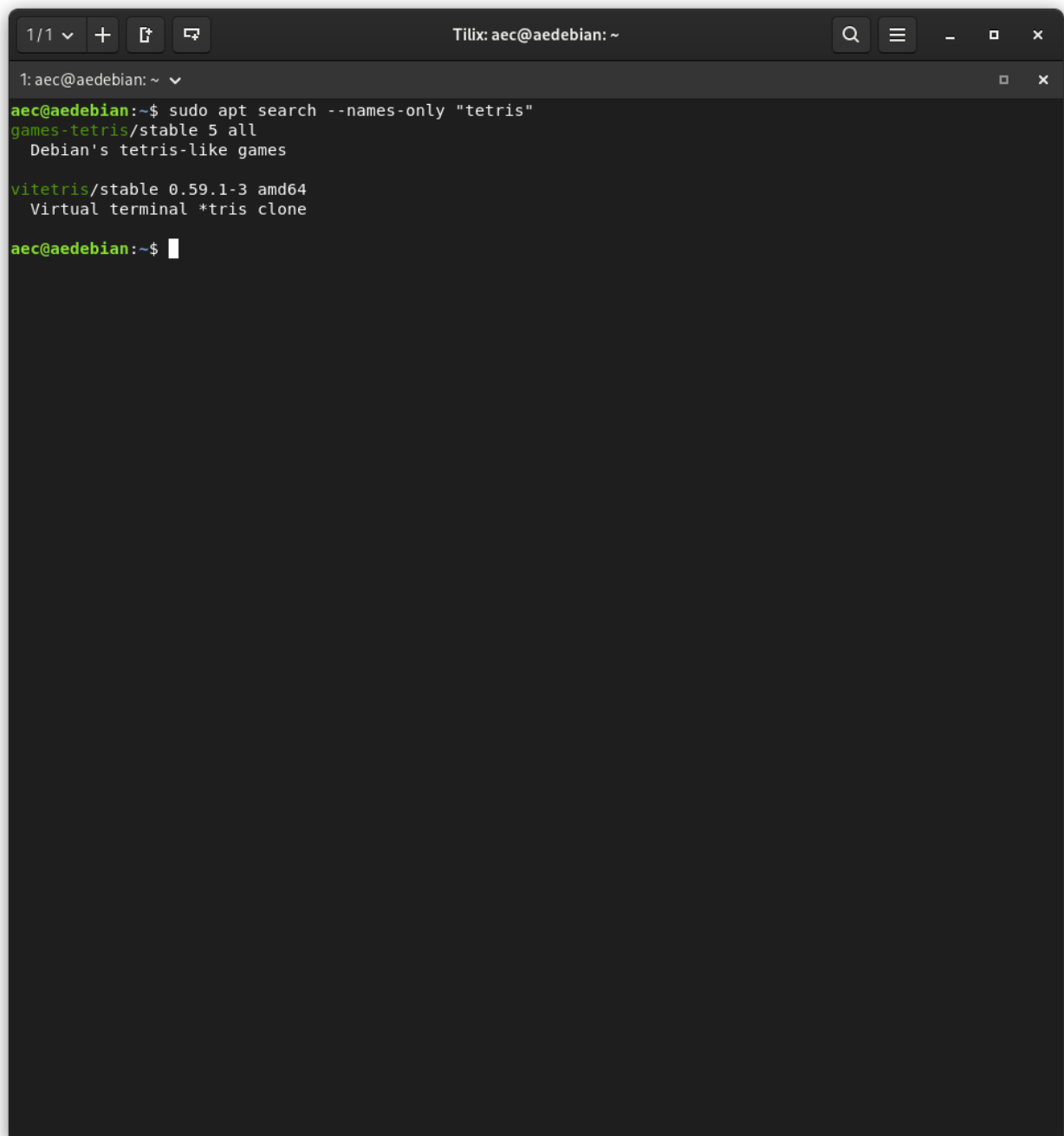


Lab 4

- Searching for packages

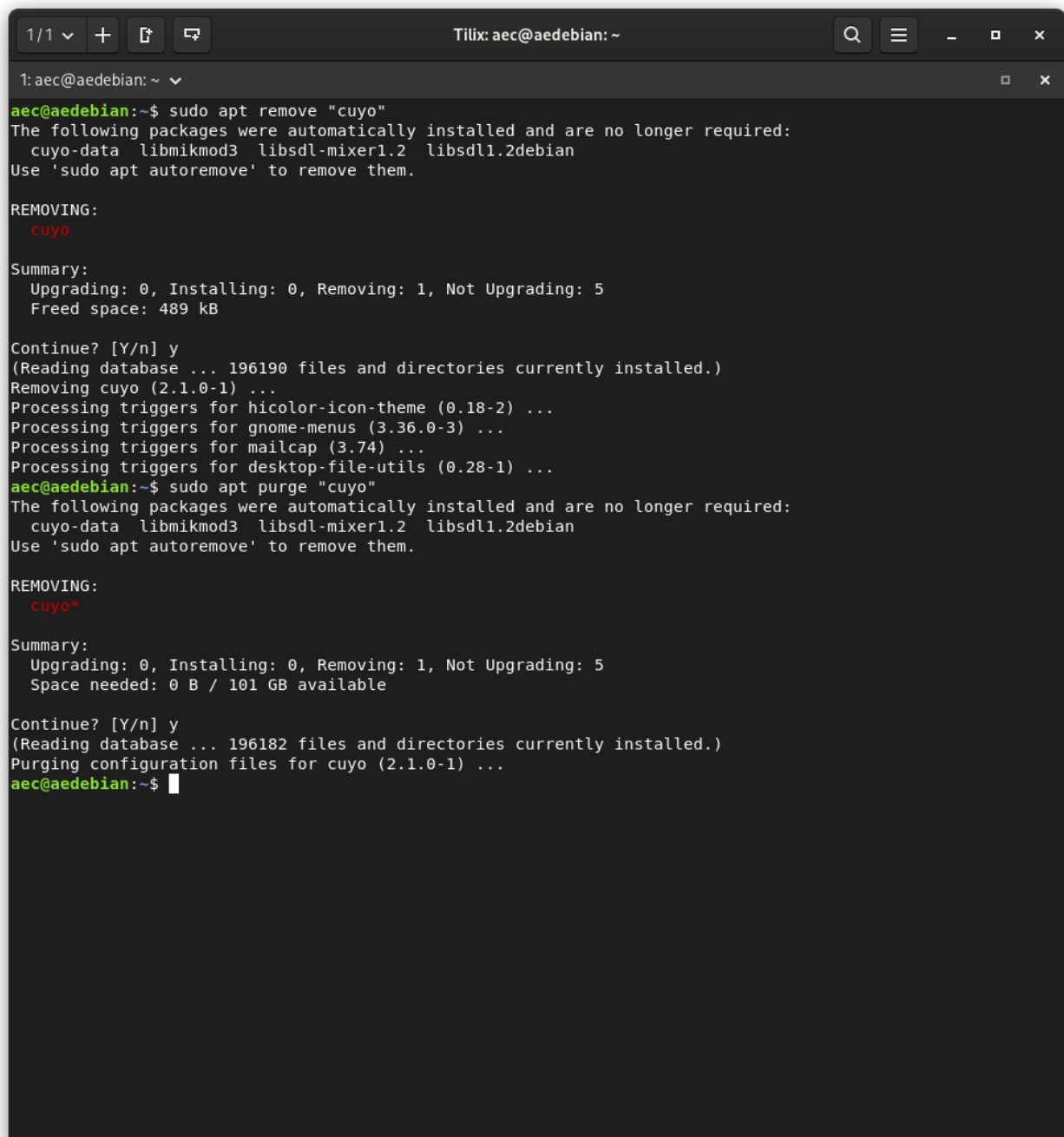


```
Tilix: aec@aedebian: ~  
1: aec@aedebian: ~  
aec@aedebian:~$ sudo apt search --names-only "tetris"  
games-tetris/stable 5 all  
  Debian's tetris-like games  
  
vitetris/stable 0.59.1-3 amd64  
  Virtual terminal *tris clone  
  
aec@aedebian:~$
```

- Installing packages

```
1/1 + [?] [x] Tilix: aec@aedebian: ~
1: aec@aedebian: ~
Continue? [Y/n] y
Get:1 http://deb.debian.org/debian trixie/main amd64 libfmt10 amd64 10.1.1+ds1-4 [127 kB]
Get:2 http://deb.debian.org/debian trixie/main amd64 libphysfs1 amd64 3.0.2-6+b2 [67.9 kB]
Get:3 http://deb.debian.org/debian trixie/main amd64 libsdl2-image-2.0-0 amd64 2.8.8+dfsg-1 [67.0 kB]
Get:4 http://deb.debian.org/debian trixie/main amd64 libopusfile0 amd64 0.12-4+b3 [42.6 kB]
Get:5 http://deb.debian.org/debian trixie/main amd64 libxmp4 amd64 4.6.2-2 [319 kB]
Get:6 http://deb.debian.org/debian trixie/main amd64 libsdl2-mixer-2.0-0 amd64 2.8.1+dfsg-2 [82.5 kB]
Get:7 http://deb.debian.org/debian trixie/main amd64 libsdl2-ttf-2.0-0 amd64 2.24.0+dfsg-2 [36.2 kB]
Get:8 http://deb.debian.org/debian trixie/main amd64 blockattack amd64 2.9.0-1+b1 [6,732 kB]
Fetched 7,473 kB in 0s (16.7 MB/s)
Selecting previously unselected package libfmt10:amd64.
(Reading database ... 195059 files and directories currently installed.)
Preparing to unpack .../0-libfmt10_10.1.1+ds1-4_amd64.deb ...
Unpacking libfmt10:amd64 (10.1.1+ds1-4) ...
Selecting previously unselected package libphysfs1:amd64.
Preparing to unpack .../1-libphysfs1_3.0.2-6+b2_amd64.deb ...
Unpacking libphysfs1:amd64 (3.0.2-6+b2) ...
Selecting previously unselected package libsdl2-image-2.0-0:amd64.
Preparing to unpack .../2-libsdl2-image-2.0-0_2.8.8+dfsg-1_amd64.deb ...
Unpacking libsdl2-image-2.0-0:amd64 (2.8.8+dfsg-1) ...
Selecting previously unselected package libopusfile0:amd64.
Preparing to unpack .../3-libopusfile0_0.12-4+b3_amd64.deb ...
Unpacking libopusfile0:amd64 (0.12-4+b3) ...
Selecting previously unselected package libxmp4:amd64.
Preparing to unpack .../4-libxmp4_4.6.2-2_amd64.deb ...
Unpacking libxmp4:amd64 (4.6.2-2) ...
Selecting previously unselected package libsdl2-mixer-2.0-0:amd64.
Preparing to unpack .../5-libsdl2-mixer-2.0-0_2.8.1+dfsg-2_amd64.deb ...
Unpacking libsdl2-mixer-2.0-0:amd64 (2.8.1+dfsg-2) ...
Selecting previously unselected package libsdl2-ttf-2.0-0:amd64.
Preparing to unpack .../6-libsdl2-ttf-2.0-0_2.24.0+dfsg-2_amd64.deb ...
Unpacking libsdl2-ttf-2.0-0:amd64 (2.24.0+dfsg-2) ...
Selecting previously unselected package blockattack.
Preparing to unpack .../7-blockattack_2.9.0-1+b1_amd64.deb ...
Unpacking blockattack (2.9.0-1+b1) ...
Setting up libsdl2-image-2.0-0:amd64 (2.8.8+dfsg-1) ...
Setting up libxmp4:amd64 (4.6.2-2) ...
Setting up libphysfs1:amd64 (3.0.2-6+b2) ...
Setting up libsdl2-ttf-2.0-0:amd64 (2.24.0+dfsg-2) ...
Setting up libopusfile0:amd64 (0.12-4+b3) ...
Setting up libfmt10:amd64 (10.1.1+ds1-4) ...
Setting up libsdl2-mixer-2.0-0:amd64 (2.8.1+dfsg-2) ...
Setting up blockattack (2.9.0-1+b1) ...
Processing triggers for desktop-file-utils (0.28-1) ...
Processing triggers for hicolor-icon-theme (0.18-2) ...
Processing triggers for gnome-menus (3.36.0-3) ...
Processing triggers for libc-bin (2.41-12) ...
Processing triggers for man-db (2.13.1-1) ...
Processing triggers for mailcap (3.74) ...
aec@aedebian:~$
```

- Removing packages



```
1/1 v + f T Tilix: aec@aedebian: ~
1: aec@aedebian: ~ v
aec@aedebian:~$ sudo apt remove "cuyo"
The following packages were automatically installed and are no longer required:
  cuyo-data libmikmod3 libSDL-mixer1.2 libSDL1.2debian
Use 'sudo apt autoremove' to remove them.

REMOVING:
  cuyo

Summary:
  Upgrading: 0, Installing: 0, Removing: 1, Not Upgrading: 5
  Freed space: 489 kB

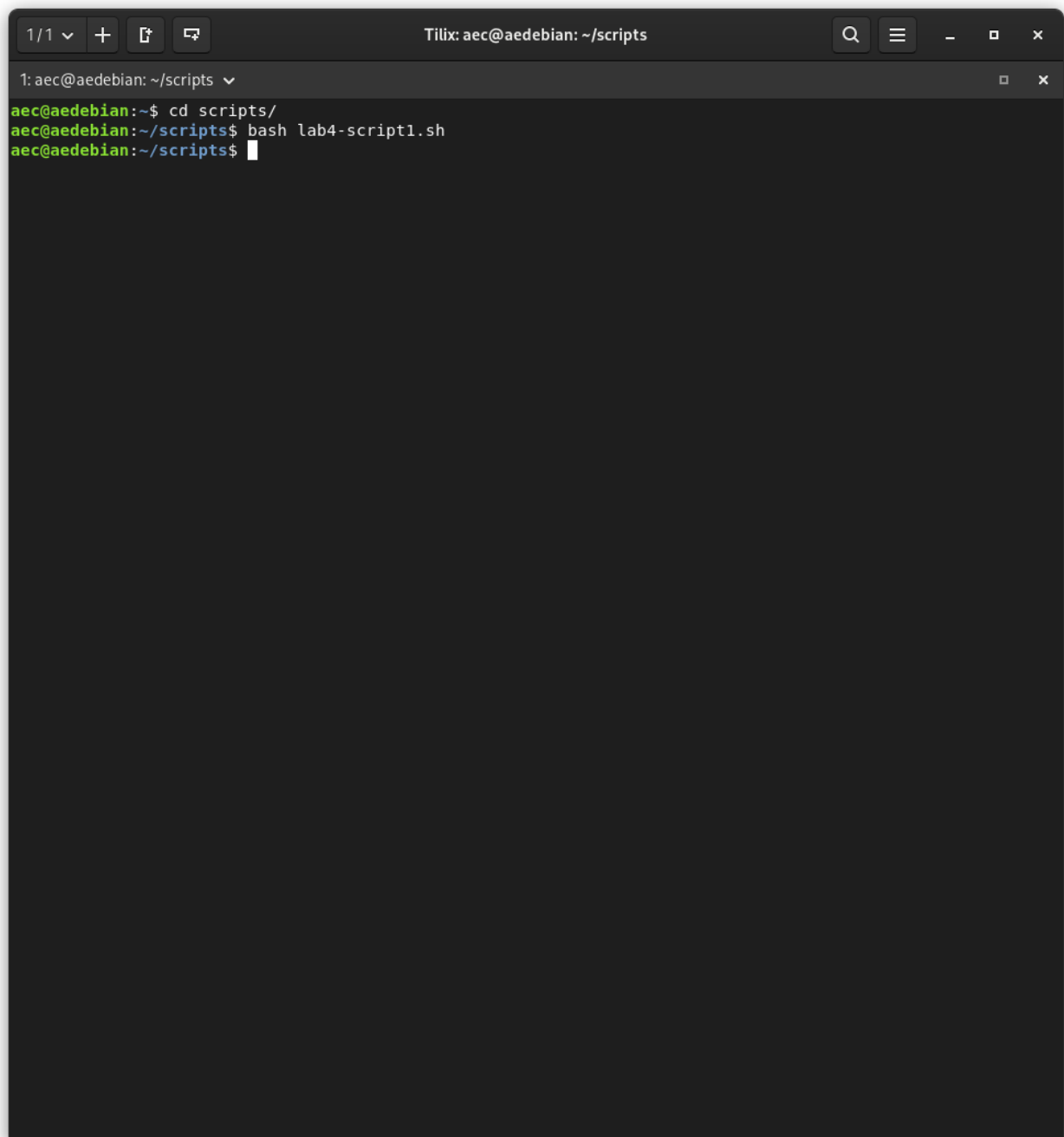
Continue? [Y/n] y
(Reading database ... 196190 files and directories currently installed.)
Removing cuyo (2.1.0-1) ...
Processing triggers for hicolor-icon-theme (0.18-2) ...
Processing triggers for gnome-menus (3.36.0-3) ...
Processing triggers for mailcap (3.74) ...
Processing triggers for desktop-file-utils (0.28-1) ...
aec@aedebian:~$ sudo apt purge "cuyo"
The following packages were automatically installed and are no longer required:
  cuyo-data libmikmod3 libSDL-mixer1.2 libSDL1.2debian
Use 'sudo apt autoremove' to remove them.

REMOVING:
  cuyo*

Summary:
  Upgrading: 0, Installing: 0, Removing: 1, Not Upgrading: 5
  Space needed: 0 B / 101 GB available

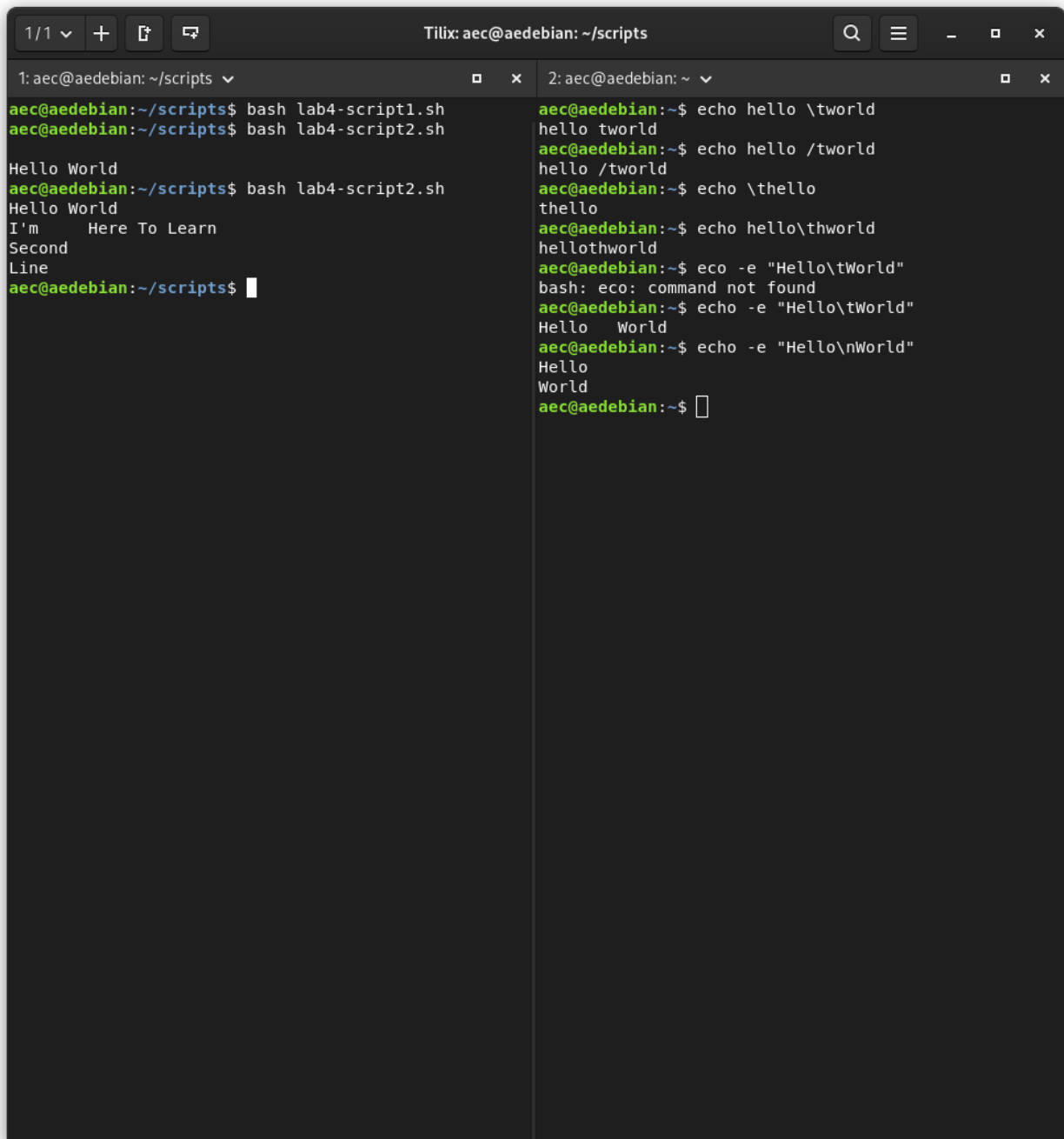
Continue? [Y/n] y
(Reading database ... 196182 files and directories currently installed.)
Purging configuration files for cuyo (2.1.0-1) ...
aec@aedebian:~$
```

- Shell Scripting

A terminal window titled 'Tilix: aec@aedebian: ~/scripts' with standard window controls. The terminal shows a sequence of commands: 'cd scripts/' followed by 'bash lab4-script1.sh'. The prompt changes from '~\$' to '~/scripts\$' after each command. The window has a dark theme and a tab bar at the top showing '1: aec@aedebian: ~/scripts'.

```
1: aec@aedebian: ~/scripts
aec@aedebian:~$ cd scripts/
aec@aedebian:~/scripts$ bash lab4-script1.sh
aec@aedebian:~/scripts$
```

- Printing text to the screen



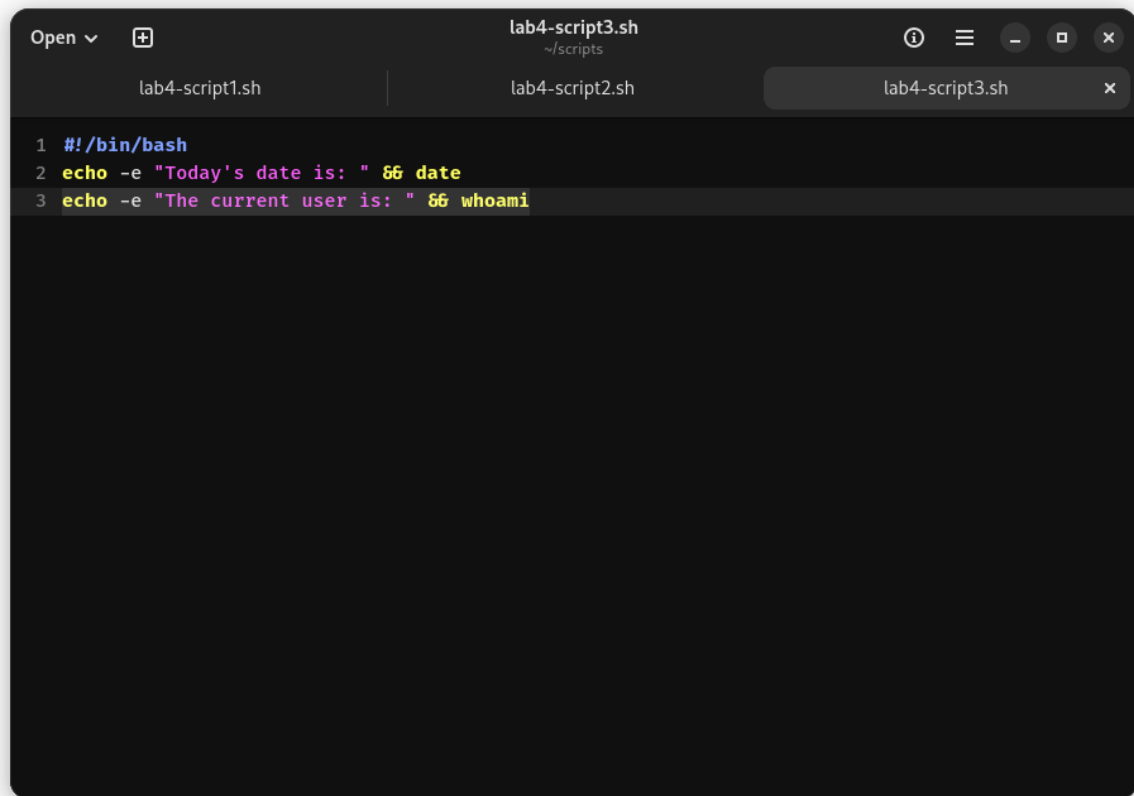
```
Tilix: aec@adebian: ~/scripts

1: aec@adebian: ~/scripts
aec@aedian:~/scripts$ bash lab4-script1.sh
aec@aedian:~/scripts$ bash lab4-script2.sh

Hello World
aec@aedian:~/scripts$ bash lab4-script2.sh
Hello World
I'm      Here To Learn
Second
Line
aec@aedian:~/scripts$

2: aec@aedian: ~
aec@aedian:~$ echo hello \tworld
hello tworld
aec@aedian:~$ echo hello /tworld
hello /tworld
aec@aedian:~$ echo \thello
thello
aec@aedian:~$ echo hello\thworld
hellothworld
aec@aedian:~$ eco -e "Hello\tWorld"
bash: eco: command not found
aec@aedian:~$ echo -e "Hello\tWorld"
Hello  World
aec@aedian:~$ echo -e "Hello\nWorld"
Hello
World
aec@aedian:~$
```

- Running other commands in a script

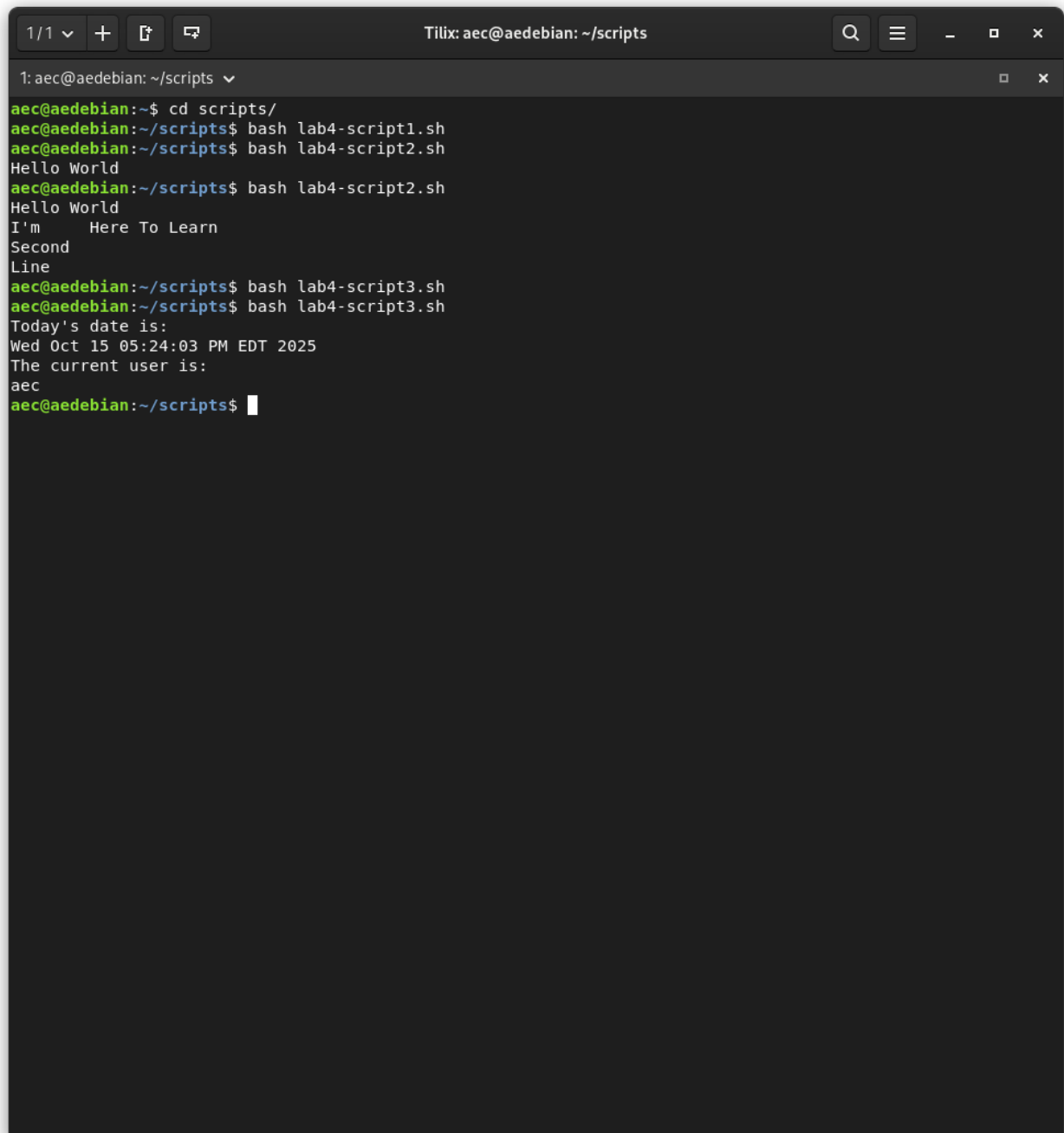


```
lab4-script3.sh
~/scripts

lab4-script1.sh | lab4-script2.sh lab4-script3.sh x

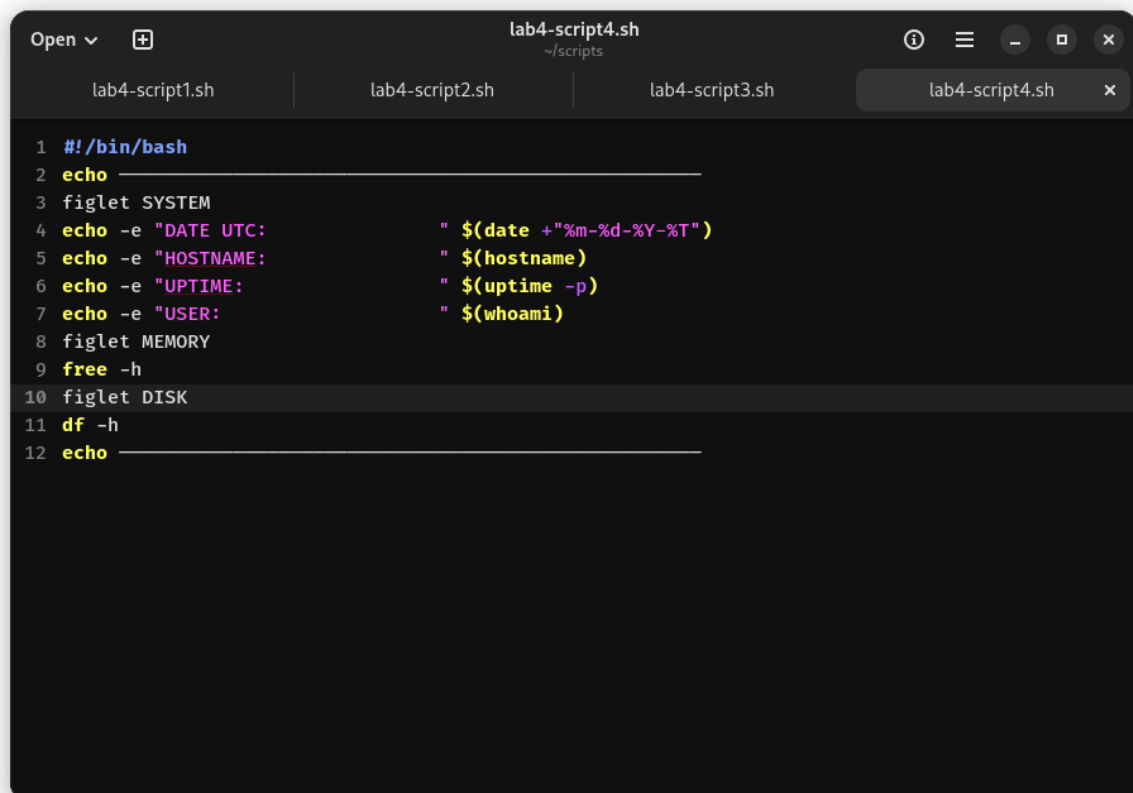
1 #!/bin/bash
2 echo -e "Today's date is: " && date
3 echo -e "The current user is: " && whoami
```

- Dual Box Tilix



```
Tilix: aec@adebian: ~/scripts
1: aec@adebian: ~/scripts
aec@adebian:~$ cd scripts/
aec@adebian:~/scripts$ bash lab4-script1.sh
aec@adebian:~/scripts$ bash lab4-script2.sh
Hello World
aec@adebian:~/scripts$ bash lab4-script2.sh
Hello World
I'm      Here To Learn
Second
Line
aec@adebian:~/scripts$ bash lab4-script3.sh
aec@adebian:~/scripts$ bash lab4-script3.sh
Today's date is:
Wed Oct 15 05:24:03 PM EDT 2025
The current user is:
aec
aec@adebian:~/scripts$
```

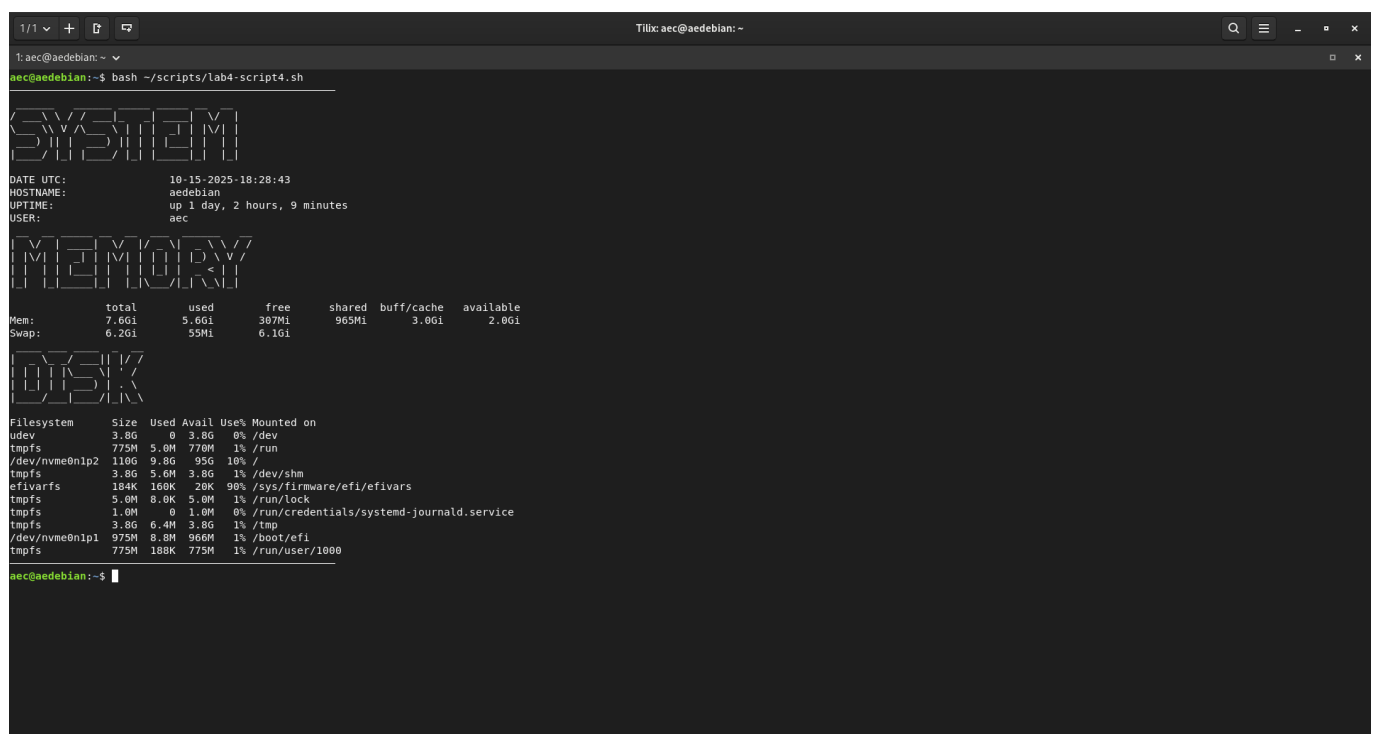
- Creating a script



```
Open ▾ + lab4-script4.sh ~/scripts
lab4-script1.sh lab4-script2.sh lab4-script3.sh lab4-script4.sh x

1 #!/bin/bash
2 echo _____
3 figlet SYSTEM
4 echo -e "DATE UTC:           " "$(date +"%m-%d-%Y-%T")"
5 echo -e "HOSTNAME:           " "$(hostname)"
6 echo -e "UPTIME:           " "$(uptime -p)"
7 echo -e "USER:           " "$(whoami)"
8 figlet MEMORY
9 free -h
10 figlet DISK
11 df -h
12 echo _____
```

- Challenge question



```
1/1 ▾ + TiliX: aec@aedebian: ~
1: aec@aedebian: ~ ▾
aec@aedebian:~$ bash ~/scripts/lab4-script4.sh

SYSTEM
DATE UTC:      10-15-2025-18:28:43
HOSTNAME:      aedebian
UPTIME:        up 1 day, 2 hours, 9 minutes
USER:          aec

MEMORY
Mem:           total    used    free   shared  buff/cache   available
Swap:          6.2Gi    55Mi    6.1Gi    965Mi    3.0Gi       2.0Gi

DISK
Filesystem      Size  Used Avail Use% Mounted on
udev            3.8G     0  3.8G   0% /dev
tmpfs           775M   5.0M  770M   1% /run
/dev/nvme0n1p2  110G   9.8G   95G  10% /
tmpfs           3.8G   5.6M   3.8G   1% /dev/shm
efivarfs        184K  160K   20K  90% /sys/firmware/efi/efivars
tmpfs           5.0M   8.0K   5.0M   1% /run/lock
tmpfs           1.0M     0   1.0M   0% /run/credentials/systemd-journald.service
tmpfs           3.8G   6.4M   3.8G   1% /tmp
/dev/nvme0n1p1  975M   8.8M  966M   1% /boot/efi
tmpfs           775M  188K   775M   1% /run/user/1000

aec@aedebian:~$
```