

Template Week 5 – Operating Systems

Student number: 588734

Assignment 5.1: Unix-like

a) Find out what the difference is between UNIX and unix-like operating systems?

Unix is a certified standard, you have to follow strict rules. MacS uses Unix.

Unix-Like is not a certified standard, it is the same as Unix but without the many restrictions, most OS's use this. Like Ubuntu and Fedora.

b) Study the image above named UNIX timeline. Find out who Ken Thompson, Dennis Ritchie, Bill Joy, Richard Stallman, and Linus Torvalds are and what they have contributed to the development of UNIX or unix-like systems and to IT in general. TIP! English-language sources often contain more detailed information about these individuals.

- **Ken Thompson:** An American computer scientist, One of the creators of UNIX. Created the B programming language, which inspired C. Later he co-created the programming language Go (From google)
- **Dennis Ritchie:** An American computer scientist. Co Creator of Unix. Invented the C programming language.
- **Billy Joy:** Co founder of Sun Micro systems and key contributor to early BSD Unix. Created the VI text editor.
- **Richard Stallman:** Founder of the Free Software Foundation FSF and leader of the GNU Project.
- **Linus Torvalds:** Finnish software engineer and creator of the Linux Kernel. Created the Linux Kernel and Git, the most widely used version control system.

c) What is the philosophy of the GNU movement?

It is focused on Software Freedom, Its goal is to ensure that users stay in control of their computers.

d) Does Ubuntu as a Linux operating system conform to the philosophy of the GNU movement? Please explain your answer.

Yes but also no, Ubuntu is built on the Linux kernel (Open source) many GNU tools, an open source base. But it also has proprietary drivers, like NVIDIA. So it has the meaning of but it is almost impossible.

e) Find out what is the Windows Subsystem for Linux?

It is a feature in Windows that lets you run a real Linux environment directly inside Windows without needing a virtual machine or dual-boot setup.

f) Find out, which operating system family belongs to Android, iOS and ChromeOS?

iOS is based on Darwin which comes from BSD Unix and NeXTSTEP. It is a certified UNIX system. Android comes from the Linux family and ChromeOS also from the Linux Family.

Assignment 5.2: Supercomputers and gameconsoles

- a) Research on this site what supercomputers are used for and write a short summary of it:

<https://www.computerhistory.org/timeline/search/?q=Supercomputer>

Supercomputers are extremely powerful computers, build to handle computing tasks that require a lot of amounts of calculation, memory or data. Tasks that a normal PC or server cannot handle.

- b) IBM is a company that has already built a number of supercomputers. One of them is IBM's Roadrunner. The CPU developed for this supercomputer was further developed at a later stage as the CPU for the PlayStation 3 console. Find out what a **PlayStation 3 cluster** is and what it was used for?

A PS3 cluster means connecting multiple PS3 consoles together, so they work in parallel. It makes a small supercomputer. Each PS3 uses the Cell broadband engine CPU. Early around 2007 researchers were able to run Linux on the PS3.

- c) You can build a supercomputer by putting a few computers together in a cluster. Here's what Oracle did with a collection of Raspberry Pi's, for example:

<https://blogs.oracle.com/developers/post/building-the-worlds-largest-raspberry-pi-cluster>

What specific operating system is running on this cluster?

The cluster runs Oracle Linux (For ARM) and the Pis.

- d) Does Oracle's Raspberry Pi supercomputer appear in the list of the 500 fastest supercomputers in the world? Make a logical decision for this, without going through the entire list.

<https://www.top500.org/lists/top500/list/2023/06/>

No I do not think, pis are not that powerful. They are simple small machines.

- e) What CPU architecture is used for the PlayStation 5 and Xbox Series X?

What operating systems run on these consoles?

What conclusion can you draw from the answer to the previous question?

Playstation 5 runs x86-64 (AMD Zen 2), the Xbox Series X runs also x86-64 (AMD Zen 2)

Playstation is a custom OS based on FreeBSD with a hypervisor to run games efficiently.

Xbox runs a custom OS based on Windows 10.

Modern machines are almost fully pc builds they run modern custom operation systems.

Assignment 5.3: Working with Windows

Take relevant screenshots of the assignments below

- a) Practice for about 10 minutes with the W keyboard shortcuts combinations, skip the general shortcuts in this exercise. Take a look at which screens are opened.
- b) The file explorer can be opened with W + E, Which key combination could you also use?
- c) Open the system properties with a W key combination, take a screenshot of the open screen. Paste this screenshot into this template.
- d) Open task manager with a key combination. Take screenshots of the tabs: processes (shows active processes), performance, and users. Place these three screenshots in this template.
- e) If you're giving a PowerPoint presentation and you connect your laptop to a projector, Windows can use the projector as a second screen. For example, you may have Outlook open on your first screen that you don't show over the projector, while the PowerPoint presentation is displayed on the projector, or the second screen. Which key combination should you use for this?
- f) If you leave the classroom for a while and you leave your laptop behind, it is wise to lock the screen. Your Apps will continue to run in the background. So, for example, if you're waiting for a download that takes a while, lock the screen and get a cup of coffee. Which key combination do you use for this?
- g) Open the Run screen with a key combination. On this screen, type CMD and press <enter>. Take a screenshot of this result and paste it into this template.

Working in the File Explorer

Relevant screenshots **copy** command:

Relevant screenshots **tree** command:

Relevant screenshots in the file explorer of the folder c:\Saxion + created zip file.

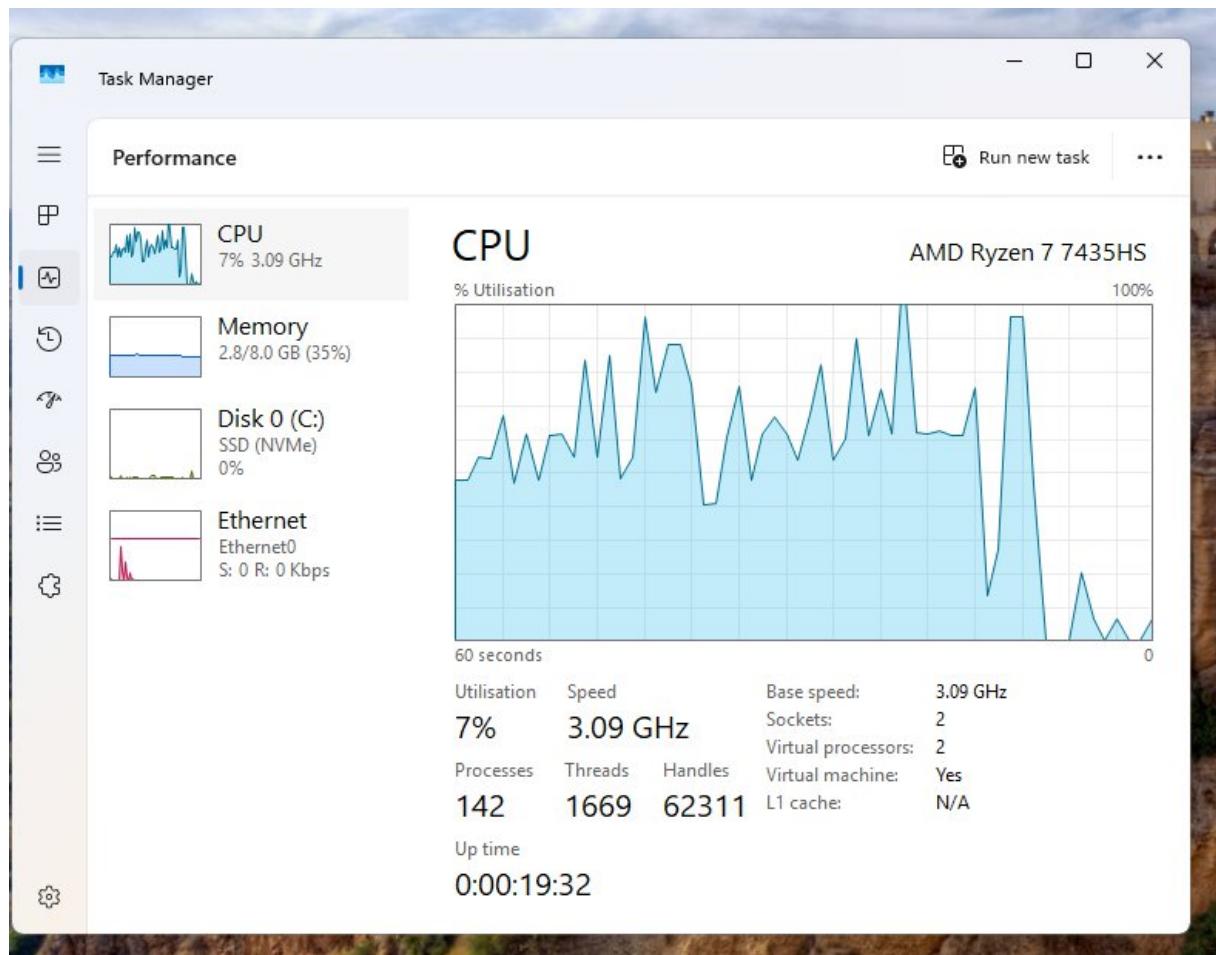
Terminating Processes

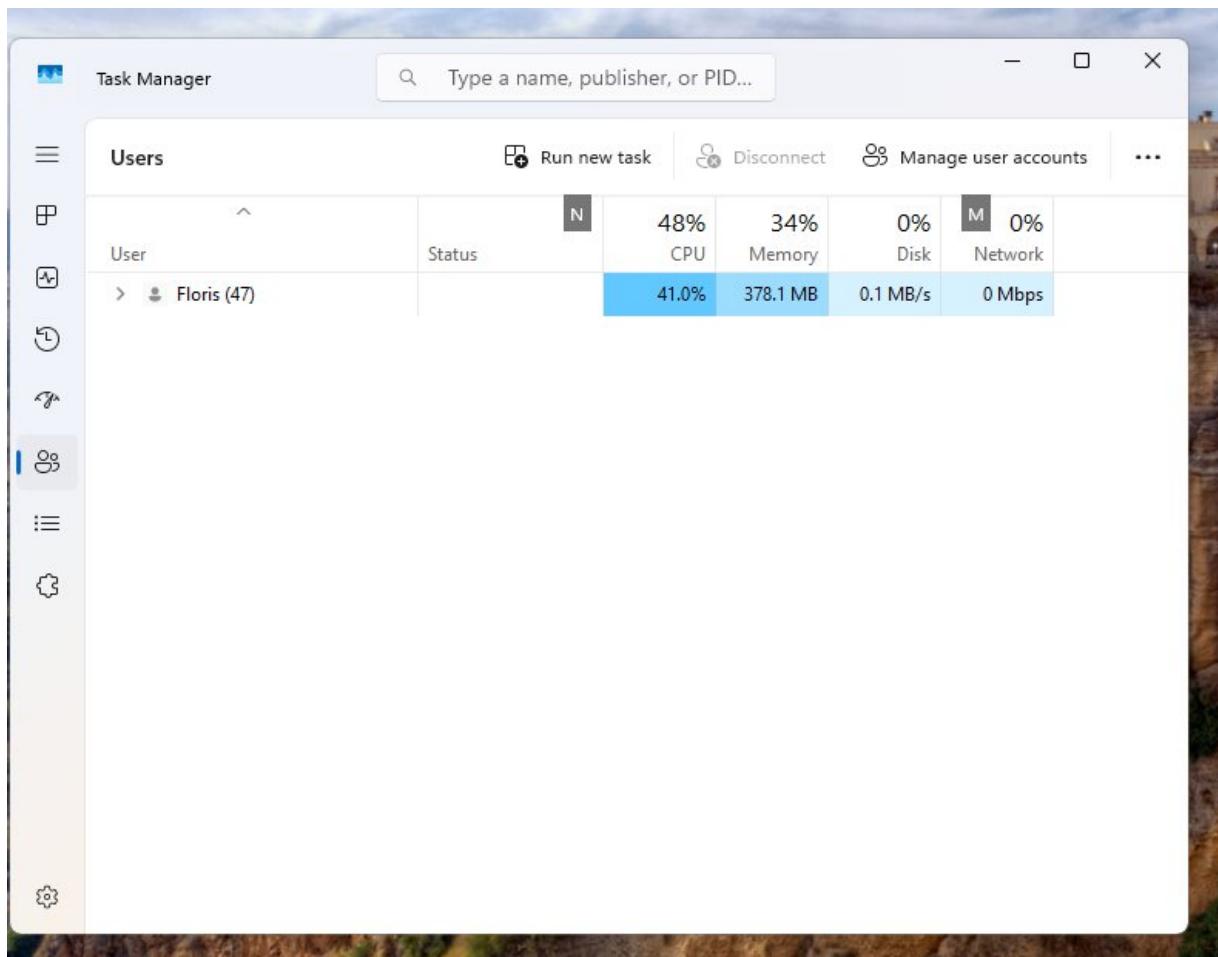
Relevant Screenshots Task Manager Window:

Windows toets + e opent Verkenner, maar je kunt ook Ctrl + Esc en dan E typen,
Systeem eigenschappen kun je openen met Windowstoets + E

Taakbeheer geopend met ctrl + shift +esc

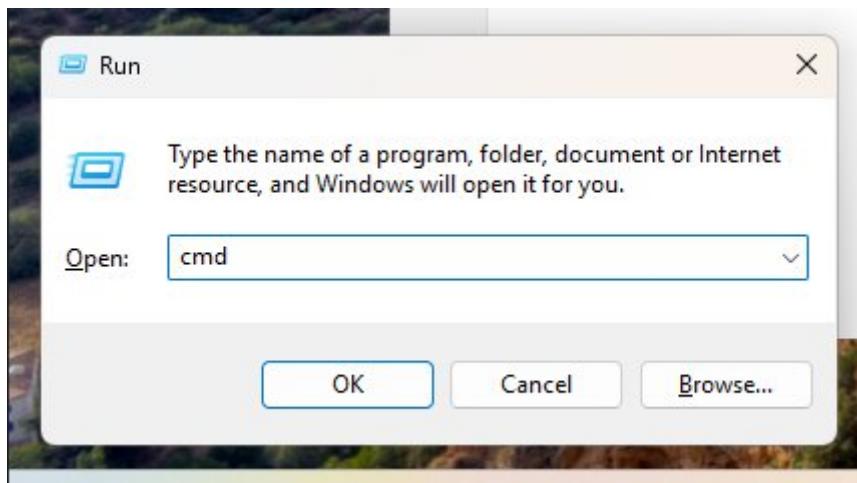
Name	Status	76% CPU	38% Memory	3% Disk	0% Network
Apps (2)					
Settings		20.4%	31.7 MB	0.2 MB/s	0 Mbps
> Task Manager		0%	44.1 MB	0.1 MB/s	0 Mbps
Background processes (35)					
> Antimalware Core Service		0%	6.9 MB	0 MB/s	0 Mbps
> Antimalware Service Executable		0%	216.5 MB	0 MB/s	0 Mbps
Application Frame Host		0%	4.1 MB	0 MB/s	0 Mbps
> COM Surrogate		0%	2.7 MB	0 MB/s	0 Mbps
CTF Loader		0%	4.6 MB	0 MB/s	0 Mbps
Host Process for Windows Tasks		0%	2.1 MB	0.1 MB/s	0 Mbps
Microsoft (R) Aggregator Host		0%	3.3 MB	0 MB/s	0 Mbps
> Microsoft Distributed Transact...		0%	2.1 MB	0 MB/s	0 Mbps
> Microsoft Edge (5)		0%	47.1 MB	0 MB/s	0 Mbps
Microsoft Edge Update (32 bit)		0%	0.9 MB	0 MB/s	0 Mbps
> Microsoft Network Realtime L...		0%	2.7 MB	0 MB/s	0 Mbps





For the presentation use win + p

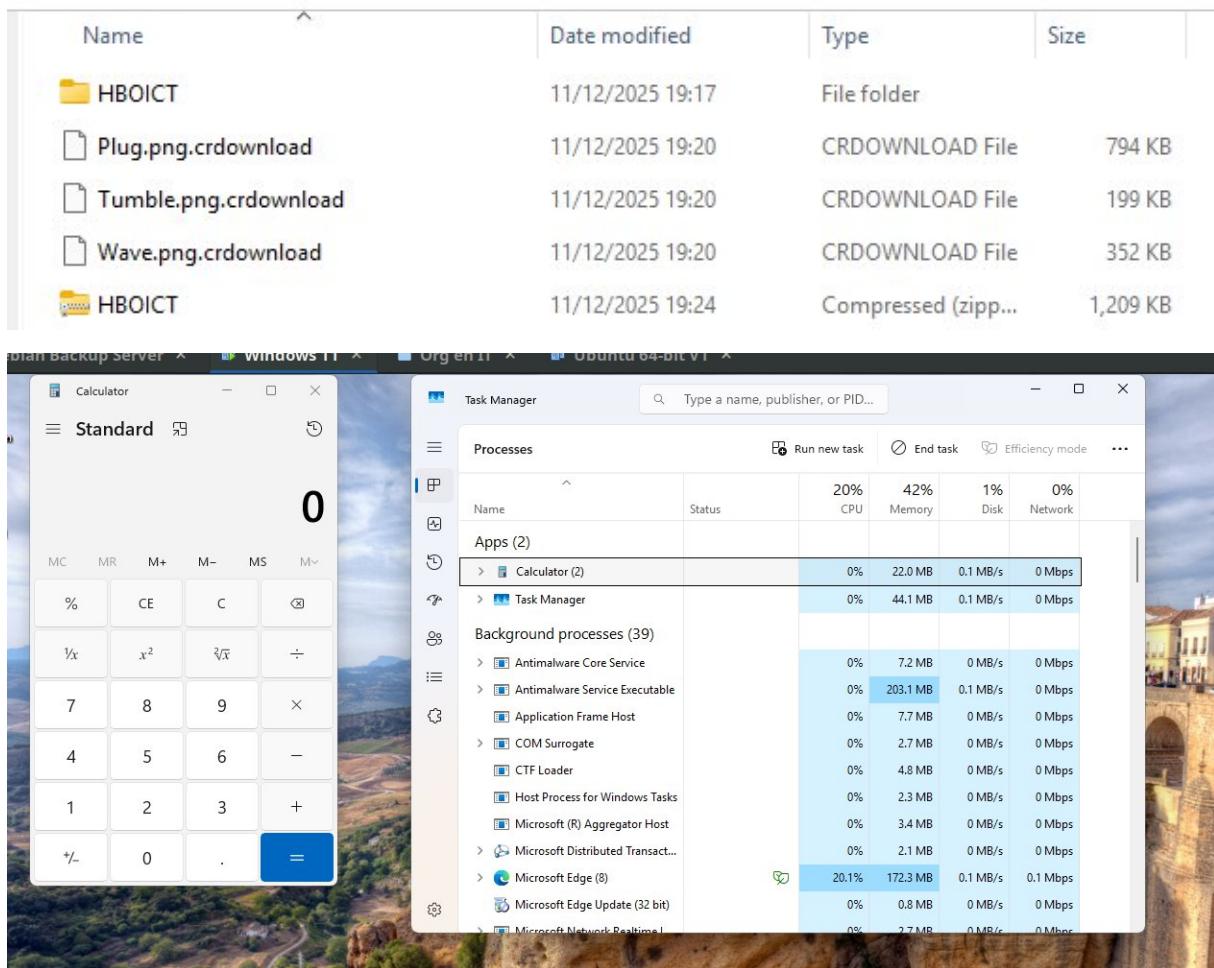
For locking your laptop use win + l



I prefer using the CTRL + C command, it is faster in my opinion

```
C:\Users\Floris>copy C:\Users\Floris\Downloads\Tumble.png.crdownload C:\Saxion  
1 file(s) copied.  
  
C:\Users\Floris>copy C:\Users\Floris\Downloads\Plug.png.crdownload C:\Saxion  
1 file(s) copied.  
  
C:\Users\Floris>copy C:\Users\Floris\Downloads\Wave.png.crdownload C:\Saxion  
1 file(s) copied.  
  
C:\Users\Floris>
```

```
C:\Users\Floris> tree  
Folder PATH listing  
Volume serial number is F8A8-4EC3  
C:  
    └─HBOICT  
        ├─YEAR1  
        │   ├─QUARTILE1  
        │   ├─QUARTILE2  
        │   ├─QUARTILE3  
        │   └─QUARTILE4  
        ├─YEAR2  
        │   ├─QUARTILE1  
        │   ├─QUARTILE2  
        │   ├─QUARTILE3  
        │   └─QUARTILE4  
        ├─YEAR3  
        │   ├─QUARTILE1  
        │   ├─QUARTILE2  
        │   ├─QUARTILE3  
        │   └─QUARTILE4  
        └─YEAR4  
            ├─QUARTILE1  
            ├─QUARTILE2  
            ├─QUARTILE3  
            └─QUARTILE4  
  
C:\Users\Floris>echo %username%  
Floris  
  
C:\Users\Floris>
```



Install Software

Relevant screenshots that the following software is installed with winget:

- WinSCP
- Notepad++
- 7zip



```
Command Prompt x + v
Mozilla Firefox ESR (sk) Mozilla.Firefox.ESR.sk 140.6.0 winget
Mozilla Firefox ESR (sl) Mozilla.Firefox.ESR.sl 140.6.0 winget
Mozilla Firefox ESR (son) Mozilla.Firefox.ESR.son 140.6.0 winget
Mozilla Firefox ESR (sq) Mozilla.Firefox.ESR.sq 140.6.0 winget
Mozilla Firefox ESR (sr) Mozilla.Firefox.ESR.sr 140.6.0 winget
Mozilla Firefox ESR (sv-SE) Mozilla.Firefox.ESR.sv-SE 140.5.0 winget
Mozilla Firefox ESR (szl) Mozilla.Firefox.ESR.szl 140.5.0 winget
Mozilla Firefox ESR (ta) Mozilla.Firefox.ESR.ta 140.5.0 winget
Mozilla Firefox ESR (te) Mozilla.Firefox.ESR.te 140.6.0 winget
Mozilla Firefox ESR (tg) Mozilla.Firefox.ESR.tg 140.5.0 winget
Mozilla Firefox ESR (th) Mozilla.Firefox.ESR.th 140.6.0 winget
Mozilla Firefox ESR (tl) Mozilla.Firefox.ESR.tl 140.5.0 winget
Mozilla Firefox ESR (tr) Mozilla.Firefox.ESR.tr 140.5.0 winget
Mozilla Firefox ESR (trs) Mozilla.Firefox.ESR.trs 140.5.0 winget
Mozilla Firefox ESR (uk) Mozilla.Firefox.ESR.uk 140.5.0 winget
Mozilla Firefox ESR (ur) Mozilla.Firefox.ESR.ur 140.5.0 winget
Mozilla Firefox ESR (uz) Mozilla.Firefox.ESR.uz 140.5.0 winget
Mozilla Firefox ESR (vi) Mozilla.Firefox.ESR.vi 140.5.0 winget
Mozilla Firefox ESR (xh) Mozilla.Firefox.ESR.xh 140.5.0 winget
Mozilla Firefox ESR (zh-CN) Mozilla.Firefox.ESR.zh-CN 140.5.0 winget
Mozilla Firefox ESR (zh-TW) Mozilla.Firefox.ESR.zh-TW 140.5.0 winget
Mozilla Firefox (MSIX) Night Mozilla.Firefox.MSIX.Night_ 147.25... winget
Profile Switcher for Firefox nulldev.ProfileSwitcherFor... 0.1.1 winget
Ablaze Floorp Ablaze.Floorp 12.8.3... Tag: firefox-fo... winget
Floorp 12 Daylight Ablaze.Floorp.Daylight 138.0... Tag: firefox-fo... winget
Pale Moon MoonchildProductions.PaleM... 33.9.1 Tag: firefox-fo... winget
Ghastery Private Browser Ghastery.GhasteryDawn 2024.8... Tag: firefoxfork winget
ffsend TimVisee.ffsend 0.2.76 Tag: firefox-se... winget
C:\Users\Floris>
```



```
Command Prompt - winget i x + v
Ablaze Floorp Ablaze.Floorp 12.8.3... Tag: firefox-fo... winget
Floorp 12 Daylight Ablaze.Floorp.Daylight 138.0... Tag: firefox-fo... winget
Pale Moon MoonchildProductions.PaleM... 33.9.1 Tag: firefox-fo... winget
Ghastery Private Browser Ghastery.GhasteryDawn 2024.8... Tag: firefoxfork winget
ffsend TimVisee.ffsend 0.2.76 Tag: firefox-se... winget

C:\Users\Floris>winget install 9NZVDKPMR9RD
Found Mozilla Firefox [9NZVDKPMR9RD] Version Unknown
This package is provided through Microsoft Store. winget may need to acquire the package from Microsoft Store on behalf of the current user.
Agreements for Mozilla Firefox [9NZVDKPMR9RD] Version Unknown
Version: Unknown
Publisher: Mozilla
Publisher Url: https://www.mozilla.org/firefox/
Publisher Support Url: https://support.mozilla.org/products/firefox
License: ms-windows-store://pdp/?ProductId=9NZVDKPMR9RD
Privacy Url: https://www.mozilla.org/privacy/firefox/
Agreements:
  Category: Productivity
  Pricing: Free
  Free Trial: No
  Terms of Transaction: https://aka.ms/microsoft-store-terms-of-transaction
  Seizure Warning: https://aka.ms/microsoft-store-seizure-warning
  Store License Terms: https://aka.ms/microsoft-store-license

The publisher requires that you view the above information and accept the agreements before installing.
Do you agree to the terms?
[Y] Yes [N] No: y
Starting package install...
```



```
Command Prompt - winget i [REDACTED] + [REDACTED]

Terms of Transaction: https://aka.ms/microsoft-store-terms-of-transaction
Seizure Warning: https://aka.ms/microsoft-store-seizure-warning
Store License Terms: https://aka.ms/microsoft-store-license

The publisher requires that you view the above information and accept the agreements before installing.
Do you agree to the terms?
[Y] Yes [N] No: y
Starting package install...
Successfully installed 100%

C:\Users\Floris>winget search 7zip
Name           Id             Version      Match      Source
-----
7-Zip          7zip.7zip       25.01       Moniker: 7zip winget
Advanced Archive Password Recovery Elcomsoft.ArchivePassword 4.66.266.6965 Tag: 7zip winget
NanaZip        M2Team.NanaZip 5.0.1263.0  Tag: 7zip winget
NanaZip Preview M2Team.NanaZip.Preview 6.0.1461.0 Tag: 7zip winget
7-Zip ZS       mcmilk.7zip-zstd 24.09 ZS v1.5.7 R1 Tag: 7zip winget
7-Zip Alpha (exe) 7zip.7zip.Alpha.exe 24.01   Tag: 7zip winget
7-Zip Alpha (msi) 7zip.7zip.Alpha.msi 24.01.00.0 Tag: 7zip winget
7zr            7zip.7zr        25.01       Tag: 7zip winget
QNapi          QNapi.QNapi     0.2.3       Tag: p7zip winget

C:\Users\Floris>winget install 7zip.7zip
Found 7-Zip [7zip.7zip] Version 25.01
This application is licensed to you by its owner.
Microsoft is not responsible for, nor does it grant any licenses to, third-party packages.
Downloading https://7-zip.org/a/7z2501-x64.exe
[REDACTED]
```



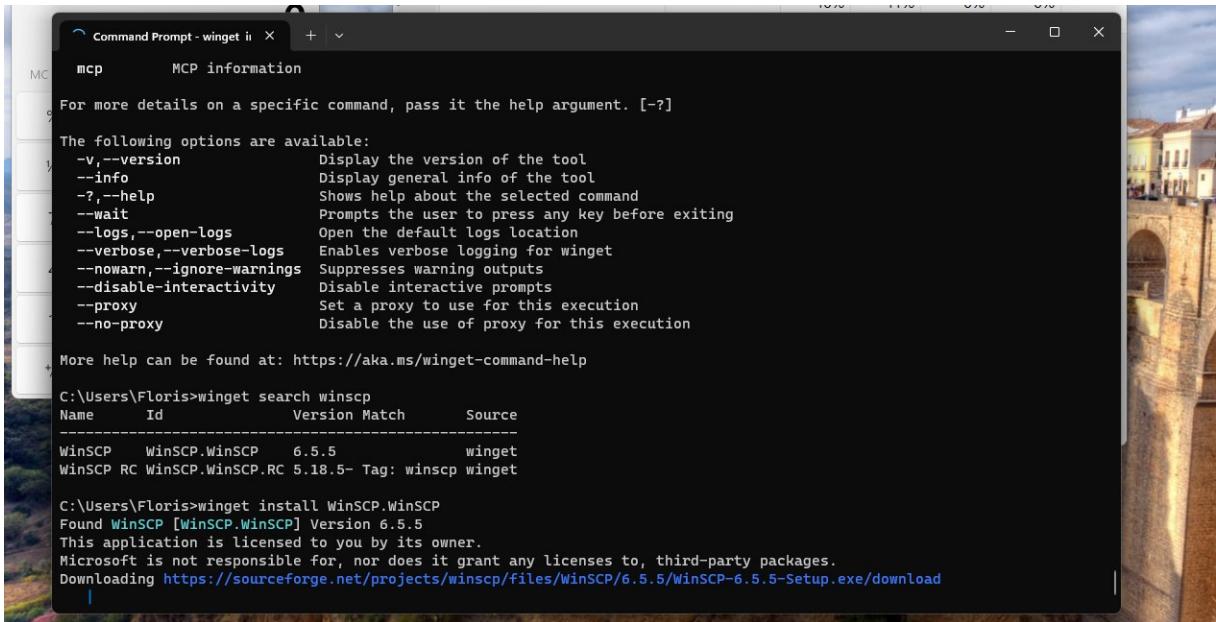
```
Command Prompt - winget i [REDACTED] + [REDACTED]

Name           Id             Version      Match      Source
-----
NanaZip Preview M2Team.NanaZip.Preview 6.0.1461.0 Tag: 7zip winget
7-Zip ZS       mcmilk.7zip-zstd 24.09 ZS v1.5.7 R1 Tag: 7zip winget
7-Zip Alpha (exe) 7zip.7zip.Alpha.exe 24.01   Tag: 7zip winget
7-Zip Alpha (msi) 7zip.7zip.Alpha.msi 24.01.00.0 Tag: 7zip winget
7zr            7zip.7zr        25.01       Tag: 7zip winget
QNapi          QNapi.QNapi     0.2.3       Tag: p7zip winget

C:\Users\Floris>winget install 7zip.7zip
Found 7-Zip [7zip.7zip] Version 25.01
This application is licensed to you by its owner.
Microsoft is not responsible for, nor does it grant any licenses to, third-party packages.
Downloading https://7-zip.org/a/7z2501-x64.exe
[REDACTED] 1.56 MB / 1.56 MB
Successfully verified installer hash
Starting package install...
The installer will request to run as administrator. Expect a prompt.
Successfully installed

C:\Users\Floris>winget search notepad++
Name           Id             Version      Match      Source
-----
Notepad++      Notepad++.Notepad++ 8.8.8   ProductCode: notepad++ winget
Notepad Next dail8859.NotepadNext 0.12    Tag: notepad++ winget

C:\Users\Floris>winget install Notepad++.Notepad++
Found Notepad++ [Notepad++.Notepad++] Version 8.8.8
This application is licensed to you by its owner.
Microsoft is not responsible for, nor does it grant any licenses to, third-party packages.
Downloading https://github.com/notepad-plus-plus/notepad-plus-plus/releases/download/v8.8.8/npp.8.8.8.Installer.x64.exe
[REDACTED]
```



```
Command Prompt - winget is + v MCP information

mcp      MCP information

For more details on a specific command, pass it the help argument. [-?]

The following options are available:
--version          Display the version of the tool
--info             Display general info of the tool
--help              Shows help about the selected command
--wait              Prompts the user to press any key before exiting
--logs,--open-logs  Open the default logs location
--verbose,--verbose-logs  Enables verbose logging for winget
--nowarn,--ignore-warnings  Suppresses warning outputs
--disable-interactivity  Disable interactive prompts
--proxy             Set a proxy to use for this execution
--no-proxy          Disable the use of proxy for this execution

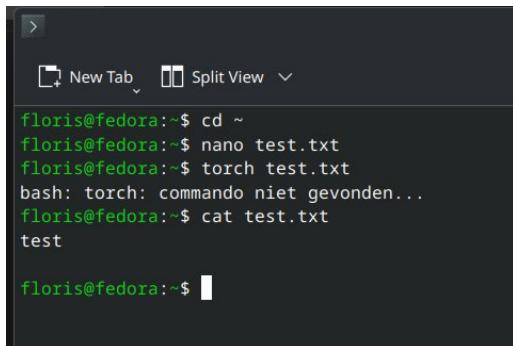
More help can be found at: https://aka.ms/winget-command-help

C:\Users\Floris>winget search winscp
Name      Id          Version Match      Source
-----
WinSCP    WinSCP.WinSCP  6.5.5        winget
WinSCP RC WinSCP.WinSCP.RC 5.18.5- Tag: winscp winget

C:\Users\Floris>winget install WinSCP.WinSCP
Found WinSCP [WinSCP.WinsCP] Version 6.5.5
This application is licensed to you by its owner.
Microsoft is not responsible for, nor does it grant any licenses to, third-party packages.
Downloading https://sourceforge.net/projects/winscp/files/WinSCP/6.5.5/WinSCP-6.5.5-Setup.exe/download
```

Assignment 5.4: Working with Linux

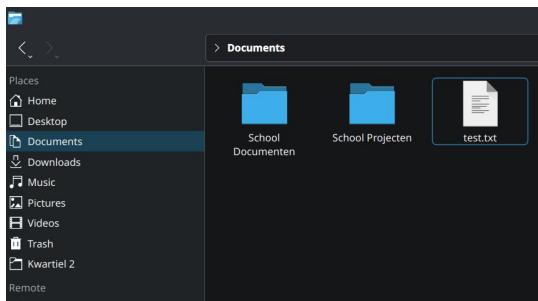
Relevant screenshots + motivation



```
floris@fedora:~$ cd ~
floris@fedora:~$ nano test.txt
floris@fedora:~$ torch test.txt
bash: torch: comando niet gevonden...
floris@fedora:~$ cat test.txt
test

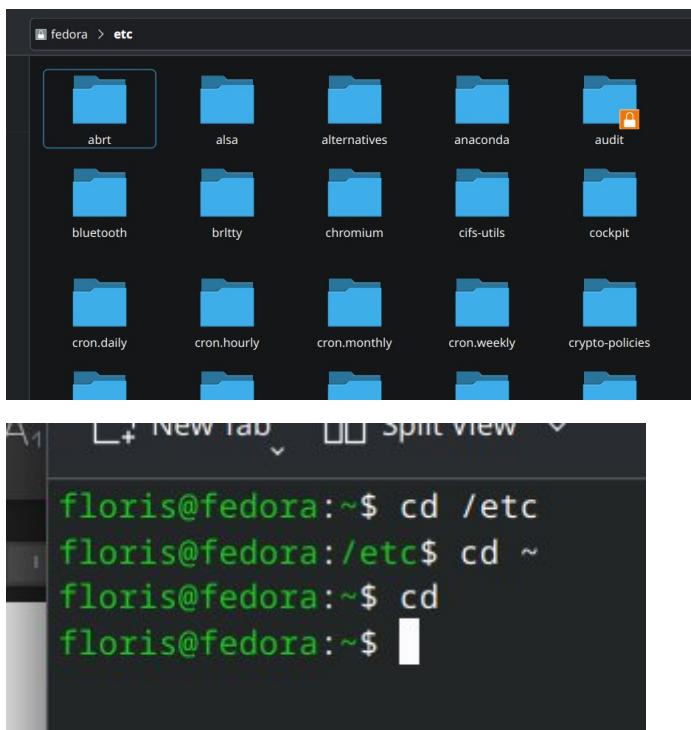
floris@fedora:~$
```

Hier ga ik naar de ohme directory en maak ik een bestand aan met nano, daarna laat ik de inhoud zien die ik heb opgeslagen.



```
floris@fedora:~$ cp ~/test.txt ~/Documents/
floris@fedora:~$
```

Ik heb het bestand van de home directory naar Documents verplaatst.



A screenshot showing two windows. The top window is a file manager displaying the contents of the '/etc' directory. The bottom window is a terminal window with the following command history:

```
floris@fedora:~$ cd /etc
floris@fedora:/etc$ cd ~
floris@fedora:~$ cd
floris@fedora:~$
```

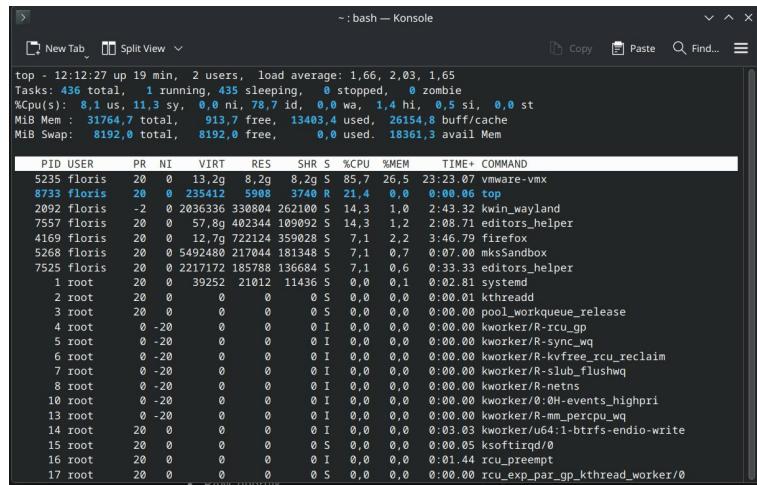
Hier heb ik genavigeerd naar de /etc in de console en file explorer.

Het grote verschil tussen navigeren in Windows en in Linux is dat linux geen schijfletters gebruikt, alles begint met een /.

/etc bevat alle systeemconfiguratie bestanden zoals instellingen voor applicaties.

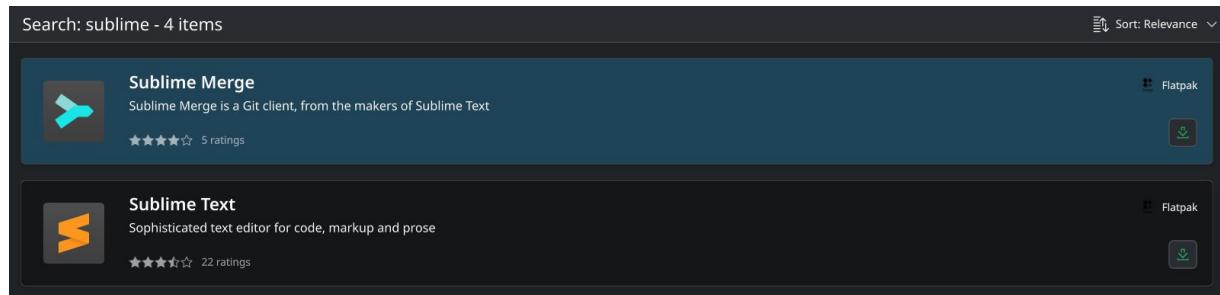
```
floris@fedora:~$ tar -cf mijnbestand.tar test.txt
floris@fedora:~$ tar -xf mijnbestand.tar
floris@fedora:~$ tar -czf mijnbestand.tar.gz test.txt
floris@fedora:~$ ls
Desktop  Downloads      mijnbestand.tar.gz  Pictures  rtw89      test.txt  vmware
Documents  mijnbestand.tar  Music          Public    Templates  Videos
floris@fedora:~$
```

Hier heb ik de bestanden gecomprimeerd met het tar commando.



PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
5235	floris	20	0	13.2g	8.2g	8.2g	S	85.7	26.5	23:23.07	vmware-vmx
8733	floris	20	0	235412	5908	3740	R	21.4	0.0	0:00.06	top
2092	floris	-2	0	2036336	330804	262100	S	14.3	1.0	2:43.32	kwinn_wayland
7557	floris	20	0	57.8g	402344	189092	S	14.3	1.2	2:08.71	editors_helper
4169	floris	20	0	12.7g	722124	359028	S	7.1	2.2	3:46.79	firefox
5268	floris	20	0	5492480	217044	181348	S	7.1	0.7	0:07.00	mksandbox
7525	floris	20	0	2217172	185788	136684	S	7.1	0.6	0:33.33	editors_helper
1	root	20	0	39252	21012	11436	S	0.0	0.1	0:02.81	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kthreadd
3	root	20	0	0	0	0	S	0.0	0.0	0:00.00	pool_workqueue_release
4	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/R-rcu_gp
5	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/R-sync_wq
6	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/R-kvfree_rcu_reclaim
7	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/R-slab_flushwq
8	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/R-netns
10	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/0:0-events_highpri
13	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/R-mm_percpu_wq
14	root	20	0	0	0	0	I	0.0	0.0	0:03.03	kworker/0:64:1-btrfs-endio-write
15	root	20	0	0	0	0	S	0.0	0.0	0:00.05	kssoftirrd/0
16	root	20	0	0	0	0	I	0.0	0.0	0:01.44	rcu_prempt
17	root	20	0	0	0	0	S	0.0	0.0	0:00.00	rcu_exp_par_gp_kthread_worker/0

Dit is het Top commando (Htop is niet beschikbaar op fedora) Het laat de processen zien die het meeste processor verbruikt. In dit geval is het vmware omdat die in de achtergrond draaid.



```

bash: neofetch: command not found...
floris@fedora:~$ fastfetch
      .';::::;'.
      .';:cccccccccccccc:;.
      .;cccccccccccccccccc;.
      .:cccccccccccccccccc:;.
      .;cccccccccccccc;.:dd1:.;ccccccc;.
      .:cccccccccccccc;OWMKOOXNWd;ccccccc;.
      .:cccccccccccccc;KMMc;cc;xMMC;cccccc;.
      ,cccccccccccccc;MMM;.cc;WW:ccccccc;.
      :cccccccccccccc;MMM;.cccccccccccccc;.
      :ccccccc;ox00o;MMM00k.;cccccccccc;.
      ccccc;ØMMKxdd;;MMMkdc.;cccccccccc;.
      ccccc;XMO';cccc;MMW.;cccccccccccccc;.
      ccccc;MMo;cccc;MMW.;cccccccccccccc;.
      ccccc;ØMNc.ccc.xMMd;cccccccccccccc;.
      ccccc;cDNMWXXXWMØ;cccccccccccccc;.
      ccccccc;.:od1:.;cccccccccccccc;.
      ccccccccccccccccccccccc;'.
      ':cccccccccccccccccc:;...
      ':cccccccccccccccccc:;.
      floris@fedora:~$ █

```

```

floris@fedora
-----
OS: Fedora Linux 43 (KDE Plasma Desktop Edition) x86_64
Host: 83JC (LOQ 15ARP9)
Kernel: Linux 6.17.10-300.fc43.x86_64
Uptime: 24 mins
Packages: 2467 (rpm), 20 (flatpak)
Shell: bash 5.3.0
Display (BOE0C29): 1920x1080 @ 144 Hz (as 1536x864) in 16" [Built-in]
DE: KDE Plasma 6.5.3
WM: KWin (Wayland)
WM Theme: Breeze
Theme: Breeze (Dark) [Qt], Breeze-Dark [GTK2], Breeze [GTK3]
Icons: breeze-dark [Qt], breeze-dark [GTK2/3/4]
Font: Noto Sans (10pt) [Qt], Noto Sans (10pt) [GTK2/3/4]
Cursor: breeze (24px)
Terminal: konsole 25.8.3
CPU: AMD Ryzen 7 7435HS (16) @ 3.10 GHz
GPU: NVIDIA GeForce RTX 4050 Max-Q / Mobile [Discrete]
Memory: 14.06 GiB / 31.02 GiB (45%)
Swap: 92.00 KiB / 8.00 GiB (0%)
Disk (/): 55.95 GiB / 928.93 GiB (6%) - btrfs
Local IP (wlo1): 10.106.45.27/24
Battery (L23D4PK4): 31% [Discharging]
Locale: en_US.UTF-8

```



Neofetch is niet meer een ondersteunde package, dus ik heb het alternatief fastfetch geinstalleerd.

Assignment 5.5: Users and permissions on Linux

Relevant screenshots + motivation

```

floris@fedora:~$ mkdir ~/hello
floris@fedora:~$ nano ~/hello/hello.sh
floris@fedora:~$ cat ~/hello/hello.sh
#!/bin/bash
echo Hello <Jouw naam, studentnummer>!
floris@fedora:~$ chmod +x ~/hello/hello.sh
floris@fedora:~$ cd ~/hello
floris@fedora:~/hello$ ./hello.sh
./hello.sh: regel 2: Jouw: Bestand of map bestaat niet
floris@fedora:~/hello$ ./hello.sh
./hello.sh: regel 2: Jouw: Bestand of map bestaat niet
floris@fedora:~/hello$ chmod 544 ~/hello/hello.sh
floris@fedora:~/hello$ ls -l ~/hello/hello.sh
-r-xr--r--. 1 floris floris 51 11 dec 12:21 /home/floris/hello/hello.sh
floris@fedora:~/hello$ nano ~/hello/hello.sh
floris@fedora:~/hello$ chmod u+w ~/hello/hello.sh
floris@fedora:~/hello$ ls -l ~/hello/hello.sh
-rwxr--r--. 1 floris floris 51 11 dec 12:21 /home/floris/hello/hello.sh
floris@fedora:~/hello$ nano ~/hello/hello.sh
floris@fedora:~/hello$ ./hello.sh
Hello Floris 588734!
floris@fedora:~/hello$ █

```

Het ging eerst even niet helemaal goed omdat ik was vergeten om het leerling nummer aan te passen, en door de <> tekens werkte het programma niet. Dus ik moest de permissie weer aanpassen en kon toen het bestand bewerken en opnieuw draaien.

Assignment 5.6: View the contents of files

Relevant screenshots + motivation

```
floris@fedora:~/hello$ mkdir ~/sherlock
cd ~/sherlock
wget https://www.gutenberg.org/files/1661/1661-0.txt -O SherlockHolmes.txt
Saving 'SherlockHolmes.txt'
HTTP response 200 [https://www.gutenberg.org/files/1661/1661-0.txt]
SherlockHolmes.txt 100% [=====]
[Files: 1 Bytes: 593.26K [155.38KB/s] Redirects: 0 Todo: 0 Errors: 0
floris@fedora:~/sherlock$ wc ~/sherlock/SherlockHolmes.txt
12306 107504 /home/floris/sherlock/SherlockHolmes.txt
floris@fedora:~/sherlock$ grep -n "kingdom" ~/sherlock/SherlockHolmes.txt
490:"I tell you that I would give one of the provinces of my Kingdom to
1124:And that was how a great scandal threatened to affect the Kingdom of
floris@fedora:~/sherlock$ grep -n "kingdom" ~/sherlock/SherlockHolmes.txt
490:"I tell you that I would give one of the provinces of my Kingdom to
1124:And that was how a great scandal threatened to affect the Kingdom of
floris@fedora:~/sherlock$ head -n 151 ~/sherlock/SherlockHolmes.txt | tail -n 20

"My dear Holmes," said I, "this is too much. You would certainly have
been burned, had you lived a few centuries ago. It is true that I had a
country walk on Thursday and came home in a dreadful mess, but as I
have changed my clothes I can't imagine how you deduce it. As to Mary
Jane, she is incorrigible, and my wife has given her notice, but there,
again, I fail to see how you work it out."

He chuckled to himself and rubbed his long, nervous hands together.

"It is simplicity itself," said he; "my eyes tell me that on the inside
of your left shoe, just where the firelight strikes it, the leather is
scored by six almost parallel cuts. Obviously they have been caused by
someone who has very carelessly scraped round the edges of the sole in
order to remove crusted mud from it. Hence, you see, my double
deduction that you had been out in vile weather, and that you had a
particularly malignant boot-slitting specimen of the London slavey. As
to your practice, if a gentleman walks into my rooms smelling of
iodoform, with a black mark of nitrate of silver upon his right
forefinger, and a bulge on the right side of his top-hat to show where
floris@fedora:~/sherlock$ head -n 172 ~/sherlock/SherlockHolmes.txt | tail -n 20
pronounce him to be an active member of the medical profession.

I could not help laughing at the ease with which he explained his
process of deduction. "When I hear you give your reasons," I remarked,
```

```
iodoform, with a black mark of nitrate of silver upon his right forefinger, and a bulge on the right side of his top-hat to show where  
floris@fedora:~/sherlock$ head -n 172 ~/sherlock/SherlockHolmes.txt | tail -n 20  
pronounce him to be an active member of the medical profession."
```

I could not help laughing at the ease with which he explained his process of deduction. "When I hear you give your reasons," I remarked, "the thing always appears to me to be so ridiculously simple that I could easily do it myself, though at each successive instance of your reasoning I am baffled until you explain your process. And yet I believe that my eyes are as good as yours."

"Quite so," he answered, lighting a cigarette, and throwing himself down into an armchair. "You see, but you do not observe. The distinction is clear. For example, you have frequently seen the steps which lead up from the hall to this room."

"Frequently."

"How often?"

"Well, some hundreds of times."

```
floris@fedora:~/sherlock$ grep -C 20 "kingdom" ~/sherlock/SherlockHolmes.txt  
betrothal was publicly proclaimed. That will be next Monday."
```

"Oh, then we have three days yet," said Holmes with a yawn. "That is very fortunate, as I have one or two matters of importance to look into just at present. Your Majesty will, of course, stay in London for the present?"

"Certainly. You will find me at the Langham under the name of the Count Von Kramm."

"Then I shall drop you a line to let you know how we progress."

"Pray do so. I shall be all anxiety."

"Then, as to money?"

"You have carte blanche."

Assignment 5.7: Digital forensics

Relevant screenshots + motivation

Make	:	motorola
Camera Model Name	:	moto g(6) play

Het is een plek in groningen



Ook na het hernoemen blijft het systeem het als een afbeelding herkennen.

Assignment 5.8: Steganography

Relevant screenshots + motivation

```
floris@fedora:~/forensics$ mkdir ~/base64
cd ~/base64
floris@fedora:~/base64$ mv /home/floris/Downloads/
floris@fedora:~/base64$ ls
email-base64.txt
floris@fedora:~/base64$ base64 -d email-base64.tx
floris@fedora:~/base64$ file decoded.gif
decoded.gif: GIF image data, version 89a, 108 x 5
floris@fedora:~/base64$ xdg-open decoded.gif
```



Assignment 5.9: Capture disk images

Make relevant screenshots + motivation:

- Proof that the Debian 13 server stored a back-up image of the Ubuntu 24.04 Desktop VM.
- Proof that you can restore the back-up image into an empty VM.

```
ubuntu@ubuntu:~$ sudo oris@172.16.2.131 "cat > /srv/images/ubuntu2404_vm.img.gz"
sudo: oris@172.16.2.131: command not found
ubuntu@ubuntu:~$ sudo dd if=/dev/sda bs=4M status=progress | gzip | ssh floris@1
72.16.2.131 "cat > /srv/images/ubuntu2404_vm.img.gz"
The authenticity of host '172.16.2.131 (172.16.2.131)' can't be established.
ED25519 key fingerprint is SHA256:/GQ2xFVDvIfww4oPOxMLpdMX5DSKalstvHnkaIwvw9U.
This key is not known by any other names.
213909504 bytes (214 MB, 204 MiB) copied, 2 s, 107 MB/s[yes/no/print])?
Warning: Permanently added '172.16.2.131' (ED25519) to the list of known hosts.
floris@172.16.2.131's password:
21399339008 bytes (21 GB, 20 GiB) copied, 155 s, 138 MB/s
5120+0 records in
5120+0 records out
21474836480 bytes (21 GB, 20 GiB) copied, 156.482 s, 137 MB/s
ubuntu@ubuntu:~$
```

```
ubuntu@ubuntu:~$ sudo oris@172.16.2.131 "cat > /srv/images/ubuntu2404_vm.img.gz"
sudo: oris@172.16.2.131: command not found
ubuntu@ubuntu:~$ sudo dd if=/dev/sda bs=4M status=progress | gzip | ssh floris@1
72.16.2.131 "cat > /srv/images/ubuntu2404_vm.img.gz"
The authenticity of host '172.16.2.131 (172.16.2.131)' can't be established.
ED25519 key fingerprint is SHA256:/GQ2xFVDvIfww4oPOxMLpdMX5DSKalstvHnkaIwvw9U.
This key is not known by any other names.
213909504 bytes (214 MB, 204 MiB) copied, 2 s, 107 MB/s[yes/no/print])?
Warning: Permanently added '172.16.2.131' (ED25519) to the list of known hosts.
floris@172.16.2.131's password:
21399339008 bytes (21 GB, 20 GiB) copied, 155 s, 138 MB/s
5120+0 records in
5120+0 records out
21474836480 bytes (21 GB, 20 GiB) copied, 156.482 s, 137 MB/s
ubuntu@ubuntu:~$ ssh floris@172.16.2.131 "cat /srv/images/= /dev/sda bs=4M status
=progress
>
>"
```

Ready? Save this file and export it as a pdf file with the name: [week5.pdf](#)