



Operating System

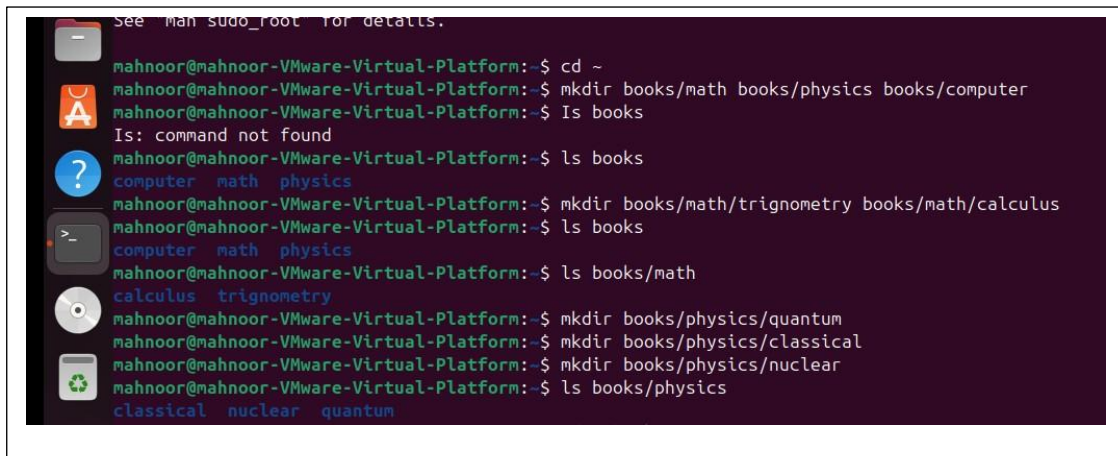
Lab #3

Submitted By:

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BSCS-5

Following directory hierarchy:

A terminal window with a dark purple background and light green text. On the left side, there is a vertical toolbar with icons for a file manager, a terminal, a help icon, a search icon, a refresh icon, and a trash icon. The terminal text shows a user named 'mahnoor' in a 'VMware-Virtual-Platform' environment. The user starts at the home directory, creates three subdirectories: 'books/math', 'books/physics', and 'books/computer'. Then, they list the contents of 'books', which shows 'computer', 'math', and 'physics'. Next, they create 'books/math/trigonometry' and 'books/math/calculus', and list the contents of 'books/math', showing 'calculus' and 'trigonometry'. Finally, they create 'books/physics/quantum', 'books/physics/classical', and 'books/physics/nuclear', and list the contents of 'books/physics', showing 'classical', 'nuclear', and 'quantum'.

```
See 'man sudo_root' for details.
mahnoor@mahnoor-VMware-Virtual-Platform:~$ cd ~
mahnoor@mahnoor-VMware-Virtual-Platform:~$ mkdir books/math books/physics books/computer
mahnoor@mahnoor-VMware-Virtual-Platform:~$ ls books
ls: command not found
mahnoor@mahnoor-VMware-Virtual-Platform:~$ ls books
computer  math  physics
mahnoor@mahnoor-VMware-Virtual-Platform:~$ mkdir books/math/trigonometry books/math/calculus
mahnoor@mahnoor-VMware-Virtual-Platform:~$ ls books
computer  math  physics
mahnoor@mahnoor-VMware-Virtual-Platform:~$ ls books/math
calculus  trigonometry
mahnoor@mahnoor-VMware-Virtual-Platform:~$ mkdir books/physics/quantum
mahnoor@mahnoor-VMware-Virtual-Platform:~$ mkdir books/physics/classical
mahnoor@mahnoor-VMware-Virtual-Platform:~$ mkdir books/physics/nuclear
mahnoor@mahnoor-VMware-Virtual-Platform:~$ ls books/physics
classical  nuclear  quantum
```

Tasks:

1. Create other directory chemistry under books, and move to chemistry directory.

Now you are quite away from your home directory. How would you go to your home directory directly? Your current location is:

books/chemistry

Go to Home directory directly.

```
mahnoor@mahnoor-VMware-Virtual-Platform:~$ cd ~/books
mahnoor@mahnoor-VMware-Virtual-Platform:~/books$ mkdir chemistry
mahnoor@mahnoor-VMware-Virtual-Platform:~/books$ ls
chemistry  computer  math  physics
mahnoor@mahnoor-VMware-Virtual-Platform:~/books$
```

```
mahnoor@mahnoor-VMware-Virtual-Platform:~/books$ cd ~
mahnoor@mahnoor-VMware-Virtual-Platform:~$ pwd
/home/mahnoor
mahnoor@mahnoor-VMware-Virtual-Platform:~$
```

2. Now you are in your home directory.

How will you go to chemistry directory directly?

What do you think **books/chemistry** is relative or absolute path?

```
/home/mahnoor
mahnoor@mahnoor-VMware-Virtual-Platform:~$ cd ~/books/chemistry
mahnoor@mahnoor-VMware-Virtual-Platform:~/books/chemistry$ pwd
/home/mahnoor/books/chemistry
```

Books/chemistry is relative path because it does not start with / and this does not show full location.

3. How will you add a directory **graphics** under the directory computer while you are in **physics**' subdirectory **classical**?

```
mahnoor@mahnoor-VMware-Virtual-Platform:~$ cd ~/books/chemistry
mahnoor@mahnoor-VMware-Virtual-Platform:~/books/chemistry$ pwd
/home/mahnoor/books/chemistry
mahnoor@mahnoor-VMware-Virtual-Platform:~/books/chemistry$ ls
mahnoor@mahnoor-VMware-Virtual-Platform:~/books/chemistry$ cd ~/books/physics/classical
mahnoor@mahnoor-VMware-Virtual-Platform:~/books/physics/classical$ mkdir ../../computer/graphics
mahnoor@mahnoor-VMware-Virtual-Platform:~/books/physics/classical$ ls ../../computer
graphics
```

4. You are in books directory, from here try to remove sub-directory quantum under the directory physics. Now move to directory computer, from here remove sub-directory calculus under the directory math.

```
mahnoor@mahnoor-VMware-Virtual-Platform:~/books/physics/classical$ rmdir physics/quantum
rmdir: failed to remove 'physics/quantum': No such file or directory
mahnoor@mahnoor-VMware-Virtual-Platform:~/books/physics/classical$ cd ~/books
mahnoor@mahnoor-VMware-Virtual-Platform:~/books$ rmdir physics/quantum
mahnoor@mahnoor-VMware-Virtual-Platform:~/books$ ls physics
classical nuclear
mahnoor@mahnoor-VMware-Virtual-Platform:~/books$
```

```
mahnoor@mahnoor-VMware-Virtual-Platform:~/books$ ls physics
classical nuclear
mahnoor@mahnoor-VMware-Virtual-Platform:~/books$ cd ~/books/computer
mahnoor@mahnoor-VMware-Virtual-Platform:~/books/computer$ rmdir ../math/calculus
mahnoor@mahnoor-VMware-Virtual-Platform:~/books/computer$ ls ../math
trigonometry
mahnoor@mahnoor-VMware-Virtual-Platform:~/books/computer$
```

5. Which are the Linux Directory Commands? Explain the understanding of commands in your own words.

ls: shows the full path of the folder you are currently in (shows you what is inside the current directory)

pwd: It tells you where you are right now in the directory (displays current working directory)

mkdir: It creates a directory

rmdir: It removes empty directories from the directory list

cd: It moves one directory to another

cd /: it moves to root directory

cd ..: goes back one folder

cd ~: go to home directory

rm -r: Removes the folder even it has files in it