Bash Command Practice 4

Let's learn how to manage software with apt. Before installing anything with apt, it's good practice to run sudo apt update first. This makes sure that you're getting the most recent version of whatever package you install.

Once that's done, enter:

```
sudo apt install tree
```

After that installs, hit the up arrow once to scroll back through your command history (this is a very handy tool that you should learn to take advantage of.) Replace "tree" with "htop" so that you're entering sudo apt install htop. Remember, when you use **sudo** you're telling Linux to run the command as an administrator. You'll be asked for your password.

We've just installed two new packages.

- **tree** shows folders and files as a visual tree structure.
- **htop** is an interactive system monitor (we'll use this more later).

Let's practice using "tree". Let's start by nuking the practice directory from last time with rm -r practice. Before we move on, I want to stress how important it is that you practice typing these commands in **by hand** while you're still learning. Be sure to use the Tab autocomplete feature to save time. **Do not copy and paste!** Run these commands:

```
mkdir -p practice/folderA
```

(make parent directory "practice" and child directory "folderA")

```
cd practice
```

(change into the "practice" directory)

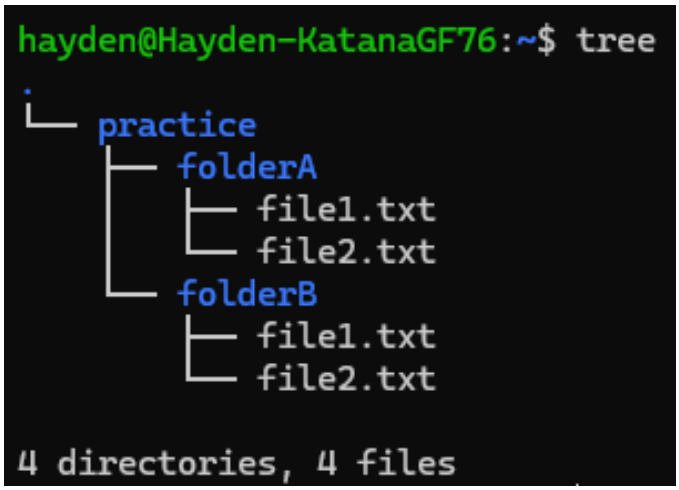
`touch folderA/file1.txt folderA/file2.txt`

(create two empty text files inside of “folderA”)

`cp -r folderA/ folderB`

(recursively copy folderA into a new directory, folderB)

Once you do all that, run `cd ..` to move up a directory and then run `tree`. You should see something like this:



Pretty cool eh? It’s nothing fancy but it’s a great way to visualize the structure of your directories.

Most programs include a `--version` flag to show which version you’re using.

`tree --version`

tree v2.1.1 © 1996 - 2023 by Steve Baker, Thomas Moore, Francesc Rocher, Florian Sesser, Kyosuke Tokoro

`htop --version`

htop 3.3.0

You can get even more details by using apt show. Try sudo apt show tree. You should see the package name, the maintainer, installed size, description, and all sorts of other info.

> Package: tree
>
> Version: 2.1.1-2ubuntu3
>
> Priority: optional
>
> Section: universe/utils
>
> Origin: Ubuntu
>
> Maintainer: Ubuntu Developers
> <ubuntu-devel-discuss@lists.ubuntu.com>
>
> ...

Etc. And as a reminder, if you ever need to remove a package you can run sudo apt remove [package] (for example, sudo apt remove tree.)