Homework 1

Orion Freed

2024-09-15

1) What is the difference between shell and bash?

A shell is any terminal that lets the user execute commands on their computer. Bash is a specific shell that we have been using in this class. It was designed for GNU/Linux.

2) To respond to this question, you need to use terminal/Bash and have a screenshot of your terminal/bash.

A) What is your home directory?

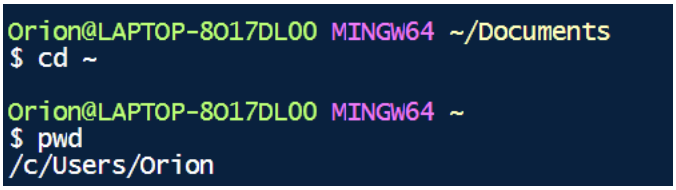

Figure 1: My user directory.

B) What files/folders exist in it?

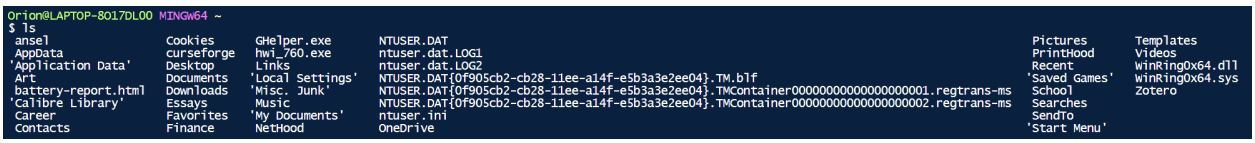

Figure 2: A loooot of files and folders. I try to keep it sorted but I'm not perfect :)

```
Orion@LAPTOP-8O17DL00 MINGW64 ~/Documents
$ cd../../
bash: cd../../: No such file or directory
```

Figure 3: Normally this command would take me up two directories, but it did not do so in this case. That is probably because if it did it would leave my user directory and I do not think the R terminal can do that.

```
Orion@LAPTOP-8O17DL00 MINGW64 ~
$ cd documents

Orion@LAPTOP-8O17DL00 MINGW64 ~/documents
$ pwd
/c/Users/Orion/documents
```

Figure 4: `cd` changes your directory. `pwd` prints the current working directory.

Figure 5: The `a` flag allows the inclusion of files beginning with a `.` symbol.

```
Orion@LAPTOP-8O17DL00 MINGW64 ~/Documents
$ ls -l
total 38
-rw-r--r-- 1 Orion 197609   162 Feb  8  2024 '~$ail for the state department.docx'
drwxr-xr-x 1 Orion 197609     0 Sep  9  2023 'AutomaticSolution Software'
drwxr-xr-x 1 Orion 197609     0 Nov 16  2023  class_stuff_temp
drwxr-xr-x 1 Orion 197609     0 Aug 15  2023 'Custom Office Templates'
-rw-r--r-- 1 Orion 197609   402 Feb 14  2024  desktop.ini
-rw-r--r-- 1 Orion 197609 13554 Mar  9  2024 'email for the state department.docx'
drwxr-xr-x 1 Orion 197609     0 Sep 20  2023  hw01-ofree3
drwxr-xr-x 1 Orion 197609     0 Oct 12  2023  hw02-ofree3
drwxr-xr-x 1 Orion 197609     0 Sep 21  2023  hw03-ofree3
drwxr-xr-x 1 Orion 197609     0 Dec 23  2023  LDraw
-rw-r--r-- 1 Orion 197609  2472 Dec 10  2023 'Leah Davis Final Project.zip'
drwxr-xr-x 1 Orion 197609     0 Jun  2 18:43 'My Games'
lrwxrwxrwx 1 Orion 197609    20 Feb 14  2024 'My Music' -> /c/Users/Orion/Music
lrwxrwxrwx 1 Orion 197609    23 Feb 14  2024 'My Pictures' -> /c/Users/Orion/Pictures
```

Figure 6: The `l` flag prints in a list format.

3) To respond to this question, you need to use terminal/Bash and have a screenshot of your terminal/bash.

A) Where does the command `cd../../` take you? Run the command `pwd` and explain the output!

B) What does the command `cd` do? Run the command `pwd` and explain the output!

4) Read the manual page of ls. What does the `a` flag do? What does the `l` flag do?

5)

A) Create a folder within your home directory, which was identified in Question 2, and name it 'temp_bash'.

```
Orion@LAPTOP-8O17DL00 MINGW64 ~/Documents
$ mkdir temp_bash
```

B) Create a new file using the command `touch` and name it `myfile.txt` inside the new folder `temp_bash` and run `ls` to show that the file is inside the folder.

```
Orion@LAPTOP-8O17DL00 MINGW64 ~/Documents
$ cd temp_bash

Orion@LAPTOP-8O17DL00 MINGW64 ~/Documents/temp_bash
$ touch myfile.txt

Orion@LAPTOP-8O17DL00 MINGW64 ~/Documents/temp_bash
$ ls
myfile.txt
```

C) Run the `stat myfile.txt` command and explain the information retrieved from the output.

File: myfile.txt Name of file Size: 0 Size of file Blocks: 0 Number of blocks in file IO Block: 65536 regular empty file Size of each block. Device: a4ab548bh/2762691723d Device on which file exists Inode: 54887620458619658 index node Links: 1 number of links to file Access: (0644/-rw-r–r–) access permissions Uid: (197609/ Orion) file owner user id Gid: (197609/ UNKNOWN) file owner group id Access: 2024-09-15 23:41:34.160107800 -0400 time of last access Modify: 2024-09-15 23:41:34.160107800 -0400 time of last modification Change: 2024-09-15 23:41:34.158878100 -0400 time of last status change Birth: 2024-09-15 23:41:34.158878100 -0400 time file was created

6)

A) Use the command >> and add the following line "This line is my first line". Now add the following line "This line is my second line". Then, run cat myfile.txt to show that the line has been added.

```
Orion@LAPTOP-8O17DL00 MINGW64 ~/Documents/temp_bash
$ This line is my first line >> myfile.txt
bash: This: command not found

Orion@LAPTOP-8O17DL00 MINGW64 ~/Documents/temp_bash
$ echo "This line is my first line" >> myfile.txt

Orion@LAPTOP-8O17DL00 MINGW64 ~/Documents/temp_bash
$ echo "This line is my second line" >> myfile.txt

Orion@LAPTOP-8O17DL00 MINGW64 ~/Documents/temp_bash
$ cat myfile.txt
This line is my first line
This line is my second line
```

B) Copy the file myfile.txt to file copy_myfile.txt with the command cp

```
Orion@LAPTOP-8O17DL00 MINGW64 ~/Documents/temp_bash
$ cp myfile.txt copy_myfile.txt
```

C) Use the command > and add the following line This line is a new line to copy_myfile.txt. Then run cat copy_myfile.txt to show the line is added.

```
Orion@LAPTOP-8O17DL00 MINGW64 ~/Documents/temp_bash
$ echo "This line is a new line" > copy_myfile.txt

Orion@LAPTOP-8O17DL00 MINGW64 ~/Documents/temp_bash
$ cat copy_myfile.txt
This line is a new line
```

D) Explain the difference between > and >> based on the result of the Question 6.

> overwrites the file while >> appends to the end.