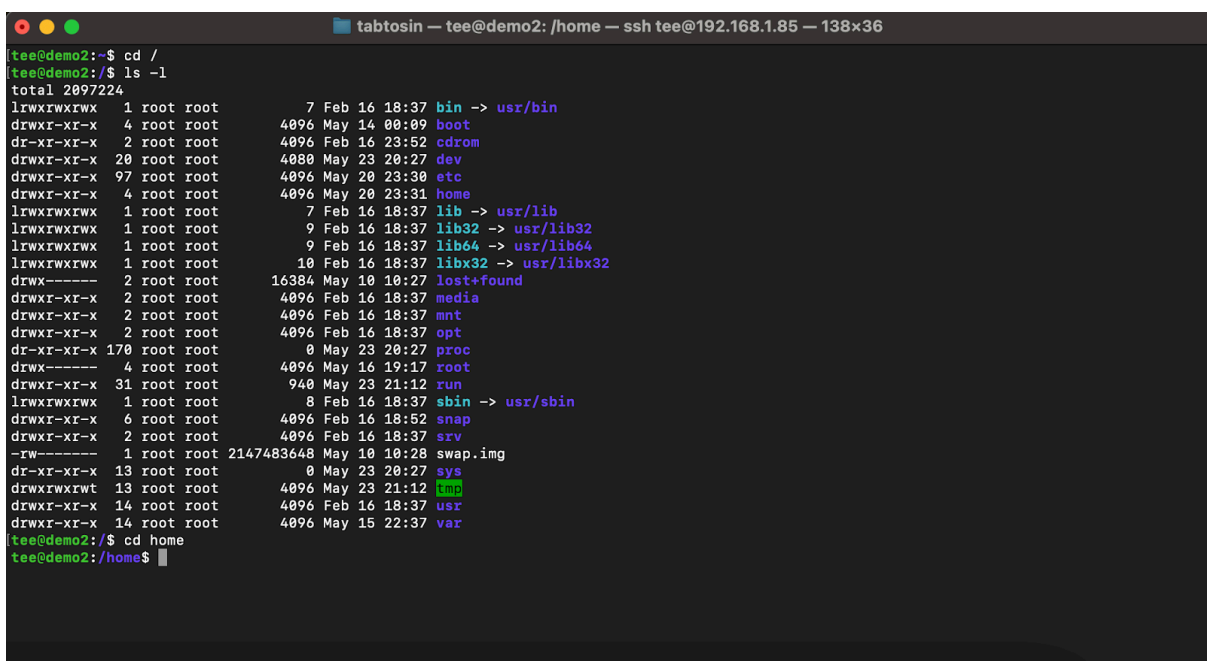
Linux Prompt: this is the text in the home display field of the Linux Window. It usually in this format: "username@hostname :~\$"

Root Directory: the root directory is the headquarter for all directories and files located in the system.

A terminal window titled "tabtosin - tee@demo2: / — ssh tee@192.168.1.85 — 138x36". The prompt is "tee@demo2:~\$". The user enters "cd /" and the prompt changes to "tee@demo2:/\$". The user then enters "ls -l", but the output is not visible in this screenshot.

```
tee@demo2:~$ cd /
tee@demo2:/$
```

Root Home Directory: this is the home directory exclusive to the root user account. It holds all the files and folders accessible only by the root user.

A terminal window titled "tabtosin - tee@demo2: /home — ssh tee@192.168.1.85 — 138x36". The prompt is "tee@demo2:~\$". The user enters "cd /" and the prompt changes to "tee@demo2:/\$". The user then enters "ls -l", displaying a long list of files and directories in the root directory. The output shows permissions, owner, group, size, date, and filename for various system directories and files. The user then enters "cd home" and the prompt changes to "tee@demo2:/home\$".

```
tee@demo2:~$ cd /
tee@demo2:/$ ls -l
total 2097224
lrwxrwxrwx 1 root root 7 Feb 16 18:37 bin -> usr/bin
drwxr-xr-x 4 root root 4096 May 14 00:09 boot
dr-xr-xr-x 2 root root 4096 Feb 16 23:52 cdrom
drwxr-xr-x 20 root root 4080 May 23 20:27 dev
drwxr-xr-x 97 root root 4096 May 20 23:30 etc
drwxr-xr-x 4 root root 4096 May 20 23:31 home
lrwxrwxrwx 1 root root 7 Feb 16 18:37 lib -> usr/lib
lrwxrwxrwx 1 root root 9 Feb 16 18:37 lib32 -> usr/lib32
lrwxrwxrwx 1 root root 9 Feb 16 18:37 lib64 -> usr/lib64
lrwxrwxrwx 1 root root 10 Feb 16 18:37 libx32 -> usr/libx32
drwx----- 2 root root 16384 May 10 10:27 lost+found
drwxr-xr-x 2 root root 4096 Feb 16 18:37 media
drwxr-xr-x 2 root root 4096 Feb 16 18:37 mnt
drwxr-xr-x 2 root root 4096 Feb 16 18:37 opt
dr-xr-xr-x 170 root root 0 May 23 20:27 proc
drwx----- 4 root root 4096 May 16 19:17 root
drwxr-xr-x 31 root root 940 May 23 21:12 run
lrwxrwxrwx 1 root root 8 Feb 16 18:37/sbin -> usr/sbin
drwxr-xr-x 6 root root 4096 Feb 16 18:52 snap
drwxr-xr-x 2 root root 4096 Feb 16 18:37 srv
-rw----- 1 root root 2147483648 May 10 10:28 swap.img
dr-xr-xr-x 13 root root 0 May 23 20:27 sys
drwxrwxrwt 13 root root 4096 May 23 21:12 tmp
drwxr-xr-x 14 root root 4096 Feb 16 18:37 usr
drwxr-xr-x 14 root root 4096 May 15 22:37 var
tee@demo2:/$ cd home
tee@demo2:/home$
```

Home Directory: this is like the root home directory but for non-root users. Each user is assigned a home directory exclusive to them upon account creation.

```
tabtosin — tee@demo2: ~ — ssh tee@192.168.1.85 — 138x36
tee@demo2:/$ cd
tee@demo2:~$ cd /home/tee
tee@demo2:~$
```

etc Directory: this directory contains configuration files and directories used by the programs and services running on the system.

```
tabtosin — tee@demo2: /etc — ssh tee@192.168.1.85 — 138x36
tee@demo2:/$ cd etc
tee@demo2:/etc$ ls -l
total 876
-rw-r--r-- 1 root root      3028 Feb 16 18:37 adduser.conf
drwxr-xr-x 2 root root    4096 May 17 21:06 alternatives
drwxr-xr-x 8 root root    4096 May 15 22:37 apache2
-rw-r--r-- 1 root root      433 Mar 23  2022 apg.conf
drwxr-xr-x 3 root root    4096 Feb 16 18:48 apparmor
drwxr-xr-x 8 root root    4096 May 10 21:42 apparmor.d
drwxr-xr-x 3 root root    4096 Feb 16 18:48 appport
drwxr-xr-x 9 root root    4096 May 10 10:27 apt
-rw-r--r-- 1 root root    2319 Jan  6  2022 bash.bashrc
-rw-r--r-- 1 root root      45 Nov 11  2021 bash_completion
drwxr-xr-x 2 root root    4096 Feb 16 18:51 bash_completion.d
-rw-r--r-- 1 root root     367 Dec 16  2020 bindresvport.blacklist
drwxr-xr-x 2 root root    4096 Nov 21  2023 binfmt.d
-rw-r--r-- 1 root root    2039 Dec 13  2016 bmon.conf
drwxr-xr-x 2 root root    4096 Feb 16 18:51 byobu
drwxr-xr-x 3 root root    4096 Feb 16 18:44 ca-certificates
-rw-r--r-- 1 root root   5892 Feb 16 18:45 ca-certificates.conf
-rw-r--r-- 1 root root    4597 Aug 24  2021 cczerc
drwxr-xr-x 5 root root    4096 May 10 21:42 cloud
drwxr-xr-x 2 root root    4096 May 10 10:27 console-setup
drwxr-xr-x 2 root root    4096 May 17 21:06 cron.d
drwxr-xr-x 2 root root    4096 May 17 21:06 cron.daily
drwxr-xr-x 2 root root    4096 Feb 16 18:50 cron.hourly
drwxr-xr-x 2 root root    4096 Feb 16 18:50 cron.monthly
-rw-r--r-- 1 root root    1136 Mar 23  2022 crontab
drwxr-xr-x 2 root root    4096 Feb 16 18:50 cron.weekly
drwxr-xr-x 2 root root    4096 Feb 16 18:50 cryptsetup-initramfs
-rw-r--r-- 1 root root      54 Feb 16 18:44 crypttab
drwxr-xr-x 4 root root    4096 Feb 16 18:44 dbus-1
-rw-r--r-- 1 root root    2969 Feb 20  2022 debconf.conf
-rw-r--r-- 1 root root      13 Aug 22  2021 debian_version
drwxr-xr-x 3 root root    4096 May 17 21:06 default
-rw-r--r-- 1 root root     604 Sep 15  2018 deluser.conf
```

var Directory: the var here stands for variable. Like the name implies, this directory contains files that change every so often during system processes.

```
tabtosin — tee@demo2: /var — ssh tee@192.168.1.85 — 138x36
tee@demo2:/$ cd var
tee@demo2:/var$ ls -l
total 48
drwxr-xr-x  2 root root  4096 May 18 00:00 backups
drwxr-xr-x 15 root root  4096 May 15 22:37 cache
drwxrwxrwt  2 root root  4096 May 17 21:07 crash
drwxr-xr-x 42 root root  4096 May 17 21:06 lib
drwxrwsr-x  2 root staff 4096 Apr 18 2022 local
lrwxrwxrwx  1 root root    9 Feb 16 18:37 lock -> /run/lock
drwxrwxr-x 11 root syslog 4096 May 23 20:27 log
drwxrwsr-x  2 root mail  4096 Feb 16 18:37 mail
drwxr-xr-x  2 root root  4096 Feb 16 18:37 opt
lrwxrwxrwx  1 root root    4 Feb 16 18:37 run -> /run
drwxr-xr-x  5 root root  4096 Feb 16 18:52 snap
drwxr-xr-x  4 root root  4096 Feb 16 18:50 spool
drwxrwxrwt  7 root root  4096 May 23 21:12 tmp
drwxr-xr-x  3 root root  4096 May 15 22:37 www
tee@demo2:/var$
```

bin Directory: the bin here stands for binaries. This directory contains vital binary executable files that are necessary for the Linux system to operate without any issues.

```
tabtosin — tee@demo2: /bin — ssh tee@192.168.1.85 — 138x36
tee@demo2:/$ cd bin
tee@demo2:/bin$ ls -l
total 118020
-rwxr-xr-x 1 root root 51648 Feb  8 03:46 '['
-rwxr-xr-x 1 root root 35344 Jun  5 2023 aa-enabled
-rwxr-xr-x 1 root root 35344 Jun  5 2023 aa-exec
-rwxr-xr-x 1 root root 31248 Jun  5 2023 aa-features-abi
-rwxr-xr-x 1 root root 59832 Apr 10 17:45 ab
-rwxr-xr-x 1 root root 14478 Oct 24 2023 add-apt-repository
-rwxr-xr-x 1 root root 14720 Apr  9 15:32 addpart
lrwxrwxrwx 1 root root 26 Jan 23 15:08 addr2line -> x86_64-linux-gnu-addr2line
-rwxr-xr-x 1 root root 274 Mar 23 2022 apg
-rwxr-xr-x 1 root root 26784 Mar 23 2022 apgbfm
-rwxr-xr-x 1 root root 2568 Apr 13 2023 appport-bug
-rwxr-xr-x 1 root root 13360 Apr 13 2023 appport-cli
-rwxrwxrwx 1 root root 10 Apr 13 2023 appport-collect -> appport-bug
-rwxr-xr-x 1 root root 2070 Apr 13 2023 appport-unpack
-rwxrwxrwx 1 root root 6 Mar 17 2022 apropos -> whatis
-rwxr-xr-x 1 root root 18824 Feb 13 15:39 apt
-rwxrwxrwx 1 root root 18 Oct 24 2023 apt-add-repository -> add-apt-repository
-rwxr-xr-x 1 root root 84448 Feb 13 15:39 apt-cache
-rwxr-xr-x 1 root root 27104 Feb 13 15:39 apt-cdrom
-rwxr-xr-x 1 root root 27024 Feb 13 15:39 apt-config
-rwxr-xr-x 1 root root 23008 Feb 13 15:39 apt-extracttemplates
-rwxr-xr-x 1 root root 236008 Feb 13 15:39 apt-ftparchive
-rwxr-xr-x 1 root root 51680 Feb 13 15:39 apt-get
-rwxr-xr-x 1 root root 28173 Feb 13 15:39 apt-key
-rwxr-xr-x 1 root root 51680 Feb 13 15:39 apt-mark
-rwxr-xr-x 1 root root 39320 Feb 13 15:39 apt-sortpkgs
lrwxrwxrwx 1 root root 19 Jan 23 15:08 ar -> x86_64-linux-gnu-ar
-rwxr-xr-x 1 root root 31240 Feb  8 03:46 arch
-rwxrwxrwx 1 root root 19 Jan 23 15:08 as -> x86_64-linux-gnu-as
-rwxr-xr-x 1 root root 322424 Jan 10 2022 atop
-rwxr-xr-x 1 root root 14640 Jan 10 2022 atopcat
-rwxr-xr-x 1 root root 26752 Jan 10 2022 atopconvert
lrwxrwxrwx 1 root root 4 Jan 10 2022 atopsar -> atop
```

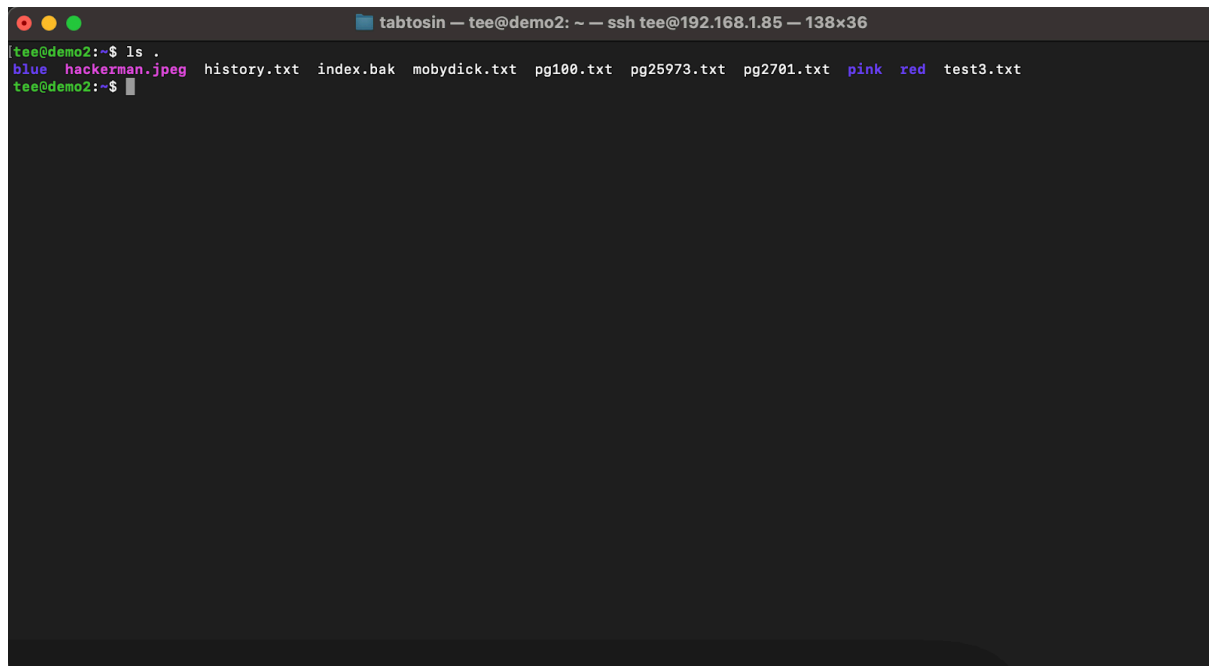

Assignment #4 - Linux Concepts

Explain “.” and “..” in Linux, and how it is used.

The “.” command in Linux refers to the directory the user is currently working in. It is used in a command line to specify that a particular command should be executed in the same directory in which the command was given.

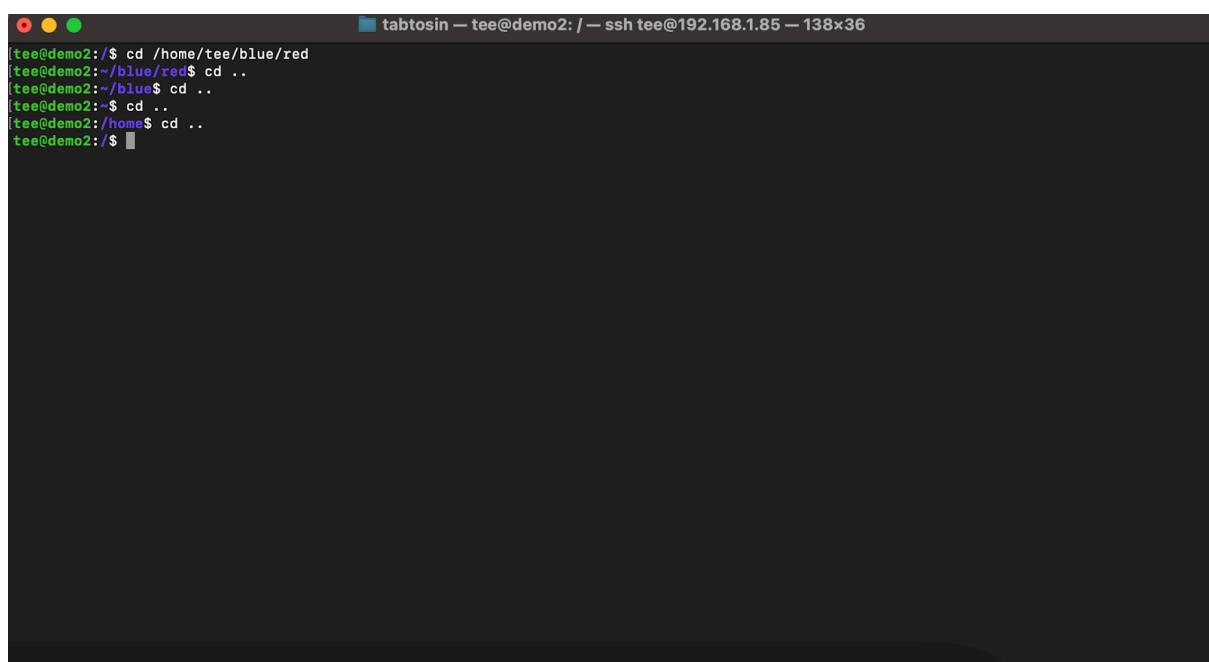
On the other hand, the “..” command refers to the directory in which the current directory exists. In other words, a parent directory. Including the “..” in a command line specifies that the given command should be executed against the backdrop of the parent directory.

Show how “.” can be used with ls command in Linux.

A terminal window titled 'tabtosin - tee@demo2: ~ - ssh tee@192.168.1.85 - 138x36'. The prompt is 'tee@demo2:~\$'. The user enters 'ls .' and the output is 'blue hackerman.jpeg history.txt index.bak moby dick.txt pg100.txt pg25973.txt pg2701.txt pink red test3.txt'. The prompt is now 'tee@demo2:~\$' with a cursor.

```
tee@demo2:~$ ls .
blue hackerman.jpeg history.txt index.bak moby dick.txt pg100.txt pg25973.txt pg2701.txt pink red test3.txt
tee@demo2:~$
```

Show how “..” can be used with the cd command in Linux.

A terminal window titled 'tabtosin - tee@demo2: / - ssh tee@192.168.1.85 - 138x36'. The prompt is 'tee@demo2:/\$'. The user enters 'cd /home/tee/blue/red', then 'cd ..', then 'cd ..', then 'cd ..', then 'cd ..', and finally 'cd ..'. The prompt changes from 'tee@demo2:/\$' to 'tee@demo2:~/blue/red\$' to 'tee@demo2:~/blue\$' to 'tee@demo2:~\$' to 'tee@demo2:/home\$' to 'tee@demo2:/\$'. The prompt is now 'tee@demo2:/\$' with a cursor.

```
tee@demo2:/$ cd /home/tee/blue/red
tee@demo2:~/blue/red$ cd ..
tee@demo2:~/blue$ cd ..
tee@demo2:~$ cd ..
tee@demo2:/home$ cd ..
tee@demo2:/$
```

Assignment #5 - Linux Concepts

Explain Relative vs. Absolute Paths, and how they are used in Linux.

In Linux, relative paths are used to specify the location of a current file or directory against the backdrop of the current working directory the user is present in. They are typically shorter commands used to reference a file or directory stored in the present working directory.

On the other hand, absolute path is a more elaborate command that specifies the location of a file or directory, tracing it all the way back from the root folder to its present direct directory. Due to the specificity of the absolute path command line, it is typically long but precise.

Show how you can use the Relative Path with the cp command in Linux.

```
tabtosin — tee@demo2: ~/blue — ssh tee@192.168.1.85 — 138x36
tee@demo2:~/blue$ ls -l
total 24
-rw-rw-r-- 1 tee tee 10 May 20 23:04 demo1.txt
-rw-rw-r-- 1 tee tee 11 May 20 23:04 demo2.txt
-rw-rw-r-- 1 tee tee 10 May 20 23:05 demo3.txt
-rw-rw-r-- 1 tee tee 70 May 20 23:09 demo4.txt
drwxrwxr-x 2 tee tee 4096 May 23 22:46 green
drwxrwxr-x 2 tee tee 4096 May 14 22:07 red
tee@demo2:~/blue$ ls *green
tee@demo2:~/blue$ cp demo1.txt green
tee@demo2:~/blue$ ls *green
demo1.txt
tee@demo2:~/blue$
```

Show how you can use the Absolute Path with the cd command in Linux.

```
tabtosin — tee@demo2: ~/blue/red — ssh tee@192.168.1.85 — 138x36
tee@demo2:~$ cd /home/tee/blue/red
tee@demo2:~/blue/red$ ls -l
total 1248
-rw-rw-r-- 1 tee tee 1276290 May 14 20:53 mobydick.txt
-rw-rw-r-- 1 tee tee 0 May 14 01:30 test.txt
tee@demo2:~/blue/red$
```