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Linux Assignment

1. Create a directory "exercise" inside your home directory and create nested(dir1/dir2/dir3) directory structure inside "excerise" with single command.

```
vineet@vineet:~/Desktop$ mkdir exercise
vineet@vineet:~/Desktop$ cd exercise
vineet@vineet:~/Desktop/exercise$ mkdir -pdir1/dir
mkdir: invalid option -- 'd'
Try 'mkdir --help' for more information.
vineet@vineet:~/Desktop/exercise$ mkdir -p dir1/di
vineet@vineet:~/Desktop/exercise$ ls
dir1
vineet@vineet:~/Desktop/exercise$ ls dir1/
dir2
vineet@vineet:~/Desktop/exercise$ ls dir1/dir2/
dir3
```

2. Create two empty files inside dir2 directory: emptyFile1,emptyFile2 in single command.

```
vineet@vineet:~/Desktop/exercise$ cd dir1/dir2
vineet@vineet:~/Desktop/exercise/dir1/dir2$ touch emptyFile1 emptyFile2
vineet@vineet:~/Desktop/exercise/dir1/dir2$ ls -l
total 4
drwxrwxr-x 2 vineet vineet 4096 Sep 21 10:19 dir3
-rw-rw-r-- 1 vineet vineet    0 Sep 21 10:23 emptyFile1
-rw-rw-r-- 1 vineet vineet    0 Sep 21 10:23 emptyFile2
vineet@vineet:~/Desktop/exercise/dir1/dir2$
```

3. Create one file file1.txt containing text "hello world" and save it.

```
vineet@vineet:~/Desktop/exercise/dir1/dir2$ cat > file1.txt


pwd
ls
output
Hello World
```

4. Find a "passwd" file using find command inside /etc. copy this files as passwd_copy and then rename this file as passwd_backup.

```
vineet@vineet:~/Desktop/exercise/dir1/dir2$ sudo find /etc -name passwd
[sudo] password for vineet:
/etc/passwd
/etc/pam.d/passwd
vineet@vineet:~/Desktop/exercise/dir1/dir2$ sudo cp /etc/passwd etc/passwd_copy
cp: cannot create regular file 'etc/passwd_copy': No such file or directory
vineet@vineet:~/Desktop/exercise/dir1/dir2$ sudo cp /etc/passwd /etc/passwd_copyvineet@vineet:~/Desktop/exercise/dir1/dir2$ sudo ls /etc/passwd_co
/etc/passwd_copy
vineet@vineet:~/Desktop/exercise/dir1/dir2$ sudo mv /etc/passwd_copy /etc/passwd_backup
vineet@vineet:~/Desktop/exercise/dir1/dir2$ sudo ls /etc/passwd_backup
/etc/passwd_backup
vineet@vineet:~/Desktop/exercise/dir1/dir2$
```

5. Try reading passwd_backup file in multiple tools: less,more,cat,strings etc and find the difference in their usage.

```
vineet@TTNPL-6627:/etc$ less passwd_backup
vineet@TTNPL-6627:/etc$ more passwd_backup
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
```

```
vineet@TTNPL-6627:/etc$ strings passwd_backup
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
```

6. Find out the number of line in password_backup containing "/bin/false".

```
vineet@vineet:~/Desktop/exercise/dir1/dir2$ sudo grep -c false /etc/passwd
[sudo] password for vineet:
6
vineet@vineet:~/Desktop/exercise/dir1/dir2$
```

7. Get the first 5 lines of a file “password_backup” and Redirect the output of the above commands into file "output".

```
vineet@vineet:~/Desktop/exercise/dir1/dir2$ sudo head -n 5 /etc/passwd_backup > output
[sudo] password for vineet:
vineet@vineet:~/Desktop/exercise/dir1/dir2$ cat output
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
vineet@vineet:~/Desktop/exercise/dir1/dir2$
```

8. Create a "test" user,create its password and find out its uid and gid.

```
vineet@vineet:~/Desktop/exercise/dir1/dir2$ sudo adduser test
[sudo] password for vineet:
Adding user `test' ...
Adding new group `test' (1001) ...
Adding new user `test' (1001) with group `test' ...
Creating home directory `/home/test' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for test
Enter the new value, or press ENTER for the default
        Full Name []:
        Room Number []:
        Work Phone []:
        Home Phone []:
        Other []:
Is the information correct? [Y/n] y
vineet@vineet:~/Desktop/exercise/dir1/dir2$ id -u test
1001
vineet@vineet:~/Desktop/exercise/dir1/dir2$ id -g test
1001
vineet@vineet:~/Desktop/exercise/dir1/dir2$
```

9. Change the timestamp of emptyFile1,emptyFile2 which are exist in dir2.

```
vineet@vineet:~/Desktop/exercise/dir1/dir2$ ls -l emptyFile1
-rw-rw-r-- 1 vineet vineet 0 Sep 21 10:23 emptyFile1
vineet@vineet:~/Desktop/exercise/dir1/dir2$ ls -l emptyFile2
-rw-rw-r-- 1 vineet vineet 0 Sep 21 10:23 emptyFile2
vineet@vineet:~/Desktop/exercise/dir1/dir2$ touch -t 202209252145 emptyFile1
vineet@vineet:~/Desktop/exercise/dir1/dir2$ touch -t 202209252145 emptyFile2
vineet@vineet:~/Desktop/exercise/dir1/dir2$ ls -l emptyFile1
-rw-rw-r-- 1 vineet vineet 0 Sep 25  2022 emptyFile1
vineet@vineet:~/Desktop/exercise/dir1/dir2$ ls -l emptyFile2
-rw-rw-r-- 1 vineet vineet 0 Sep 25  2022 emptyFile2
vineet@vineet:~/Desktop/exercise/dir1/dir2$
```

11.Create alias with your name so that it creates a file as "/tmp/aliastesting".

```
vineet@TTNPL-6627:~$ alias vineet="mkdir tmp && touch tmp/aliastesting"
vineet@TTNPL-6627:~$ vineet
vineet@TTNPL-6627:~$
```

12.Edit ~/.bashrc file such that when you change to "test" user it should clear the screen and print "Welcome".

13.Install “zip” package.

```
vineet@TTNPL-6627:~$ alias vineet="mkdir tmp && touch tmp/aliastesting"
vineet@TTNPL-6627:~$ vineet
vineet@TTNPL-6627:~$ sudo apt install binutils
[sudo] password for vineet:
Reading package lists... Done
Building dependency tree
Reading state information... Done
binutils is already the newest version (2.34-6ubuntu1.3).
0 upgraded, 0 newly installed, 0 to remove and 5 not upgraded.
vineet@TTNPL-6627:~$
```

14. Compress "output" and "password_backup" files into a tar ball. List the files present inside the tar created.

```
vineet@vineet:~/exercise$ tar -cvzf ball.tar.gz output.txt passwd_backup.txt
output.txt
passwd_backup.txt
vineet@vineet:~/exercise$ ls
ball.tar.gz  dir1  output.txt  passwd_backup.txt
vineet@vineet:~/exercise$ tar ztvf ball.tar.gz
-rw-r--r-- root/root         0 2022-09-21 14:02 output.txt
-rw-r--r-- root/root         0 2022-09-21 14:02 passwd_backup.txt
vineet@vineet:~/exercise$
```

15.scp this file to test user.

```
vineet@TTNPL-6627:/etc$ sudo scp ball.tar test
vineet@TTNPL-6627:/etc$
```

16.Unzip this tar file by logging into the remote server.

17.Download any image from web and move to desktop

```
vineet@TTNPL-6627:~/Downloads$ mv  google-chrome-stable_current_amd64.deb ~/Desk
top/
vineet@TTNPL-6627:~/Downloads$
```

18.How to get help of commands usages.

```
vineet@TTNPL-6627:~/Downloads$ cat --help
Usage: cat [OPTION]... [FILE]...
Concatenate FILE(s) to standard output.

With no FILE, or when FILE is -, read standard input.

  -A, --show-all           equivalent to -vET
  -b, --number-nonblank    number nonempty output lines, overrides -n
  -e                       equivalent to -vE
  -E  --show-ends          display $ at end of each line
```

19.Create a symlink of /etc/services into /tmp/ports-info.

```
vineet@TTNPL-6627:~/Downloads$ ln -s /etc/services /tmp/ports-info
vineet@TTNPL-6627:~/Downloads$
```

20.You are appointed as a Software/DevOps Engineer in ABC media services. On your first day you need to troubleshoot a problem. There is a command “xyz” somewhere installed in that linux system. But as a new joinee you do not have any idea about where is that Installed. How can you check that?

```
vineet@TTNPL-6627:~/Downloads$ whereis abc
abc:
```