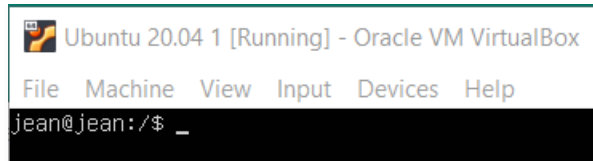# Linux exercise 4 -Basic commands
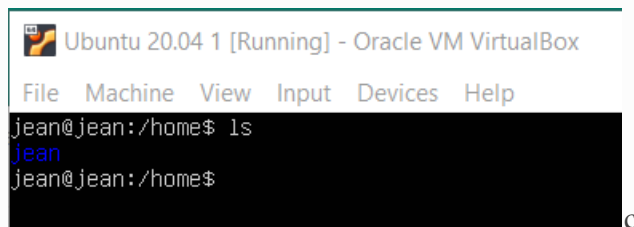
1. **What is the path for your home directory? How do you change your current working directory to your home directory?**

   a. This is the home directory for user "jean"

   b. This is the overall home directory where we find home directories for different users
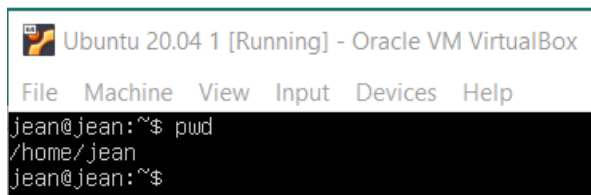
   The commands cd and cd ~ will switch from current directory to home directory.

2. **How can you find out your current working directory?**

   With the command pwd

3. **Explain briefly what option -p does when used with mkdir command. In addition, find out what version number of mkdir command you have.**

mkdir -p command can be used to create nested directories, that is if there are no parent directory it can create them too.

```
Ubuntu 20.04 1 [Running] - Oracle VM VirtualBox

File   Machine   View   Input   Devices   Help
jean@jean:~$ mkdir -p parent_dir/child_dir
jean@jean:~$ ls
parent_dir
jean@jean:~$ cd parent_dir/
jean@jean:~/parent_dir$ ls
child_dir
jean@jean:~/parent_dir$
```

You can find its version with mkdir –version command

```
Ubuntu 20.04 1 [Running] - Oracle VM VirtualBox

File   Machine   View   Input   Devices   Help
jean@jean:~$ mkdir --version
mkdir (GNU coreutils) 8.30
Copyright (C) 2018 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <https://gnu.org/licenses/gpl.html>.
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.

Written by David MacKenzie.
jean@jean:~$
```

4. **Create the following directory structure including the files to your home directory using your Linux shell. Files can be empty or containing text.**

```
Ubuntu 20.04 1 [Running] - Oracle VM VirtualBox

File   Machine   View   Input   Devices   Help
root@jean:/home/jean# mkdir -p h1/dir_{1..3}
root@jean:/home/jean# ls
h1
root@jean:/home/jean# cd h1/
root@jean:/home/jean/h1# ls
dir_1   dir_2   dir_3
root@jean:/home/jean/h1# cd dir_
dir_1/ dir_2/ dir_3/
root@jean:/home/jean/h1# cd dir_2
root@jean:/home/jean/h1/dir_2# touch File1.txt File2.txt File3.txt File4.txt
root@jean:/home/jean/h1/dir_2# ls
File1.txt  File2.txt  File3.txt  File4.txt
root@jean:/home/jean/h1/dir_2#
```

5. **Copy all files with .txt extension from dir2 to dir1 using relative path for directories using only one command.**

```
Ubuntu 20.04 1 [Running] - Oracle VM VirtualBox

File   Machine   View   Input   Devices   Help
root@jean:/home/jean/h1/dir_2# ls
File1.txt   File2.txt   File3.txt   File4.txt
root@jean:/home/jean/h1/dir_2# cp *.txt /home/jean/h1/dir_1
root@jean:/home/jean/h1/dir_2# cd /home/jean/h1/dir_1
root@jean:/home/jean/h1/dir_1# ls
File1.txt   File2.txt   File3.txt   File4.txt
root@jean:/home/jean/h1/dir_1#
```

6. **Move all files starting with string File1 from dir2 to dir3 using absolute path for directories using only one command.**

```
Ubuntu 20.04 1 [Running] - Oracle VM VirtualBox

File   Machine   View   Input   Devices   Help
root@jean:/# mv /home/jean/h1/dir_2/File1* /home/jean/h1/dir_3
root@jean:/# /home/jean/h1/dir_3
bash: /home/jean/h1/dir_3: Is a directory
root@jean:/# cd /home/jean/h1/dir_3
root@jean:/home/jean/h1/dir_3# ls
File1.txt
root@jean:/home/jean/h1/dir_3#
```

7. **Create tmp directory inside your home directory. Copy directory structure created in fourth part starting from directory h1 into the tmp directory in one command. The final directory tree should then look like this: /home/your_user/tmp/h1...**

```
Ubuntu 20.04 1 [Running] - Oracle VM VirtualBox

File   Machine   View   Input   Devices   Help
root@jean:~# mkdir /home/jean/tmp
root@jean:~# cd /home/jean
root@jean:/home/jean# ls
h1   tmp
root@jean:/home/jean# cp -r h1 tmp
root@jean:/home/jean# cd tmp
root@jean:/home/jean/tmp# ls
h1
root@jean:/home/jean/tmp# cd h1
root@jean:/home/jean/tmp/h1# ls
dir_1   dir_2   dir_3
root@jean:/home/jean/tmp/h1# _
```

8. **Remove tmp/h1 directory structure from your home directory using only one command.**


```
Ubuntu 20.04 1 [Running] - Oracle VM VirtualBox

File  Machine  View  Input  Devices  Help
root@jean:/home/jean# rm -r tmp
root@jean:/home/jean# ls
h1
root@jean:/home/jean#
```

9. **Rename File1.txt file under dir1 in a way it begins with string NewFileX1 (File1.txt → NewFileX1.txt)**


```
Ubuntu 20.04 1 [Running] - Oracle VM VirtualBox

File  Machine  View  Input  Devices  Help
root@jean:~# mv /home/jean/h1/dir_1/File1.txt /home/jean/h1/dir_1/NewFileX1.txt
root@jean:~# cd /home/jean/h1/dir_1
root@jean:/home/jean/h1/dir_1# ls
File2.txt  File3.txt  File4.txt  NewFileX1.txt
root@jean:/home/jean/h1/dir_1# _
```

10. Absolute path is a full path to a file(folder) from the root directory (/)
    Ex: /home/jean/h1/dir_1 is an absolute path to the directory dir_1

    A relative path is a path that starts at the current directory and doesn't start with /

    Ex: Suppose your pwd is /home/jean/h1/ and you want to go to the directory dir_1. In this case you will just type cd dir_1. You will not need to type the whole absolute path.