Exercise-Bash

Question:

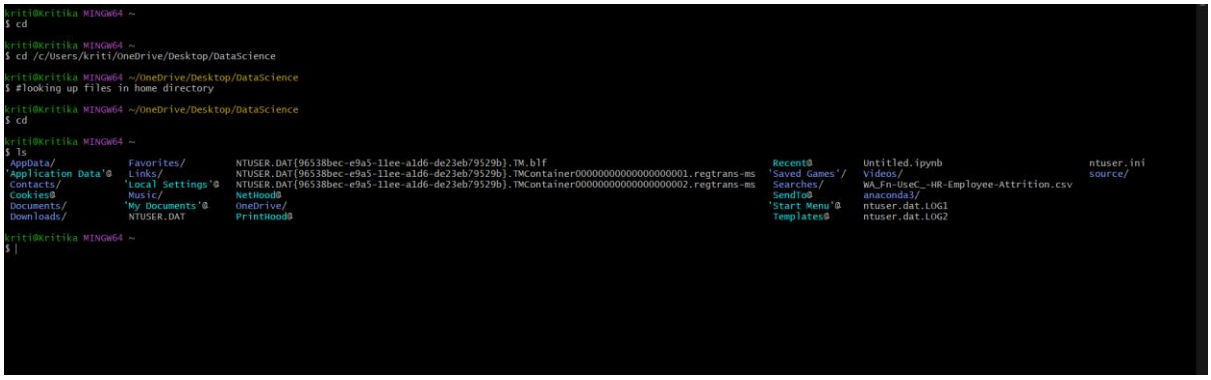
What is difference between shell and bash?

- “shell” is a broad term that refers to any program that provides a command-line interface, “Bash” is a specific type of shell that is widely used in Unix/Linux systems.

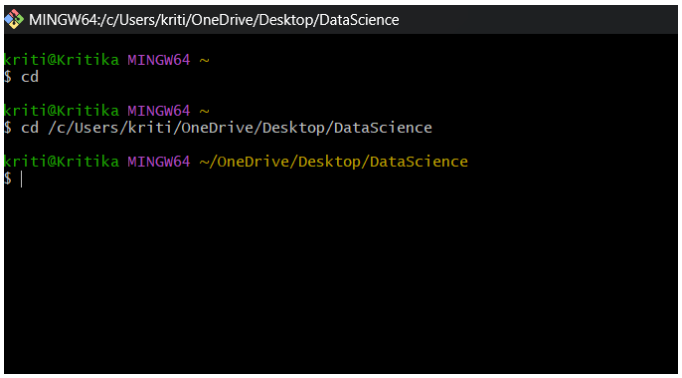
Exercise 1:

What is your home directory? What files/folders exist in your home directory? Navigate to it and then navigate back to your notes.

- The home directory is the default directory assigned to us where we store personal files and directories.
- To view the files in home directory we can use the command **ls** (screenshot attached below)



- Navigate to it and then navigate back to your notes.



Exercise 2:

Where does the following command take you? How does it work?

```
cd ~/../../..
```

- The command moves back 3 folders

Exercise 3:

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

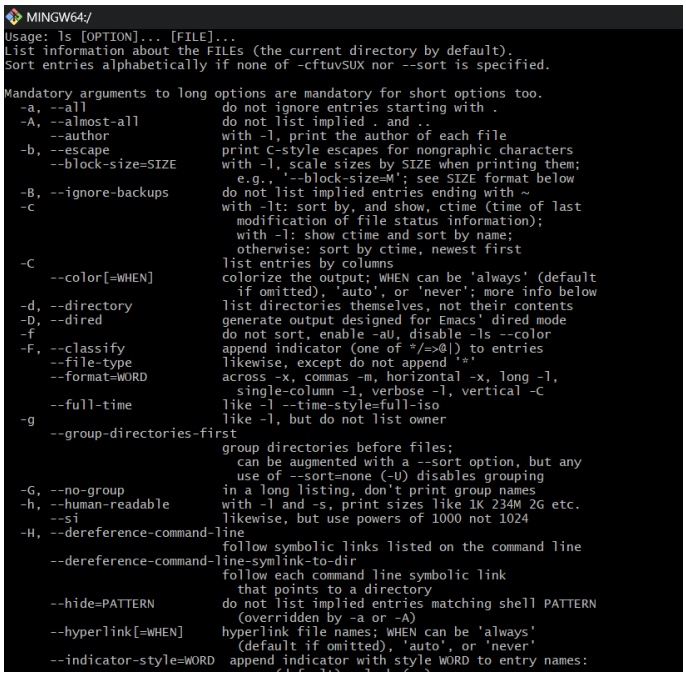
- **a flag:**

  `-a, --all  do not ignore entries starting with .`

  `-a`: Lists all files, including hidden files (those starting with a dot `.`).

- **1 flag:**

  `-1  list one file per line.  Avoid '\n' with -q or -b`
  `-l`: Displays detailed information about each file, such as permissions, number of links, owner, group, size, and modification time.



Exercise 4:

Create a new file with `touch` command. for instance `touch myfile.txt`. Run `stat myfile.txt` what information do you get?

Information Provided:

- File: `myfile.txt`
- Size: The size of the file
- Blocks: Number of blocks allocated
- IO Block: Block size
- Device: Device number
- Inode: Inode number
- Links: Number of links
- Access: File permissions
- Uid: User ID of the file's owner
- Gid: Group ID of the file's owner
- Access: Last access time
- Modify: Last modification time
- Change: Last status change time
- Birth: Created time

```
kriti@Kritika MINGW64 ~/OneDrive/Desktop/DataScience
$ touch myfile.txt

kriti@Kritika MINGW64 ~/OneDrive/Desktop/DataScience
$ stat myfile.txt
  File: myfile.txt
  Size: 0               Blocks: 0          IO Block: 65536  regular empty file
Device: 28d3f43ch/684979260d    Inode: 4785074604211258  Links: 1
Access: (0644/-rw-r--r--)  Uid: (197609/   kriti)   Gid: (197609/ UNKNOWN)
Access: 2024-07-06 19:54:12.389430400 -0400
Modify: 2024-07-06 19:54:12.389430400 -0400
Change: 2024-07-06 19:54:13.355456000 -0400
 Birth: 2024-07-06 19:54:12.386740900 -0400

kriti@Kritika MINGW64 ~/OneDrive/Desktop/DataScience
$
```

Exercise 5:

Run `ls` and from there list select a file. Now run ‘ls -l’ to display the details of the files, showing that it has been created or updated. what information does it give you regarding the `myfile.txt` and your selected file.

```
kriti@Kritika MINGW64 ~/OneDrive/Desktop/DataScience
$ ls
'DS Files'/   HW1.htm   HW1_files/   myfile.txt

kriti@Kritika MINGW64 ~/OneDrive/Desktop/DataScience
$ ls -l
total 96
drwxr-xr-x 1 kriti 197609     0 Jul  6 19:23 'DS Files'/
-rw-r--r-- 1 kriti 197609 92290 Jul  1 17:48  HW1.htm
drwxr-xr-x 1 kriti 197609     0 Jul  6 19:23  HW1_files/
-rw-r--r-- 1 kriti 197609     0 Jul  6 19:54  myfile.txt
```

```
kriti@Kritika MINGW64 ~/OneDrive/Desktop/DataScience
$ ls -l HW1.htm
-rw-r--r-- 1 kriti 197609 92290 Jul  1 17:48 HW1.htm
```

- Details provided:
    - `1`: Number of links to the file.
    - `kriti`: The owner of the file.
    - `197609`: The group ID associated with the file.
    - `92290`: Size of the file in bytes.
    - `Jul 1 17:48`: Last modification date and time of the file.
    - `HW1.htm`: Name of the file. (HW1.htm was my selected file)

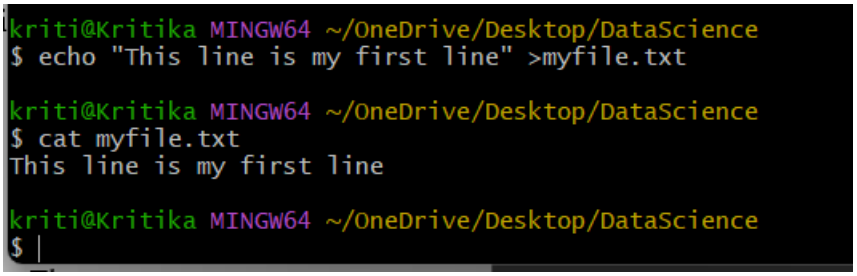
Details provided by ls -l regarding myfile.txt. The ls -l command provides the information for all the files in that directory.

- `1: This indicates the number of links to this file.`
- `kriti: This is my username, indicating that I own this file.`
- `197609: This is the group ID associated with my user account.`
- `0: This is the size of the file in bytes.`
- `Jul 6 19:54: This is the last modification date and time of the file.`
- `myfile.txt: This is the name of the file.`

The `ls -l` command output confirms that the files and directories have been created or updated, as shown by the timestamps. The `myfile.txt` file was last modified on Jul 6 at 19:54, indicating that it has been updated recently. The permissions and ownership details provide additional information about access control for each file and directory.

Exercise 6:

Add the following line `This line is my first line` to `myfile.txt`. Then run `cat myfile.txt` to show the line is added.



Exercise 7:

Run `touch myfile.txt` then run `ls -l myfile.txt` does the "timestamp" for the file `myfile.txt` is updated? Show the output. *Note: Another common use of the touch command is to update the timestamps of an existing file.*

- Yes the timestamp was updated