COMP2700 lab 1 -- Solutions to selected exercises

Exercise 3

- a. For this exercise, we can use the wildcard `?` (which matches exactly one character) and `*` (which matches zero or more characters). To display file names whose length are 3 or longer, use three instances of `?` and one `*`, in any order. For example:

```
ls -al /bin/???*
```

- b. We can use the wildcard `?`, `??` and `???` to match, respectively, files with one character, two characters and three characters in their names:

```
ls -al /bin/? /bin/?? bin/???
```

Exercise 4

To navigate to the home directory of the current user (`alice`), we can use the shortcut `~`. Then it is just a matter to find the shortest description that matches the subdirectory `Documents` in Alice's home directory. A straightforward way to do this could be:

```
cd ~/Documents
```

This will nativagate to `/home/alice/Documents` and it works everytime regardless of whether Alice's home directory contains other files or directories. However, we may also use a pattern with wildcard `*` to represent the target directory, to avoid spelling the directory name (`Documents`) completely, if we are sure that the pattern can be matched *only* with the `Documents` subdirectory. This will depend on what files/directories are contained in Alice's home directory. In this specific instance of the VM, we have:

```
alice@comp2700-lab:~$ ls -l
total 24
drwx------  2 alice alice 4096 Jul 21 21:42 Documents
drwxr-xr-x  2 alice alice 4096 Jul 21 21:42 Downloads
drwxr-xr-x 10 alice alice 4096 Jul 28  2020 lab1
-rw-rw-r--  1 alice alice 7437 Jul 26 12:54 lab1.tar.gz
drwxr-xr-x  2 alice alice 4096 Jul 21 21:42 Public
```

It is obvious that the pattern `Doc*` will match only `Documents`, so the following command could also work:

```
cd ~/Doc*
```

But there are a few other shorter patterns, for example, `*ts` (any file ending with `ts`, which in this case matches only `Documents`), or `*m*` (any file containing the letter `m`, which matches only `Documents` in this case), etc.

```
cd ~/*ts
```

Note that this trick using wildcard in the `cd` command is neat, but may not work in every situation. For example, if Alice's home directory contains another directory called `tests`, in addition to `Documents`, the command `cd ~/*ts` will produce an error message as there are two possible directories that match the pattern `~/*ts`, i.e., `~/Documents` and `~/tests`.

Exercise 5

```
cp -r lab1 lab1a
mv lab1a lab1b
```

Exercise 6

```
cp -b -S .bak file1 file2
```

Exercise 7

```
rm -rf ~/lab1b/F*
```

Exercise 8

```
cat ~/lab1/F*/*
```