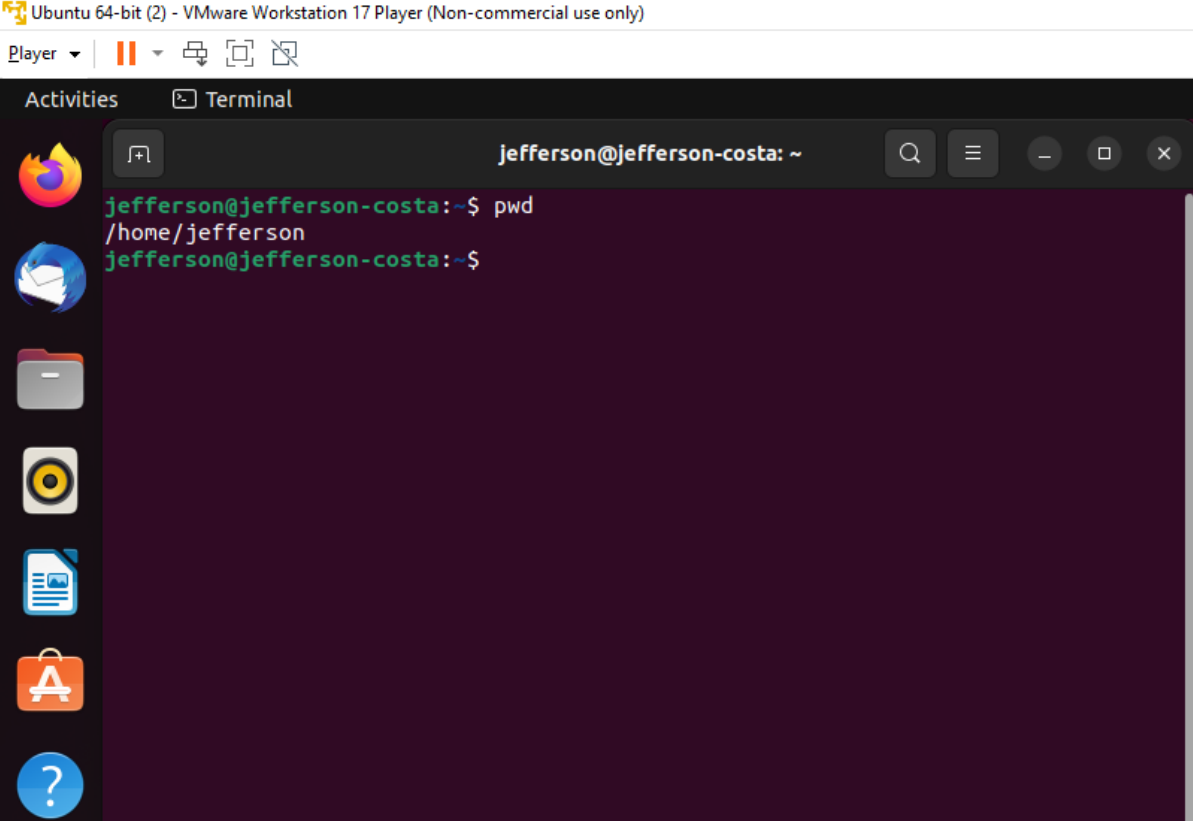


Prática de Laboratório – Comandos Linux – Nível Básico

Jefferson Cristino da Costa - 11821BSI227

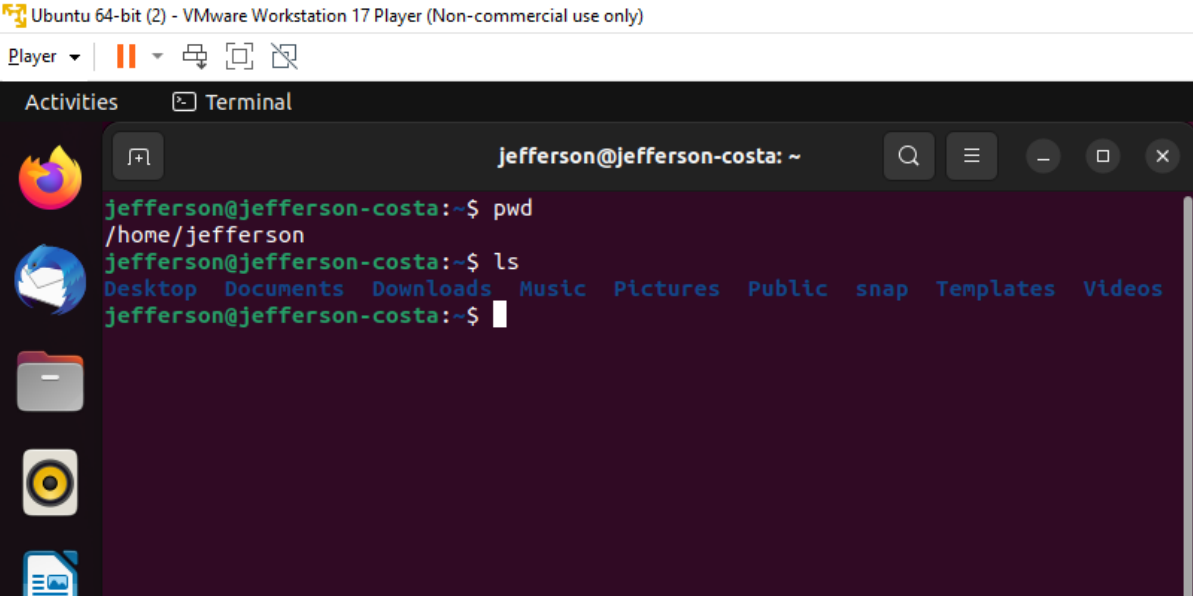
- Utilize o comando `pwd` para saber o nome do diretório em que você se encontra.



The screenshot shows a terminal window titled "Terminal" with the prompt "jefferson@jefferson-costa: ~". The user has entered the command `pwd`, and the output is `/home/jefferson`. The terminal window is part of a desktop environment with a sidebar containing icons for Firefox, a mail client, a file manager, a music player, a document viewer, an application store, and a help icon. The top of the window shows the title bar "Ubuntu 64-bit (2) - VMware Workstation 17 Player (Non-commercial use only)" and a toolbar with "Player", a play button, and icons for copy, paste, and fullscreen.

```
jefferson@jefferson-costa: ~$ pwd
/home/jefferson
jefferson@jefferson-costa: ~$
```

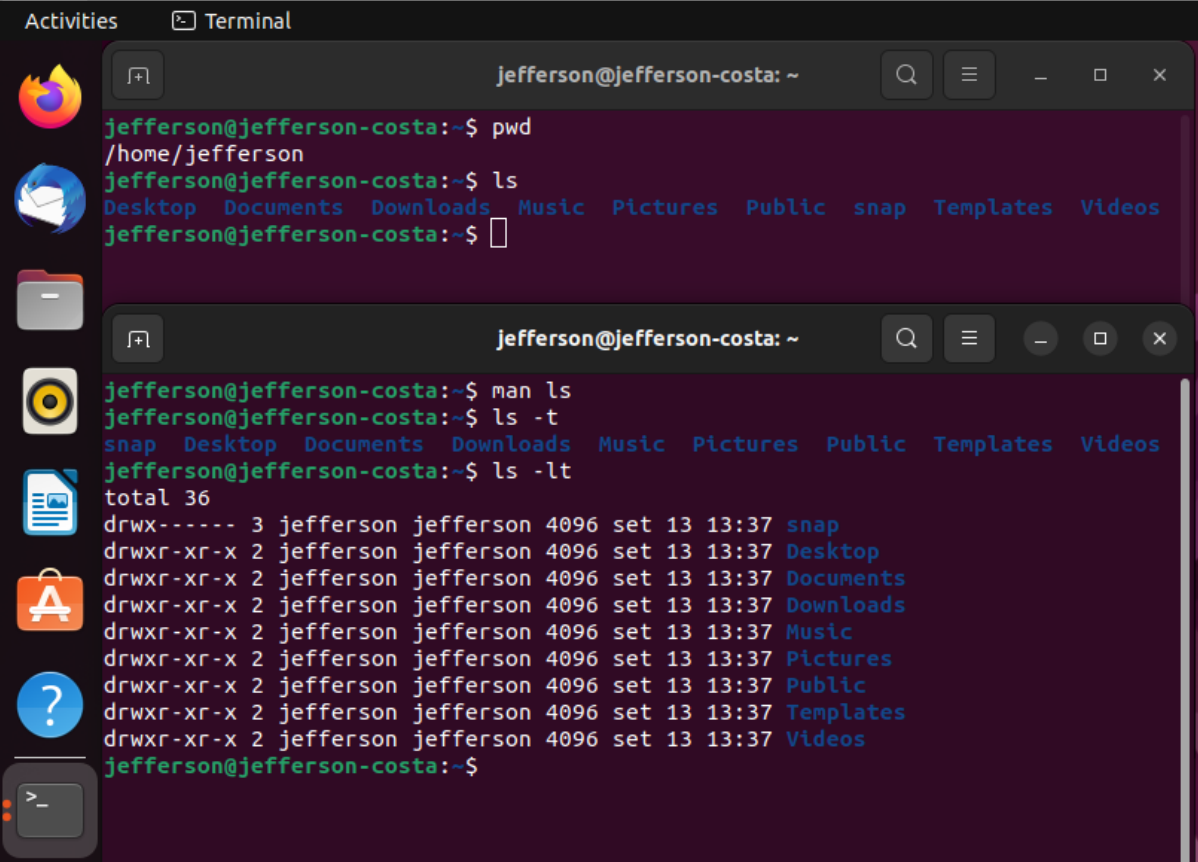
- Utilize o comando `ls` para listar o conteúdo do local onde você está.



The screenshot shows the same terminal window as before, but now the user has entered the command `ls`. The output lists the contents of the current directory: `Desktop Documents Downloads Music Pictures Public snap Templates Videos`. The terminal window is part of the same desktop environment as the previous screenshot.

```
jefferson@jefferson-costa: ~$ pwd
/home/jefferson
jefferson@jefferson-costa: ~$ ls
Desktop Documents Downloads Music Pictures Public snap Templates Videos
jefferson@jefferson-costa: ~$
```

- O comando `ls` possui diferentes modos de visualização de arquivos e diretórios. Abra um outro terminal de comandos e organize de forma a utilizar o espaço de sua tela para comportar ambos os terminais sem sobreposição. Feito isso, no novo terminal de comandos digite `man ls`. Leia o manual de comandos do `ls` e descubra como listar os arquivos ordenados pela data da última atualização. Uma vez obtida a instrução, proceda com a listagem.



Ubuntu 64-bit (2) - VMware Workstation 17 Player (Non-commercial use only)

Player ▾ | [Icons]

Activities [Terminal]

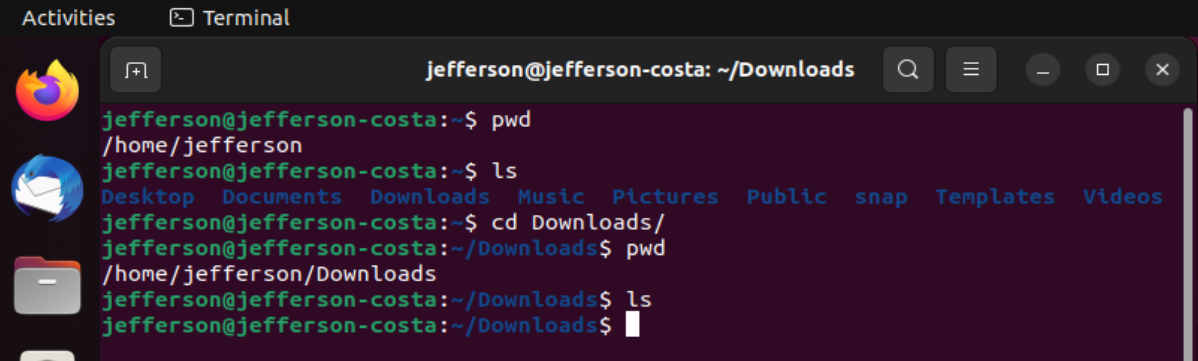
jefferson@jefferson-costa: ~

```
jefferson@jefferson-costa:~$ pwd
/home/jefferson
jefferson@jefferson-costa:~$ ls
Desktop Documents Downloads Music Pictures Public snap Templates Videos
jefferson@jefferson-costa:~$
```

jefferson@jefferson-costa:~\$ man ls

```
jefferson@jefferson-costa:~$ ls -t
snap Desktop Documents Downloads Music Pictures Public Templates Videos
jefferson@jefferson-costa:~$ ls -lt
total 36
drwx----- 3 jefferson jefferson 4096 set 13 13:37 snap
drwxr-xr-x 2 jefferson jefferson 4096 set 13 13:37 Desktop
drwxr-xr-x 2 jefferson jefferson 4096 set 13 13:37 Documents
drwxr-xr-x 2 jefferson jefferson 4096 set 13 13:37 Downloads
drwxr-xr-x 2 jefferson jefferson 4096 set 13 13:37 Music
drwxr-xr-x 2 jefferson jefferson 4096 set 13 13:37 Pictures
drwxr-xr-x 2 jefferson jefferson 4096 set 13 13:37 Public
drwxr-xr-x 2 jefferson jefferson 4096 set 13 13:37 Templates
drwxr-xr-x 2 jefferson jefferson 4096 set 13 13:37 Videos
jefferson@jefferson-costa:~$
```

- Navegue para dentro do diretório `Downloads` com o comando `cd Downloads`. Uma vez neste diretório novo, digite novamente os comandos `pwd` e `ls` para saber onde você está e o que está disponível neste local.



Ubuntu 64-bit (2) - VMware Workstation 17 Player (Non-commercial use only)

Player ▾ | [Icons]

Activities [Terminal]

jefferson@jefferson-costa: ~/Downloads

```
jefferson@jefferson-costa:~$ pwd
/home/jefferson
jefferson@jefferson-costa:~$ ls
Desktop Documents Downloads Music Pictures Public snap Templates Videos
jefferson@jefferson-costa:~$ cd Downloads/
jefferson@jefferson-costa:~/Downloads$ pwd
/home/jefferson/Downloads
jefferson@jefferson-costa:~/Downloads$ ls
jefferson@jefferson-costa:~/Downloads$
```

- Outro comando muito útil é o responsável por 'limpar o para-brisas' de nossa janela para o mundo. Perceba que sua janela está com vários resultados de comandos anteriores e isso pode confundir. Use o comando clear para limpar a sua janela de comandos.

```
Ubuntu 64-bit (2) - VMware Workstation 17 Player (Non-commercial use only)
Player ▾ | || ▾ | 🖨️ 📄 🗑️
Activities Terminal
jefferson@jefferson-costa: ~/Downloads 🔍 ☰ - □ ×
jefferson@jefferson-costa:~$ pwd
/home/jefferson
jefferson@jefferson-costa:~$ ls
Desktop Documents Downloads Music Pictures Public snap Templates Videos
jefferson@jefferson-costa:~$ cd Downloads/
jefferson@jefferson-costa:~/Downloads$ pwd
/home/jefferson/Downloads
jefferson@jefferson-costa:~/Downloads$ ls
jefferson@jefferson-costa:~/Downloads$ clear
```

```
Ubuntu 64-bit (2) - VMware Workstation 17 Player (Non-commercial use only)
Player ▾ | || ▾ | 🖨️ 📄 🗑️
Activities Terminal
jefferson@jefferson-costa: ~/Downloads 🔍 ☰ - □ ×
jefferson@jefferson-costa:~/Downloads$
```

- Crie o comando clear screen (vulgo cls) com a instrução: alias cls='clear; ls'

```
Ubuntu 64-bit (2) - VMware Workstation 17 Player (Non-commercial use only)
Player ▾ | || ▾ | 🖨️ 📄 🗑️
Activities Terminal
jefferson@jefferson-costa: ~/Downloads 🔍 ☰ - □ ×
jefferson@jefferson-costa:~/Downloads$ alias cls='clear; ls'
jefferson@jefferson-costa:~/Downloads$
```

- Redefina o comando acima para incluir a listagem do nome do diretório no conjunto de comandos anterior. Pense bem onde você deve colocar a instrução para listar o nome do diretório: tem uma posição que não procede.

```
Ubuntu 64-bit (2) - VMware Workstation 17 Player (Non-commercial use only)
Player ▾ | || ▾ | 🖨️ 📄 🗑️
Activities Terminal
jefferson@jefferson-costa: ~/Downloads 🔍 ☰ - □ ×
jefferson@jefferson-costa:~/Downloads$ alias cls='clear; ls'
jefferson@jefferson-costa:~/Downloads$ alias cls='clear; pwd; ls'
jefferson@jefferson-costa:~/Downloads$
```

- Execute o comando: `ping www.dropbox.com` . Espere alguns segundos e depois pressione CTRL+C para cancelar a execução do comando anterior.

```

Ubuntu 64-bit (2) - VMware Workstation 17 Player (Non-commercial use only)
Player
Activities Terminal
jefferson@jefferson-costa: ~/Downloads
/home/jefferson/Downloads
jefferson@jefferson-costa:~/Downloads$ ping www.dropbox.com
PING www-env.dropbox-dns.com (162.125.5.18) 56(84) bytes of data.
64 bytes from 162.125.5.18 (162.125.5.18): icmp_seq=1 ttl=128 time=133 ms
64 bytes from 162.125.5.18 (162.125.5.18): icmp_seq=2 ttl=128 time=134 ms
64 bytes from 162.125.5.18 (162.125.5.18): icmp_seq=3 ttl=128 time=134 ms
64 bytes from 162.125.5.18 (162.125.5.18): icmp_seq=4 ttl=128 time=133 ms
64 bytes from 162.125.5.18 (162.125.5.18): icmp_seq=5 ttl=128 time=133 ms
64 bytes from 162.125.5.18 (162.125.5.18): icmp_seq=6 ttl=128 time=134 ms
^C
--- www-env.dropbox-dns.com ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5009ms
rtt min/avg/max/mdev = 132.745/133.437/134.443/0.579 ms
jefferson@jefferson-costa:~/Downloads$

```

- Agora faremos o download de um arquivo oferecido neste servidor. `wget https://www.dropbox.com/s/2kdb1j3b477ygyv/sample.tar.gz`

```

Ubuntu 64-bit (2) - VMware Workstation 17 Player (Non-commercial use only)
Player
Activities Terminal
jefferson@jefferson-costa: ~/Downloads
/home/jefferson/Downloads
jefferson@jefferson-costa:~/Downloads$ wget https://www.dropbox.com/s/2kdb1j3b477ygyv/sample.tar.g
z
--2023-09-13 15:50:34-- https://www.dropbox.com/s/2kdb1j3b477ygyv/sample.tar.gz
Resolving www.dropbox.com (www.dropbox.com)... 162.125.5.18, 2620:100:601d:18::a27d:512
Connecting to www.dropbox.com (www.dropbox.com)|162.125.5.18|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: /s/raw/2kdb1j3b477ygyv/sample.tar.gz [following]
--2023-09-13 15:50:35-- https://www.dropbox.com/s/raw/2kdb1j3b477ygyv/sample.tar.gz
Reusing existing connection to www.dropbox.com:443.
HTTP request sent, awaiting response... 302 Found
Location: https://uc604dd1a031b34d389b4048fb7f.dl.dropboxusercontent.com/cd/0/inline/CDpqy5nhknvdC
YaRloES9PexwAandSVwlr6aP2J7aFTCucdU5oImzxS5B0WYjJ7R560H_ikWwEEZ5tGv0yWJAarqr5IwEyFQELtkP4fgqJCRELP
z914XBmeTTLvoQDfnQEE/file# [following]
--2023-09-13 15:50:36-- https://uc604dd1a031b34d389b4048fb7f.dl.dropboxusercontent.com/cd/0/inlin
e/CDpqy5nhknvdCYaRloES9PexwAandSVwlr6aP2J7aFTCucdU5oImzxS5B0WYjJ7R560H_ikWwEEZ5tGv0yWJAarqr5IwEyFQ
ELtkP4fgqJCRELPz914XBmeTTLvoQDfnQEE/file
Resolving uc604dd1a031b34d389b4048fb7f.dl.dropboxusercontent.com (uc604dd1a031b34d389b4048fb7f.dl.
dropboxusercontent.com)... 162.125.5.15, 2620:100:601d:15::a27d:50f
Connecting to uc604dd1a031b34d389b4048fb7f.dl.dropboxusercontent.com (uc604dd1a031b34d389b4048fb7f
.dl.dropboxusercontent.com)|162.125.5.15|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: /cd/0/inline2/CDqq2QbFwSfiWVo8VGLL3tVbM752-RKLLUSXbE2lAtARJKuX_7MJt4XIht9B-QUoh3qc0XNxnub
aY0AUbaKXWt7ijHgD4PLpKpyyKYZPXh9LJt3xvd-CS2p-wQ95fI85BGF-JZ90y7DqU61LBdzJnZOEX1qNsQtP4NWy39k4F4WA
LE98FU_b8uUjUDsqoxd9e9Wg5xHwpeVcrbuVGeAxULRLWICNBK1ft-C6oQ90qXu9wJS9H00QLH0Q_xMW3oLcpnPXi0o330rLA7
A0QpQAHazik19ULWFDI90o4fR41CAVL19x0egErXFAZ81HDYa4Z0GvoCk2vLSxLtmGkfVGGSNQOVIAfXSFYQ0QsoYKGCIVdw/f
ile [following]
--2023-09-13 15:50:37-- https://uc604dd1a031b34d389b4048fb7f.dl.dropboxusercontent.com/cd/0/inlin
e2/CDqq2QbFwSfiWVo8VGLL3tVbM752-RKLLUSXbE2lAtARJKuX_7MJt4XIht9B-QUoh3qc0XNxnubY0AUbaKXWt7ijHgD4PL
pKpyyKYZPXh9LJt3xvd-CS2p-wQ95fI85BGF-JZ90y7DqU61LBdzJnZOEX1qNsQtP4NWy39k4F4WALE98FU_b8uUjUDsqoxd9e
9Wg5xHwpeVcrbuVGeAxULRLWICNBK1ft-C6oQ90qXu9wJS9H00QLH0Q_xMW3oLcpnPXi0o330rLA7A0QpQAHazik19ULWFDI90
o4fR41CAVL19x0egErXFAZ81HDYa4Z0GvoCk2vLSxLtmGkfVGGSNQOVIAfXSFYQ0QsoYKGCIVdw/file
Reusing existing connection to uc604dd1a031b34d389b4048fb7f.dl.dropboxusercontent.com:443.
HTTP request sent, awaiting response... 200 OK
Length: 2047076 (2.0M) [application/octet-stream]
Saving to: 'sample.tar.gz'

sample.tar.gz      100%[=====] 1,95M  1,94MB/s  in 1,0s

2023-09-13 15:50:39 (1,94 MB/s) - 'sample.tar.gz' saved [2047076/2047076]

jefferson@jefferson-costa:~/Downloads$

```

```
Ubuntu 64-bit (2) - VMware Workstation 17 Player (Non-commercial use only)
Player | [Icons]
Activities | Terminal
jefferson@jefferson-costa: ~/Downloads
/home/jefferson/Downloads
sample.tar.gz
jefferson@jefferson-costa:~/Downloads$
```

- O arquivo `sample.tar.gz` está compactado. Para extrair o seu conteúdo teremos que utilizar o comando `tar`.

```
Ubuntu 64-bit (2) - VMware Workstation 17 Player (Non-commercial use only)
Player | [Icons]
Activities | Terminal
jefferson@jefferson-costa: ~/Downloads
/home/jefferson/Downloads
sample.tar.gz
jefferson@jefferson-costa:~/Downloads$ tar -xvf sample.tar.gz
sample/
sample/andromeda.jpg
sample/SOAPdenovo2.pdf
sample/sequence.fasta
sample/Poster.pdf
sample/pan-genome-size.pdf
sample/proteinas/
sample/proteinas/Rv0001
sample/proteinas/Rv0002
sample/proteinas/Rv0003
sample/proteinas/Rv0004
sample/proteinas/Rv0005
sample/proteinas/Rv0006
sample/proteinas/Rv0007
sample/proteinas/Rv0009
sample/proteinas/Rv0012
sample/proteinas/Rv0013
sample/proteinas/Rv0023
```

- Descubra para que serve cada um destes parâmetros utilizando o comando `man` sobre o comando `tar`. Aproveite e descubra também qual parâmetro faria a compactação de um arquivo.

Ubuntu 64-bit (2) - VMware Workstation 17 Player (Non-commercial use only)

Player | || | | |

Activities

jefferson@jefferson-costa: ~/Downloads

```
/home/jefferson/Downloads
sample sample.tar.gz
jefferson@jefferson-costa:~/Downloads$ man tar
jefferson@jefferson-costa:~/Downloads$ tar -czvf sample/
tar: Cowardly refusing to create an empty archive
Try 'tar --help' or 'tar --usage' for more information.
jefferson@jefferson-costa:~/Downloads$ tar -czvf compactado.tar.qz sample
sample/
sample/proteinas/
sample/proteinas/Rv2397c
sample/proteinas/Rv3860
sample/proteinas/Rv0923c
sample/proteinas/Rv2465c
sample/proteinas/Rv1264
sample/proteinas/Rv2267c
```

- Agora temos um diretório novo chamado sample dentro da pasta Downloads. Posicione o nosso terminal de comandos dentro deste diretório/pasta com o comando `cd sample`.

Ubuntu 64-bit (2) - VMware Workstation 17 Player (Non-commercial use only)

Player | || | | |

Activities Terminal

jefferson@jefferson-costa: ~/Downloads/sample

```
/home/jefferson/Downloads
compactado.tar.qz sample sample.tar.gz
jefferson@jefferson-costa:~/Downloads$ cd sample/
jefferson@jefferson-costa:~/Downloads/sample$
```

- Execute o nosso comando `ls` dentro da pasta sample.

Ubuntu 64-bit (2) - VMware Workstation 17 Player (Non-commercial use only)

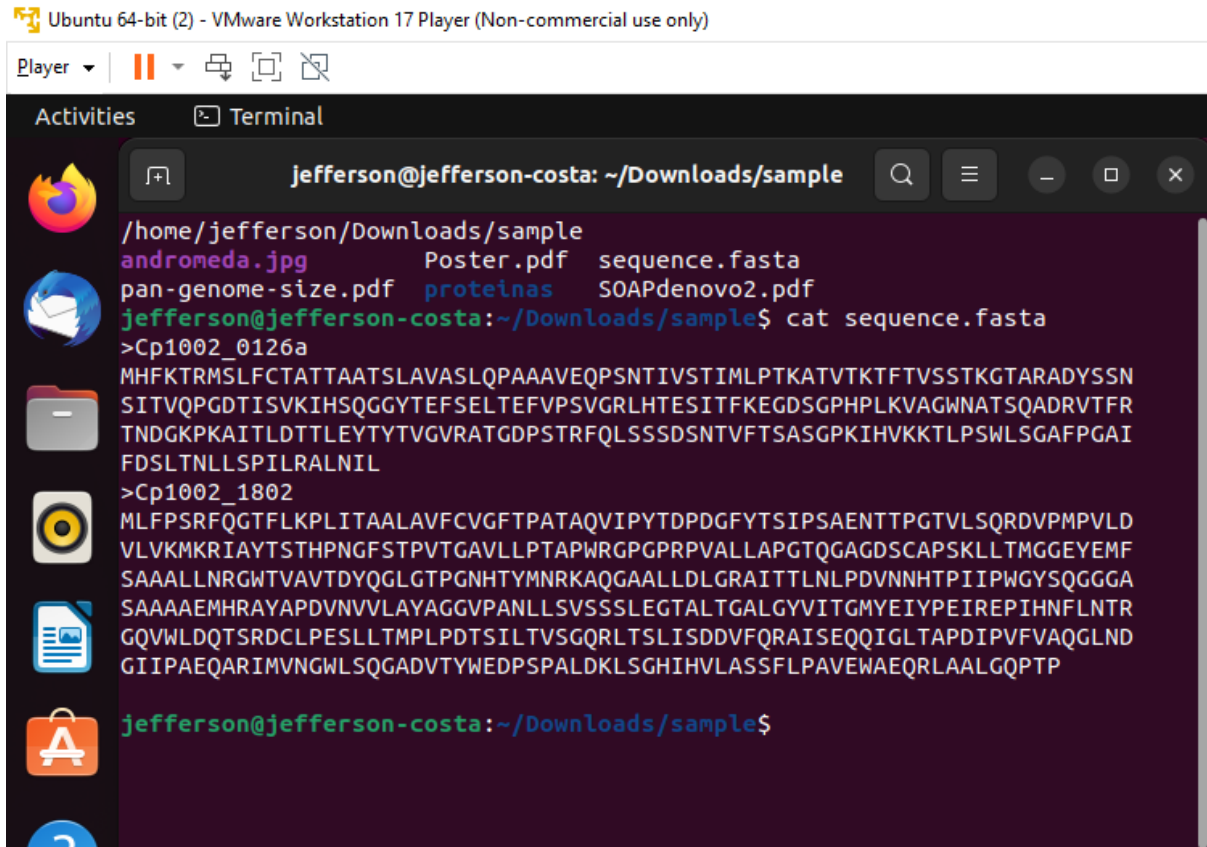
Player | || | | |

Activities Terminal

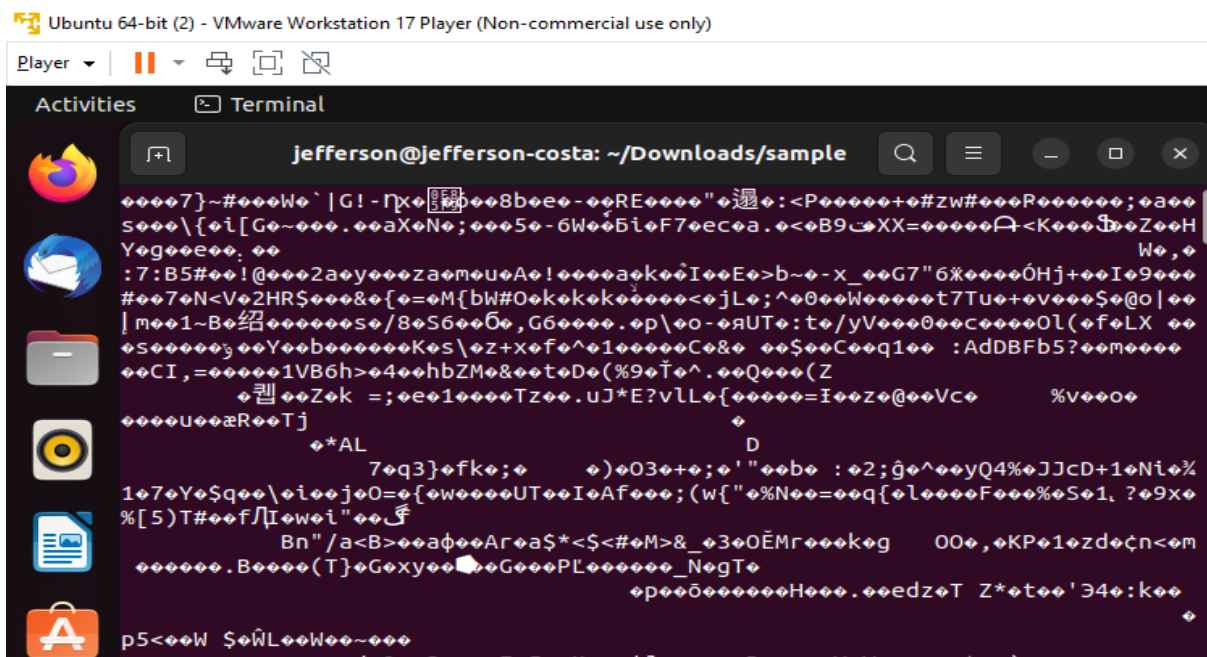
jefferson@jefferson-costa: ~/Downloads/sample

```
/home/jefferson/Downloads/sample
andromeda.jpg Poster.pdf sequence.fasta
pan-genome-size.pdf proteínas SOAPdenovo2.pdf
jefferson@jefferson-costa:~/Downloads/sample$
```


- **Veja que temos vários arquivos. Alguns são binários e outros são textos. Uma maneira de exibir o conteúdo de arquivos texto de forma rápida é usando o comando cat. Execute o comando cat sequence.fasta.**



- **Utilize o mesmo comando para listar o arquivo Poster.pdf e observe o que será exibido.**



- Adianto que dentro da pasta proteínas (sem acento) existem vários arquivos. Vamos listar estes arquivos com o comando ls. Porém não peço que você se posicione dentro da pasta proteínas, estando dentro da pasta sample podemos fazer isso. Para tanto digite o comando ls proteínas

Ubuntu 64-bit (2) - VMware Workstation 17 Player (Non-commercial use only)

```

Player | [Icons]
Activities | Terminal
jefferson@jefferson-costa: ~/Downloads/sample
/home/jefferson/Downloads/sample
andromeda.jpg      Poster.pdf  sequence.fasta
pan-genome-size.pdf proteínas    SOAPdenovo2.pdf
jefferson@jefferson-costa:~/Downloads/sample$ ls proteínas/
Rv0001  Rv0494  Rv0983  Rv1474c  Rv1966  Rv2455c  Rv2948c  Rv3436c
Rv0002  Rv0495c Rv0984  Rv1475c  Rv1967  Rv2456c  Rv2949c  Rv3437
Rv0003  Rv0496  Rv0985c Rv1476  Rv1968  Rv2457c  Rv2950c  Rv3438
Rv0004  Rv0497  Rv0986  Rv1477  Rv1969  Rv2458  Rv2951c  Rv3439c
Rv0005  Rv0498  Rv0987  Rv1478  Rv1970  Rv2459  Rv2952  Rv3440c
Rv0006  Rv0499  Rv0988  Rv1479  Rv1971  Rv2460c  Rv2953  Rv3441c
Rv0007  Rv0500  Rv0989c Rv1480  Rv1972  Rv2461c  Rv2954c  Rv3442c
Rv0008c Rv0500A Rv0990c Rv1481  Rv1973  Rv2462c  Rv2955c  Rv3443c
Rv0009  Rv0500B Rv0991c Rv1482c Rv1974  Rv2463  Rv2956  Rv3444c
Rv0010c Rv0501  Rv0992c Rv1483  Rv1975  Rv2464c  Rv2957  Rv3445c
Rv0011c Rv0502  Rv0993  Rv1484  Rv1976c Rv2465c  Rv2958c  Rv3446c
Rv0012  Rv0503c Rv0994  Rv1485  Rv1977  Rv2466c  Rv2959c  Rv3447c
Rv0013  Rv0504c Rv0995  Rv1486c Rv1978  Rv2467  Rv2960c  Rv3448
Rv0014c Rv0505c Rv0996  Rv1487  Rv1979c Rv2468c  Rv2961  Rv3449
Rv0015c Rv0506  Rv0997  Rv1488  Rv1980c Rv2469c  Rv2962c  Rv3450c
Rv0016c Rv0507  Rv0998  Rv1489  Rv1981c Rv2470  Rv2963  Rv3451

```

- O comando anterior listou os nomes de 3.988 arquivos. Agora vamos colocar o conteúdo de todos estes arquivos dentro de um único arquivo que chamaremos de mt.fasta para tanto digite o comando cat proteínas/* > mt.fasta. Esse comando lista o conteúdo de todos os arquivos dentro da pasta proteínas (proteínas/*) e redireciona o conteúdo desta listagem (sinal de maior '>') para dentro de um novo arquivo cujo nome determinamos que seria mt.fasta.

Ubuntu 64-bit (2) - VMware Workstation 17 Player (Non-commercial use only)

```

Player | [Icons]
Activities | Terminal
jefferson@jefferson-costa: ~/Downloads/sample
/home/jefferson/Downloads/sample
andromeda.jpg      Poster.pdf  sequence.fasta
pan-genome-size.pdf proteínas    SOAPdenovo2.pdf
jefferson@jefferson-costa:~/Downloads/sample$ cat proteínas/* > mt.fasta
jefferson@jefferson-costa:~/Downloads/sample$

```


- Agora tente listar o conteúdo do arquivo mt.fasta utilizando o comando cat.

Ubuntu 64-bit (2) - VMware Workstation 17 Player (Non-commercial use only)

Player ▾ | || ▾ | 🖨️ 📄 🗑️

Activities Terminal

jefferson@jefferson-costa: ~/Downloads/sample 🔍 ☰ - □ ×

```

VERFVEIGVKSSPTVAGLATNTLKLPEYAHSTVEVLNAERDAAVLFATDTPPEPEEDE
PVAESPAPDVVSEAAPVAPAASSAGPRPDDLVDADATLALIALSAKMRIDQIEELDSI
ESITDGASSRRNQLLVDLGSSELNLGAIDGAAESDLAGLSQVTKLARTYKPYGPVLSDAI
NDQLRTVLGPGSKRPGAIAERVKKTWELGEGWAKHVTVEVALGTREGSSVRGGAMGHLHE
GALADAASVDKVIDAASVAARQGVSVLPSAGSGGGATIDAAALSEFTDQITGREGVL
ASAARLVLGQLGLDDPVNALPAAPDSELIDLVTAE LGADWPRLVAPVFDPPKAVVFDDR
ASAREDLVKLWLTDEGDIDADWPRLAERFEGAGHVATQATWWQKSLAAGRQIHASLYG
RIAAGAENPEPGRYGGEVAVVTGASKGSIASVVARLLDGGATVIATTSKLDEERLAFYR
TLYRDHARYGAALWLVAANMASYSDVDALVEWIGTEQTESLGPQSIHIKDAQPTLLFPF
AAPRVVGDLEAGSRAEMEMKVLLWAVQRLIGGLSTIGAERDIASRLHVLPSPNRMGMF
GGDGAYGEAKSALDAVVSRWHAESSWAARVSLAHALIGWTRGTGLMGHNDIAVAAVEEAG
VTTYSTDEMAALLDLCDAESKVAARSPIKADLTGGLAEANLMAELAAREQMSAAA
AVDEDAEAPGATAALPSPPRGFTAPPPQWDDLVDVPADLVVIVGGAEIGPYGSSRTRFE
MEVENELSAAGVLELAWTTGLIRWEDDPQPGWYDTESGEMVDESELVQRYHDAVVQRVGI
REFVDDGAIDPDHASPLLVSVFLEKDFAFVVSSEADARAFVEFDPEHTVIRPVPDSTWQ
VIRKAGTEIRVPRKTKLSRVVGGQIPTGFDPVWGISADMAGSIDRLAVWNMVATVDAFL
SSGFSPAEMRYVHPSLVANTQGTGMGGGTSMQTMHGNLLGRNKPNDIFQEVLPNIIAA
HVVQSYVGSYGAMIHPVAACATAAVSVEEGVDKIRLGKQALVVAGGLDDLTLGEGIFGD
MAATADTSMCMCGRIHDSKFSRPNDRRRLGFVEAQGGGTILLARGDLALRMGLPVLAVVA
FAQSFGDGVHTSIPAPGLGALGAGRGKDSPLARALAKLGVAADDVAVISKHDTSTLAND

```

- Agora tente listar o conteúdo do arquivo mt.fasta utilizando o comando more e depois o comando less.

Ubuntu 64-bit (2) - VMware Workstation 17 Player (Non-commercial use only)

Player ▾ | || ▾ | 🖨️ 📄 🗑️

Activities Terminal

jefferson@jefferson-costa: ~/Downloads/sample 🔍 ☰ - □ ×

```

/home/jefferson/Downloads/sample
andromeda.jpg  pan-genome-size.pdf  proteínas  SOAPdenovo2.pdf
mt.fasta      Poster.pdf          sequence.fasta
jefferson@jefferson-costa:~/Downloads/sample$ more mt.fasta
>Rv0001
MTDDPGSGFTTVWNAVVSSELNGDPKVDDGPSSDANLSAPLTPQQRAWNLVQPLTIVEGF
ALLSVPSSFVQNEIERHLRAPITDALSRRLGHQIQLGVRIAPPATDEADTTVPSENPA
TTSPDTTTTDNDEIDDSAAARGDNQHSWPSYFTERPHNTDSATAGVTSLNRRYTFDTFVIG
ASNRFAHAAALAIAPARAYNPLFIWGESGLGKTHLLHAAGNYAQRLLFGMRVKYVSTE
EFTNDFINSLRDDRKVAFKRSYRDVDVLLVDDIQFIEGKEGIEEFFHTFNTLHNANKQI
VISSDRPPKQLATLEDRLRTRFEWGLITDVQPPELETRIAILRKAQMERLAVPDDVLEL
IASSIERNIRELEGALIRVTAFASLNKTPIDKALAEIVLRDLIADANTMQISAATIMAA
AEYFDTTVEELRGPGRKTRALAQSRQIAMYLCRELTDLSLPKIGQAFGRDHTTVMYAQRKI
LSEMAERREVFHDVKELTTRIRQSKR
>Rv0002
MDAATTRVGLTDLTFRLLRESFADAVSWAKNLPARPAPVPLSGVLLTGSDNGLTISGFD
YEVSAEAQVGAEIVSPGSVLVSGRLLSDITRALPNKPVDVHVEGNRVALTCGNARFSLPT
MPVEDYPTLPTLPEETGLLPAELFAEAISSQVAIAAGRDDTLPLMTGIRVEILGETVVLA
TDRFRLAVRELKWSASSPDIEAAVLVPAKTLAEAAKAGIGGSDVRLSLGTGPGVGKDG
GISGNGKRSTTRLLDAEFPKFRQLLPTEHTAVATMDVAELIEAIKLVALVADRGQVRME
FADGSVRLSAGADDVGRAEEDLVVDYAGEPLTIAFNPTYLTDGLSSLRSERVSFGFTTAG
KPALLRPVSGDDRPVAGLNGNGPFAVSTDYVYLLMPVRLPG
>Rv0003
--More-- (0%)

```

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Activities Terminal
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>Rv0001
MTDDPGSGFTTVWNAVSELNQDPKVDGPPSSDANLSAPLTPQQRAWLNLVQPLTIVEGF
ALLSVPSSFVQNEIERHLRAPITDALSRRLGHQIQLGVRIAPPATDEADDTTVPPSENPA
TTSPDTTNDDEIDDSAAAARGDNQHSWPSYFTERPHNTDSATAGVTSLNRRYTFDTFVIG
ASNRFAHAAALAEAPARAYNPLFIWGESGLGKTHLLHAAGNYAQLFPGMRVKYVSTE
EFTNDFINSLRDDRKVAFKRSYRDVDVLLVDDIQFIEGKEGIEEFFHTFNTLHNANKQI
VISSDRPPKQLATLEDRLRTRFEWGLITDVQPPELETRIAILRKAQMERLAVPDDVLEL
IASSIERNIRELEGALIRVTAFASLNKTPIDKALAEIVLRDLIADANTMQISAATIMAAT
AEYFDTTVEELRGPGRKTRALAQSRQIAMYLCRELTDLSLPKIGQAFGRDHTTVMYAQRKI
LSEMAERREVFHDHVKELTTRIRQRSKR
>Rv0002
MDAATTRVGLTDLTFRLLRESFADAVSWAKNLPARPAVPVLSGVLLTGSDNGLTISGFD
YEVSAAEQVGAIEVSPGSLVSGRLLSDITRALPNKVPDVHVEGNRVALTCGNARFSLPT
MPVEDYPTLPTLPEETGLLPAELFAEAISSQVAIAAGRDDLPLMTGIRVEILGETVVLA
TDRFRLAVRELKWSASSPDIEAAVLVPAKTLAEAAKAGIGGSDVRLSLGTGPGVGKDG
GISGNGKRSTTRLLDAEFKPKRQLLPTHTAVATMDVAELIEAIKLVALVADRGAVRME
FADGSVRLSAGADDVGRAEEDLVVDYAGEPLTIAFNPTYLTDGLSSLRSERVSFGFTTAG
KPALLRPVSGDRPVAGLNGNGPFAVSTDYVYLLMPVRLPG
>Rv0003
MYVRHLGLRDFRSWACVDLELHPGRTVFVGPNGYGKTNLIEALWYSTTLGSHRVASDLPL
IRVGTDAVISTIVNDGRECAVDLEIATGRVKNKARLNRSVRSTRDVGVLRAVLFAPE
DLGLVRGDPADRRRYLDDLAIVRRPAIAAVRAEYERVLQRRTALLKSVPGARYRGDRGVF
DTLEVWDSRLAEHGAELVAARIDLNVQLAPEVKKAYQLLAPESRSASIGYRASMDVTGPS
mt.fasta
  
```

- Outro comando útil são os comandos head e tail que nos permitem listar apenas o início e o final de um arquivo. O parâmetro utilizado para determinar qual a quantidade de linhas a ser exibida é passado com o -n. Experimente: head -n 10 mt.fasta. Depois execute novamente aumentando o tamanho de 10 para outro valor maior/menor.

```

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/home/jefferson/Downloads/sample
andromeda.jpg pan-genome-size.pdf proteínas SOAPdenovo2.pdf
mt.fasta Poster.pdf sequence.fasta
jefferson@jefferson-costa:~/Downloads/sample$ head -n 10 mt.fasta
>Rv0001
MTDDPGSGFTTVWNAVSELNQDPKVDGPPSSDANLSAPLTPQQRAWLNLVQPLTIVEGF
ALLSVPSSFVQNEIERHLRAPITDALSRRLGHQIQLGVRIAPPATDEADDTTVPPSENPA
TTSPDTTNDDEIDDSAAAARGDNQHSWPSYFTERPHNTDSATAGVTSLNRRYTFDTFVIG
ASNRFAHAAALAEAPARAYNPLFIWGESGLGKTHLLHAAGNYAQLFPGMRVKYVSTE
EFTNDFINSLRDDRKVAFKRSYRDVDVLLVDDIQFIEGKEGIEEFFHTFNTLHNANKQI
VISSDRPPKQLATLEDRLRTRFEWGLITDVQPPELETRIAILRKAQMERLAVPDDVLEL
IASSIERNIRELEGALIRVTAFASLNKTPIDKALAEIVLRDLIADANTMQISAATIMAAT
AEYFDTTVEELRGPGRKTRALAQSRQIAMYLCRELTDLSLPKIGQAFGRDHTTVMYAQRKI
LSEMAERREVFHDHVKELTTRIRQRSKR
jefferson@jefferson-costa:~/Downloads/sample$
  
```

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/home/jefferson/Downloads/sample
andromeda.jpg pan-genome-size.pdf proteínas SOAPdenovo2.pdf
mt.fasta Poster.pdf sequence.fasta
jefferson@jefferson-costa:~/Downloads/sample$ head -n 5 mt.fasta
>Rv0001
MTDDPGSGFTTVWNAVVSSELNGDPKVDDGPSSDANLSAPLTPQQRAWLNLVQPLTIVEGF
ALLSVPSSFVQNEIERHLRAPITDALSRRLGHQIQLGVRIAPPATDEADTTVPPSENPA
TTSPDTTTDNDEIDDSAAARGDNQHSWPSYFTERPHNTDSATAGVTSLNRRYTFDTFVIG
ASNRFAHAAALATAEAPARAYNPLFIWGESGLGKTHLLHAAGNYAQRLLPGMRVKYVSTE
jefferson@jefferson-costa:~/Downloads/sample$

```

- Outros comandos muito utilizados são a cópia, mudança de nome/local de um arquivo, bem como a remoção do mesmo. Para praticarmos, suponha que vamos criar uma cópia do arquivo mt.fasta, como mt2.fasta: `cp mt.fasta mt2.fasta` Na sequência decidimos mover este arquivo para a pasta pai da pasta sample (nesse caso a pasta Downloads): `mv mt2.fasta ../` E por último decidimos que o arquivo mt.fasta não era mais necessário e decidimos apagá-lo. `rm mt.fasta`

```

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Activities Terminal
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/home/jefferson/Downloads/sample
andromeda.jpg pan-genome-size.pdf proteínas SOAPdenovo2.pdf
mt.fasta Poster.pdf sequence.fasta
jefferson@jefferson-costa:~/Downloads/sample$ cp mt.fasta mt2.fasta
jefferson@jefferson-costa:~/Downloads/sample$ mv mt2.fasta ../
jefferson@jefferson-costa:~/Downloads/sample$ rm mt.fasta
jefferson@jefferson-costa:~/Downloads/sample$

```

- Outro comando útil é a criação e remoção de pastas. Suponha que seja necessário criar uma pasta para editar uma nova versão do arquivo mt2.fasta. Assim criamos uma pasta com o nome mtv2, por exemplo: `mkdir mtv2`. Na sequência movemos o arquivo que está na pasta pai da pasta sample para dentro do diretório criado: `mv ../mt2.fasta mtv2`.

```

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/home/jefferson/Downloads/sample
andromeda.jpg Poster.pdf sequence.fasta
pan-genome-size.pdf proteínas SOAPdenovo2.pdf
jefferson@jefferson-costa:~/Downloads/sample$ mkdir mtv2
jefferson@jefferson-costa:~/Downloads/sample$ mv ../mt2.fasta mtv2
jefferson@jefferson-costa:~/Downloads/sample$

```

- Agora tente remover o diretório mtv2 com o comando `rm mtv2` e observe o resultado.

```

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/home/jefferson/Downloads/sample
andromeda.jpg Poster.pdf sequence.fasta
pan-genome-size.pdf proteínas SOAPdenovo2.pdf
jefferson@jefferson-costa:~/Downloads/sample$ mkdir mtv2
jefferson@jefferson-costa:~/Downloads/sample$ mv ../mt2.fasta mtv2
jefferson@jefferson-costa:~/Downloads/sample$ rm mtv2
rm: cannot remove 'mtv2': Is a directory
jefferson@jefferson-costa:~/Downloads/sample$

```

- Por último, digite o comando `history` no terminal e observe o que foi retornado. Para fechar o terminal digite `exit`.

```

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/home/jefferson/Downloads/sample
andromeda.jpg pan-genome-size.pdf proteínas SOAPdenovo2.pdf
mtv2 Poster.pdf sequence.fasta
jefferson@jefferson-costa:~/Downloads/sample$ history
1 sudo apt update && sudo apt upgrade
2 ls -t
3 ls -c
4 ls -lt
5 ls -c -lt
6 man ls
7 ls -t
8 ls -lt
9 pwd
10 ls
11 cd dow
12 clear
13 pwd
14 ls
15 cd Downloads/
16 pwd

```