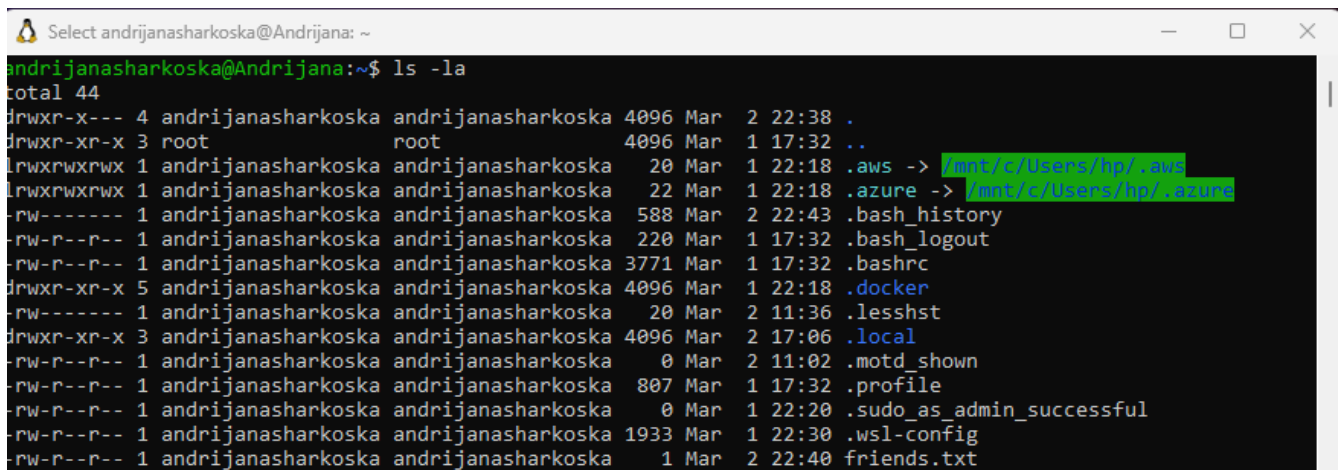


# Homework 6

## Exercise: Basic Linux & Bash commands

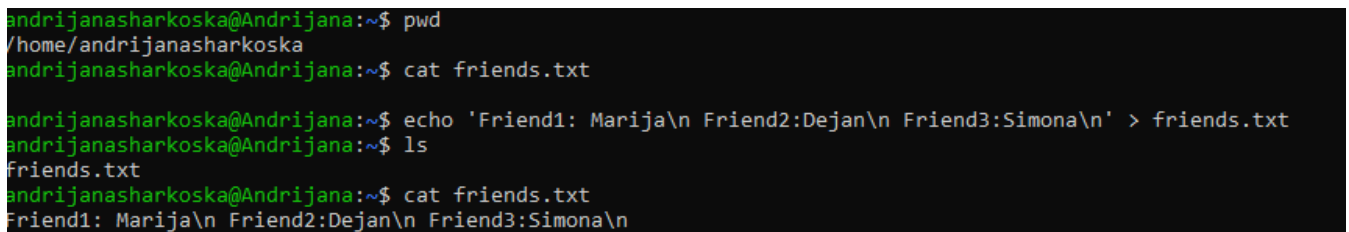
On Hyper-V/Oracle/VMware (whatever your preferred Linux workaround is currently) download Ubuntu image and install it as a virtual machine or WSL2. After this is done:

Listing all files with the command **ls -la**



```
Select andrijanasharkoska@Andrijana: ~
andrijanasharkoska@Andrijana:~$ ls -la
total 44
drwxr-x--- 4 andrijanasharkoska andrijanasharkoska 4096 Mar  2 22:38 .
drwxr-xr-x 3 root                root            4096 Mar  1 17:32 ..
lrwxrwxrwx 1 andrijanasharkoska andrijanasharkoska   20 Mar  1 22:18 .aws -> /mnt/c/Users/hp/.aws
lrwxrwxrwx 1 andrijanasharkoska andrijanasharkoska   22 Mar  1 22:18 .azure -> /mnt/c/Users/hp/.azure
-rw----- 1 andrijanasharkoska andrijanasharkoska  588 Mar  2 22:43 .bash_history
-rw-r--r-- 1 andrijanasharkoska andrijanasharkoska  220 Mar  1 17:32 .bash_logout
-rw-r--r-- 1 andrijanasharkoska andrijanasharkoska 3771 Mar  1 17:32 .bashrc
drwxr-xr-x 5 andrijanasharkoska andrijanasharkoska 4096 Mar  1 22:18 .docker
-rw----- 1 andrijanasharkoska andrijanasharkoska   20 Mar  2 11:36 .lessht
drwxr-xr-x 3 andrijanasharkoska andrijanasharkoska 4096 Mar  2 17:06 .local
-rw-r--r-- 1 andrijanasharkoska andrijanasharkoska    0 Mar  2 11:02 .motd_shown
-rw-r--r-- 1 andrijanasharkoska andrijanasharkoska  807 Mar  1 17:32 .profile
-rw-r--r-- 1 andrijanasharkoska andrijanasharkoska    0 Mar  1 22:20 .sudo_as_admin_successful
-rw-r--r-- 1 andrijanasharkoska andrijanasharkoska 1933 Mar  1 22:30 .wsl-config
-rw-r--r-- 1 andrijanasharkoska andrijanasharkoska    1 Mar  2 22:40 friends.txt
```

1. Create a file friends.txt with a list of names of three of your friends on separate lines.



```
andrijanasharkoska@Andrijana:~$ pwd
/home/andrijanasharkoska
andrijanasharkoska@Andrijana:~$ cat friends.txt

andrijanasharkoska@Andrijana:~$ echo 'Friend1: Marija\n Friend2:Dejan\n Friend3:Simona\n' > friends.txt
andrijanasharkoska@Andrijana:~$ ls
friends.txt
andrijanasharkoska@Andrijana:~$ cat friends.txt
Friend1: Marija\n Friend2:Dejan\n Friend3:Simona\n
```

- **pwd** – for printing the writing directory
- **cat friends.txt** -> creating a file
- **ls** – for listing the files in the current directory

(Here I overlooked that the friends should be listed in separate lines and I fixed it later on.)

```
andrijanasharkoska@Andrijana:~$ sudo nano friends.txt
[sudo] password for andrijanasharkoska:
andrijanasharkoska@Andrijana:~$ cat friends.txt
Friend 1: Marija
Friend 2: Simona
Friend 3: Dejan
```

- **sudo nano friends.txt** -> to edit the text to display on separate lines (clicked CTRL + O for saving the changes)

## 2. Display the contents of friends.txt on the console.

```
andrijanasharkoska@Andrijana:~$ cat friends.txt
Friend 1: Marija
Friend 2: Simona
Friend 3: Dejan
```

- **cat friends.txt** -> display the contents

*This is how the final file looks like.*

## 3. Rename file friends.txt to bestfriends.txt

```
andrijanasharkoska@Andrijana:~$ mv friends.txt bestfriends.txt
andrijanasharkoska@Andrijana:~$ ls -la
total 44
drwxr-x--- 4 andrijanasharkoska andrijanasharkoska 4096 Mar  2 23:03 .
drwxr-xr-x 3 root                root                4096 Mar  1 17:32 ..
lrwxrwxrwx 1 andrijanasharkoska andrijanasharkoska   20 Mar  1 22:18 .aws -> /mnt/c/Users/hp/.aws
lrwxrwxrwx 1 andrijanasharkoska andrijanasharkoska   22 Mar  1 22:18 .azure -> /mnt/c/Users/hp/.azure
-rw----- 1 andrijanasharkoska andrijanasharkoska  588 Mar  2 22:43 .bash_history
-rw-r--r-- 1 andrijanasharkoska andrijanasharkoska  220 Mar  1 17:32 .bash_logout
-rw-r--r-- 1 andrijanasharkoska andrijanasharkoska 3771 Mar  1 17:32 .bashrc
drwxr-xr-x 5 andrijanasharkoska andrijanasharkoska 4096 Mar  1 22:18 .docker
-rw----- 1 andrijanasharkoska andrijanasharkoska   20 Mar  2 11:36 .lessht
drwxr-xr-x 3 andrijanasharkoska andrijanasharkoska 4096 Mar  2 17:06 .local
-rw-r--r-- 1 andrijanasharkoska andrijanasharkoska    0 Mar  2 11:02 .motd_shown
-rw-r--r-- 1 andrijanasharkoska andrijanasharkoska  807 Mar  1 17:32 .profile
-rw-r--r-- 1 andrijanasharkoska andrijanasharkoska    0 Mar  1 22:20 .sudo_as_admin_successful
-rw-r--r-- 1 andrijanasharkoska andrijanasharkoska 1933 Mar  1 22:30 .wsl-config
-rw-r--r-- 1 andrijanasharkoska andrijanasharkoska   50 Mar  2 22:58 bestfriends.txt
```

- **mv friends.txt bestfriends.txt** – to rename the file

## 4. Make a copy of bestfriends.txt under the name sysadmins.txt

```
andrijanasharkoska@Andrijana:~$ cp bestfriends.txt sysadmins.txt
andrijanasharkoska@Andrijana:~$ ls
```

- **cp bestfriends.txt sysadmins.txt** -> copy the file
- **ls** -> listing the files to check if it was copied

5. List all files whose name begins with letter 'b' and ends with extension txt.

```
andrijanasharkoska@Andrijana:~$ ls b*.txt
bestfriends.txt
```

- `ls b*.txt` -> listing

6. Write a command that will tell you how many bytes are taken up by file sysadmins.txt

```
andrijanasharkoska@Andrijana:~$ wc -c sysadmins.txt
50 sysadmins.txt
```

`wc -c sysadmins.txt` – for checking the bytes of the file

7. Create file cars.txt with a list of 5 brands of cars on separate lines.

```
andrijanasharkoska@Andrijana:~$ touch cars.txt
andrijanasharkoska@Andrijana:~$ echo 'Ferrari, Polo, Audi, Opel, Ford' > cars.txt
andrijanasharkoska@Andrijana:~$ ls
bestfriends.txt cars.txt sysadmins.txt
andrijanasharkoska@Andrijana:~$ cat cars.txt
Ferrari, Polo, Audi, Opel, Ford
```

I tried a different set of commands here (Also fixed the file later on so that all of these are on separate lines):

- `touch cars.txt` -> for creating the file
- `echo 'Ferrari, Polo, Audi, Opel, Ford' > cars.txt` -> writing out the content in the file
- `ls` -> for checking the files

8. Check how many bytes are taken up by the file.

```
andrijanasharkoska@Andrijana:~$ wc -c cars.txt
32 cars.txt
```

9. Copy the file cars.txt into directory /tmp

```
andrijanasharkoska@Andrijana:~$ cp cars.txt /tmp
```

`cp cars.txt /tmp` -> command for copying files to a specified directory

10. List all files with extension \*.txt in directory /tmp and verify that the file was copied properly.

```
andrijanasharkoska@Andrijana:/tmp$ ls /tmp/*.txt
/tmp/cars.txt
```

- `ls /tmp/*.txt` -> list all files with extension \*.txt

11. Without leaving your home directory rename file cars.txt located in /tmp to vehicles.txt in /tmp

```
andrijanasharkoska@Andrijana:/tmp$ mv cars.txt vehicles.txt
andrijanasharkoska@Andrijana:/tmp$ ls
vehicles.txt
```

12. Display the contents of /etc/passwd file on the screen interactively (so you can search, scroll up and down)

```
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:102:105:/:nonexistent:/usr/sbin/nologin
systemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
syslog:x:104:111:/:home/syslog:/usr/sbin/nologin
_apt:x:105:65534:/:nonexistent:/usr/sbin/nologin
uidd:x:106:112:/:run/uidd:/usr/sbin/nologin
tcpdump:x:107:113:/:nonexistent:/usr/sbin/nologin
andrijanasharkoska:x:1000:1000:,,,:/home/andrijanasharkoska:/bin/bash
/etc/passwd (END)
```

- `less /etc/passwd` -> displaying the contents of the file