

Lab 4 Submission

Question 1

Tilix: aayushmas@Linux: ~

```

1: aayushmas@Linux: ~ 
aayushmas@Linux:~$ apt search "tetris clone"
bastet/stable 0.43.2-2 amd64
    ncurses Tetris clone with a bastard algorithm

ltris/stable 2.0.3-1 amd64
    very polished Tetris clone with CPU opponents

tint/stable 0.07 amd64
    Tetris clone for text based terminal

aayushmas@Linux:~$ █

```


2: aayushmas@Linux: ~

```

bastet/stable 0.43.2-2 amd64
    ncurses Tetris clone with a bastard algorithm

blockattack/stable 2.9.0-1+b1 amd64
    puzzle game inspired by Tetris

blockout2/stable 2.5+dfsg1-2 amd64
    Tetris like game (3D-tetris)

blocks-of-the-undead/stable 1.0-7 amd64
    Tetris Attack clone with spooky undertones

blocks-of-the-undead-data/stable 1.0-7 all
    Tetris Attack clone with spooky undertones - data files

bsdgames/stable 2.17-35 amd64
    collection of classic textual unix games

crack-attack/stable 1.1.14-11 amd64
lines 1-19 █

```

Tilix: aayushmas@Linux: ~

```

aayushmas@Linux:~$ sudo apt install blockout2+ cuyo+ blockattack-
The following packages were automatically installed and are no longer required:
  libfont10 libopusfile1 libphysfs1 libSDL2-image-2.0-0 libSDL2-mixer-2.0-0 libSDL2-ttf-2.0-0 libxmp4
Use 'sudo apt autoremove' to remove them.

Installing:
  blockout2 cuyo

Installing dependencies:
  cuyo-data libmikmod3 libSDL-mixer1.2 libSDL2debian

Removing:
  blockattack

Summary:
  Upgrading: 0, Installing: 6, Removing: 1, Not Upgrading: 10
  Download size: 8,078 kB
  Space needed: 4,102 kB / 36.4 GB available

Continue? [Y/n] y
Get:1 http://deb.debian.org/debian/trixie/main amd64 libmikmod3 amd64 3.3.13-1 [135 kB]
Get:2 http://deb.debian.org/debian/trixie/main amd64 libSDL1.2debian amd64 1.2.68-3 [85.9 kB]
Get:3 http://deb.debian.org/debian/trixie/main amd64 libSDL-mixer1.2 amd64 2.1.12-19+b1 [81.6 kB]
Get:4 http://deb.debian.org/debian/trixie/main amd64 blockout2 amd64 2.5+dfsg1-2 [4,228 kB]
Get:5 http://deb.debian.org/debian/trixie/main amd64 cuyo-data all 2.1.0-1 [3,372 kB]
Get:6 http://deb.debian.org/debian/trixie/main amd64 cuyo amd64 2.1.0-1 [175 kB]
Fetched 8,078 kB in 2s (3,538 kB/s)
(Reading database ... 197754 files and directories currently installed.)
Removing blockattack (2.9.0-1+b1) ...
Selecting previously unselected package libmikmod3:amd64.
(Reading database ... 197727 files and directories currently installed.)
Preparing to unpack .../0-libmikmod3_3.3.13-1_amd64.deb ...
Unpacking libmikmod3:amd64 (3.3.13-1) ...
Selecting previously unselected package libSDL1.2debian:amd64.
Preparing to unpack .../1-libSDL1.2debian_1.2.68-3_amd64.deb ...
Unpacking libSDL1.2debian:amd64 (1.2.68-3) ...
Selecting previously unselected package libSDL-mixer1.2:amd64.
Preparing to unpack .../2-libSDL-mixer1.2_2.1.12-19+b1_amd64.deb ...
Unpacking libSDL-mixer1.2:amd64 (2.1.12-19+b1) ...
Selecting previously unselected package blockout2.
Preparing to unpack .../3-blockout2_2.5+dfsg1-2_amd64.deb ...
Unpacking blockout2 (2.5+dfsg1-2) ...
Selecting previously unselected package cuyo-data.
Preparing to unpack .../4-cuyo-data_2.1.0-1_all.deb ...
Unpacking cuyo-data (2.1.0-1) ...
Selecting previously unselected package cuyo.
Preparing to unpack .../5-cuyo_2.1.0-1_amd64.deb ...
Unpacking cuyo (2.1.0-1) ...

```

```
1/1 + 🔍 Tilix: aayushmas@Linux: ~
1: aayushmas@Linux: ~
aayushmas@Linux:~$ sudo apt remove cuyo
The following packages were automatically installed and are no longer required:
  cuyo-data libfmt10 libopusfile0 libphysfs1 libsdl2-image-2.0-0 libsdl2-mixer-2.0-0 libsdl2-ttf-2.0-0 libxmp4
Use 'sudo apt autoremove' to remove them.

REMOVING:
  cuyo

Summary:
  Upgrading: 0, Installing: 0, Removing: 1, Not Upgrading: 10
  Freed space: 489 kB

Continue? [Y/n] y
(Reading database ... 198824 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) ...
aayushmas@Linux:~$ sudo apt purge cuyo
The following packages were automatically installed and are no longer required:
  cuyo-data libfmt10 libopusfile0 libphysfs1 libsdl2-image-2.0-0 libsdl2-mixer-2.0-0 libsdl2-ttf-2.0-0 libxmp4
Use 'sudo apt autoremove' to remove them.

REMOVING:
  cuyo*

Summary:
  Upgrading: 0, Installing: 0, Removing: 1, Not Upgrading: 10
  Space needed: 0 B / 36.4 GB available

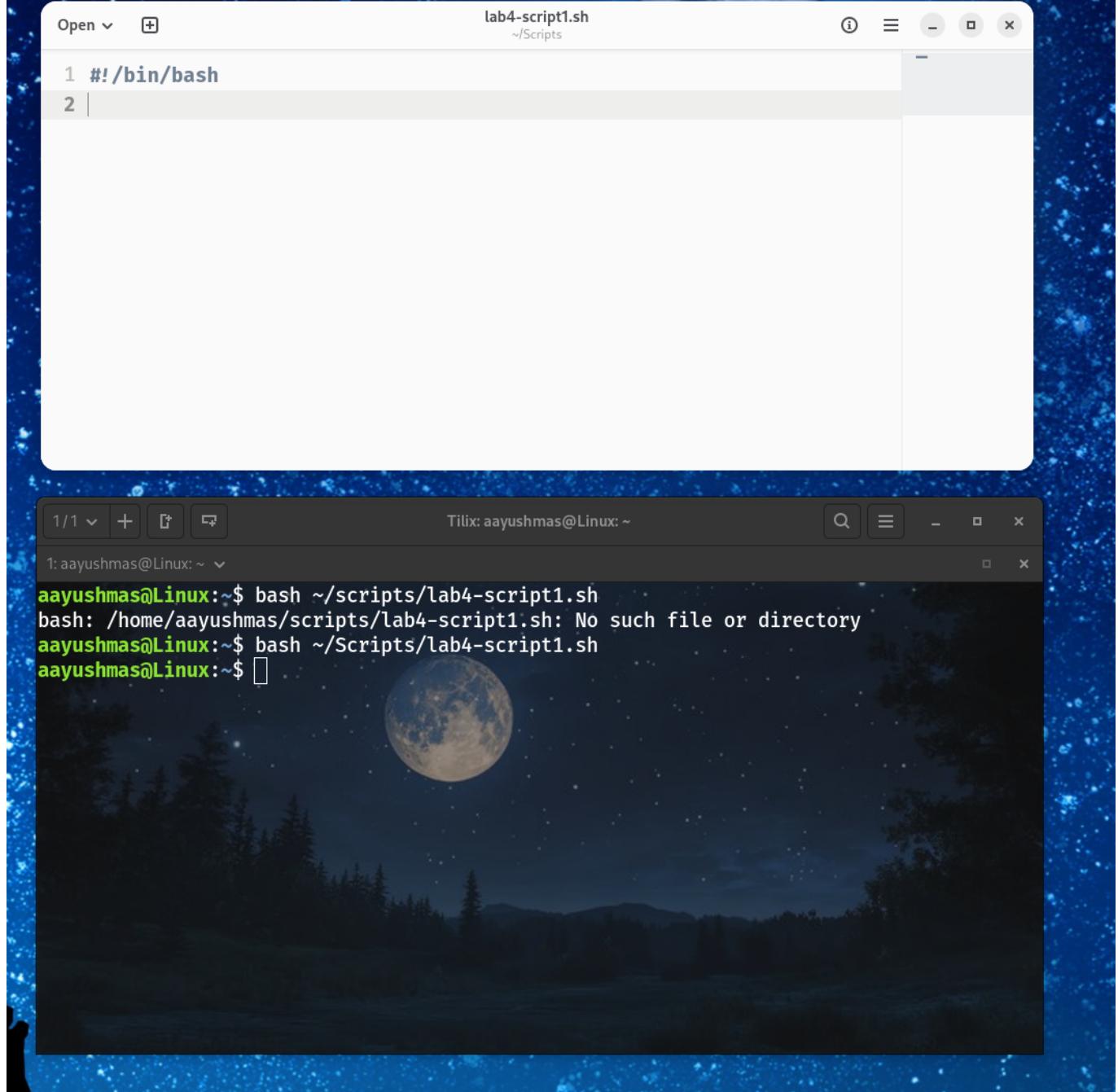
Continue? [Y/n] y
(Reading database ... 198816 files and directories currently installed.)
Purging configuration files for cuyo (2.1.0-1) ...
aayushmas@Linux:~$
```

```
1/1 + 🔍  Tilix: aayushmas@Linux: ~
1: aayushmas@Linux: ~
aayushmas@Linux:~$ sudo apt clean && sudo apt autoclean && sudo apt autoremove && sudo apt autopurge
REMOVING:
  cuyo-data  libfmt10  libopusfile0  libphysfs1  libsdl2-image-2.0-0  libsdl2-mixer-2.0-0  libsdl2-ttf-2.0-0  libxmp4

Summary:
  Upgrading: 0, Installing: 0, Removing: 8, Not Upgrading: 10
  Freed space: 7,495 kB

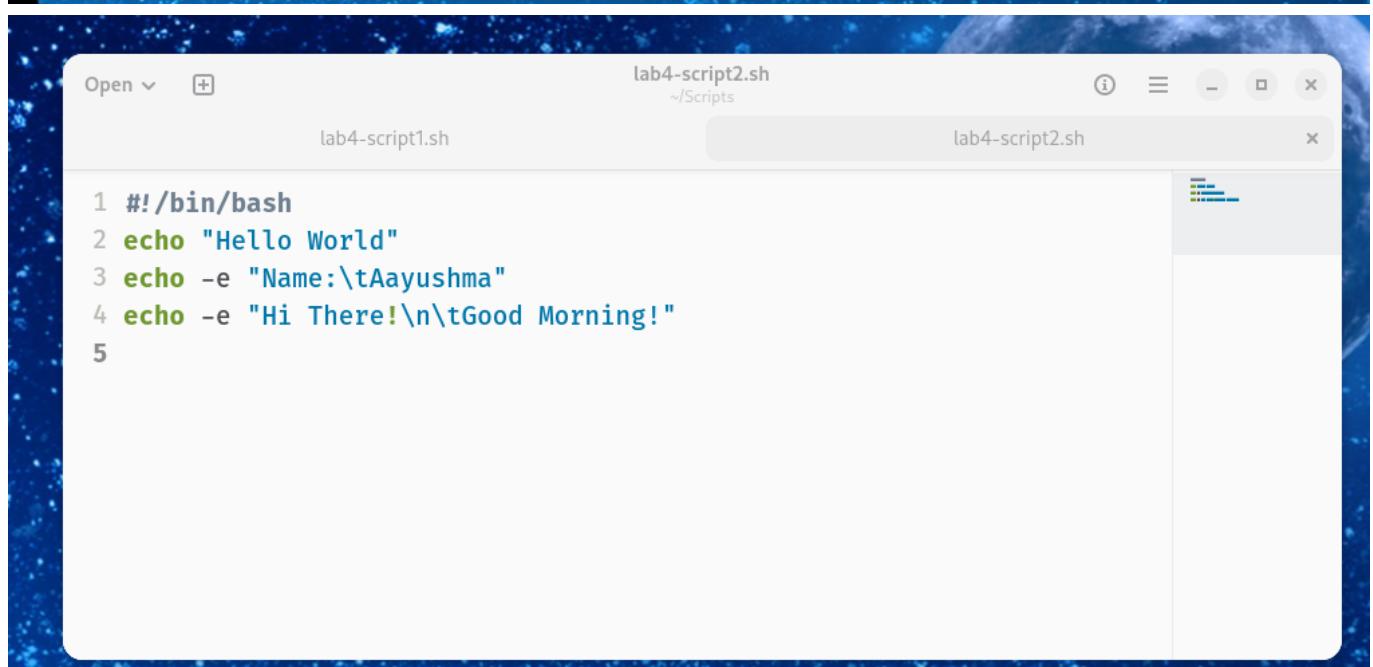
Continue? [Y/n] y
(Reading database ... 198816 files and directories currently installed.)
Removing cuyo-data (2.1.0-1) ...
Removing libfmt10:amd64 (10.1.1+ds1-4) ...
Removing libsdl2-mixer-2.0-0:amd64 (2.8.1+dfsg-2) ...
Removing libopusfile0:amd64 (0.12-4+b3) ...
Removing libphysfs1:amd64 (3.0.2-6+b2) ...
Removing libsdl2-image-2.0-0:amd64 (2.8.8+dfsg-1) ...
Removing libsdl2-ttf-2.0-0:amd64 (2.24.0+dfsg-2) ...
Removing libxmp4:amd64 (4.6.2-2) ...
Processing triggers for man-db (2.13.1-1) ...
Processing triggers for libc-bin (2.41-12) ...
Summary:
  Upgrading: 0, Installing: 0, Removing: 0, Not Upgrading: 10
aayushmas@Linux:~$
```

Question 2



The screenshot shows a terminal window titled "Tilix: aayushmas@Linux: ~". It displays two failed attempts to run the script "lab4-script1.sh". The first attempt uses the path "~/scripts/lab4-script1.sh" and the second uses "~/Scripts/lab4-script1.sh". Both attempts result in a "No such file or directory" error.

```
1: aayushmas@Linux: ~
aayushmas@Linux:~$ bash ~/scripts/lab4-script1.sh
bash: /home/aayushmas/scripts/lab4-script1.sh: No such file or directory
aayushmas@Linux:~$ bash ~/Scripts/lab4-script1.sh
aayushmas@Linux:~$ 
```



The screenshot shows a code editor window titled "lab4-script2.sh" with the file path "~/Scripts". The editor displays the content of "lab4-script1.sh" and "lab4-script2.sh". The "lab4-script2.sh" tab is active, showing the following script:

```
1 #!/bin/bash
2 echo "Hello World"
3 echo -e "Name:\tAayushma"
4 echo -e "Hi There!\n\tGood Morning!"
5 
```

The screenshot shows a terminal window titled "Tilix: aayushmas@Linux: ~". The terminal displays a series of commands and their outputs:

```
1: aayushmas@Linux: ~
aayushmas@Linux:~$ man echo
aayushmas@Linux:~$ bash ~/Scripts/lab4-script2.sh
aayushmas@Linux:~$ bash ~/Scripts/lab4-script2.sh
Hello World
aayushmas@Linux:~$ bash ~/Scripts/lab4-script2.sh
Hello World
Name: Aayushma
aayushmas@Linux:~$ bash ~/Scripts/lab4-script2.sh
Hello World
Name: Aayushma
Hi There!
Good Morning!
aayushmas@Linux:~$ bash ~/Scripts/lab4-script2.sh
Hello World
Name: Aayushma
Hi There!
Good Morning!
aayushmas@Linux:~$
```

The screenshot shows a terminal window titled "Tilix: aayushmas@Linux: ~". The window contains the following text:

```
1: aayushmas@Linux: ~
aayushmas@Linux:~$ bash ~/Scripts/lab4-script3.sh
today's date is:
Fri Oct 17 05:46:12 PM EDT 2025
aayushmas@Linux:~$ bash ~/Scripts/lab4-script3.sh
today's date is:
Fri Oct 17 05:48:50 PM EDT 2025
the current user is : aayushmas
aayushmas@Linux:~$ bash ~/Scripts/lab4-script3.sh
today's date is:
Fri Oct 17 05:49:34 PM EDT 2025
the current user is : aayushmas
the current user is : aayushmas
aayushmas@Linux:~$ bash ~/Scripts/lab4-script3.sh
today's date is:
Fri Oct 17 05:51:13 PM EDT 2025
the current user is : aayushmas
Memory usage:
              total        used        free      shared  buff/cache   available
Mem:       8.0Gi     2.6Gi    4.1Gi    55Mi     1.6Gi    5.4Gi
Swap:      2.6Gi        0B    2.6Gi
aayushmas@Linux:~$
```

Question 3

The screenshot shows a terminal window titled "challenge_lab4.sh" running on a Linux system. The window has a decorative background image of a planet.

```
#!/bin/bash
echo "____"
figlet "System"
echo -e -n "DATE UTC:\t";date +"%D %T"
echo -e -n "HOSTNAME:\t"; uname -n
echo -e -n "UPTIME:\t\t";uptime -p
echo -e -n "USER:\t\t";echo $USER #or whoami
figlet "MEMORY"
free -h
figlet "DISK"
df -h | grep Filesystem
df -h | grep sda1
echo "_____"

```

The terminal output shows the execution of the script:

```
Tilix:aayushmas@Linux:~
```

```
aayushmas@Linux:~$ bash ~/cis106/labs/lab4/challenge_lab4.sh
```

Output from the script:

```
_____
System
DATE UTC: 10/19/25 16:34:58
HOSTNAME: Linux
UPTIME: up 1 hour, 16 minutes
USER: aayushmas

Memory usage:
Mem: total 8.0Gi used 3.8Gi free 2.7Gi shared 102Mi buff/cache 1.9Gi available 4.2Gi
Swap: total 2.6Gi used 0B free 2.6Gi

Filesystem      Size  Used Avail Use% Mounted on
/dev/sda1       47G  9.7G  35G  22% /
```

```
aayushmas@Linux:~$
```

script