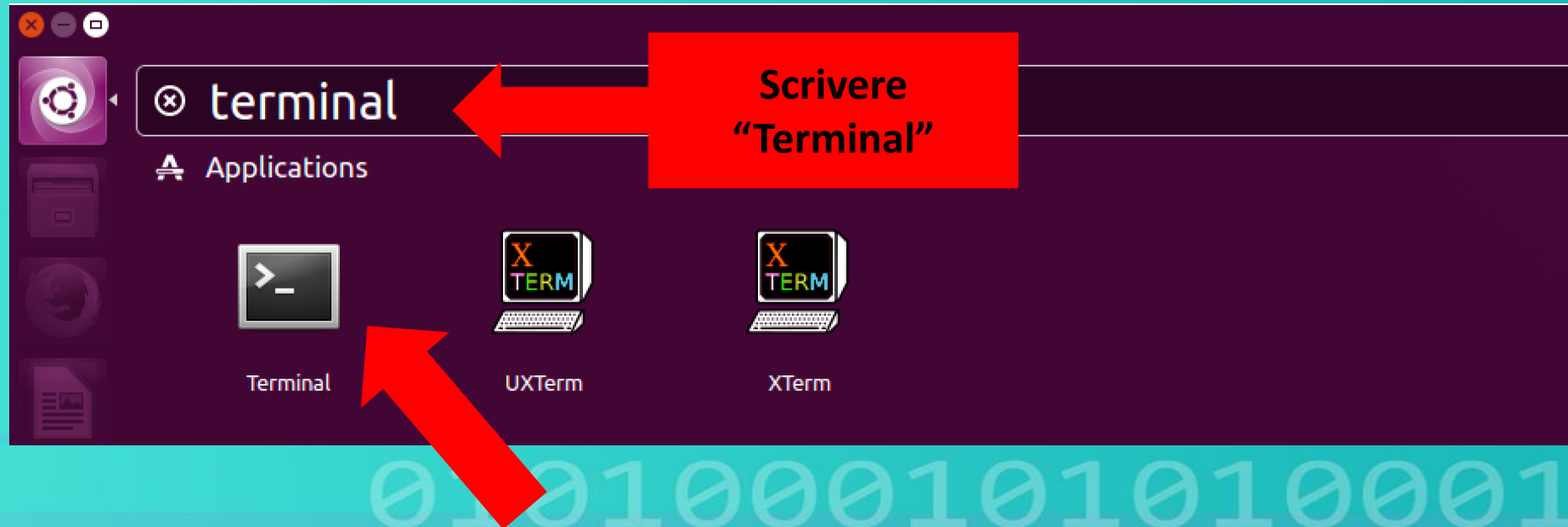


Sistemi Operativi

Laboratorio 1

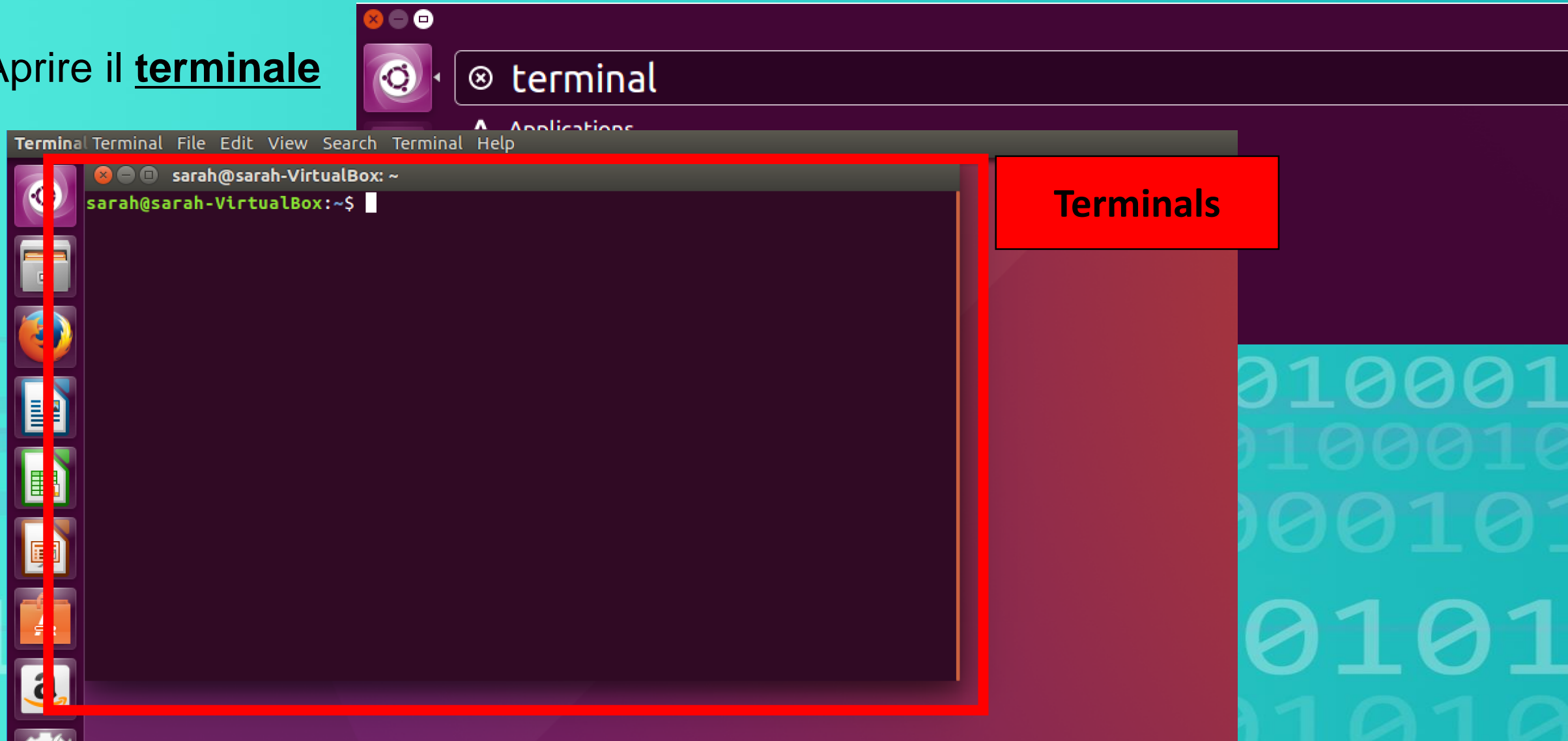
❑ Comandi Principali

- Aprire il terminale



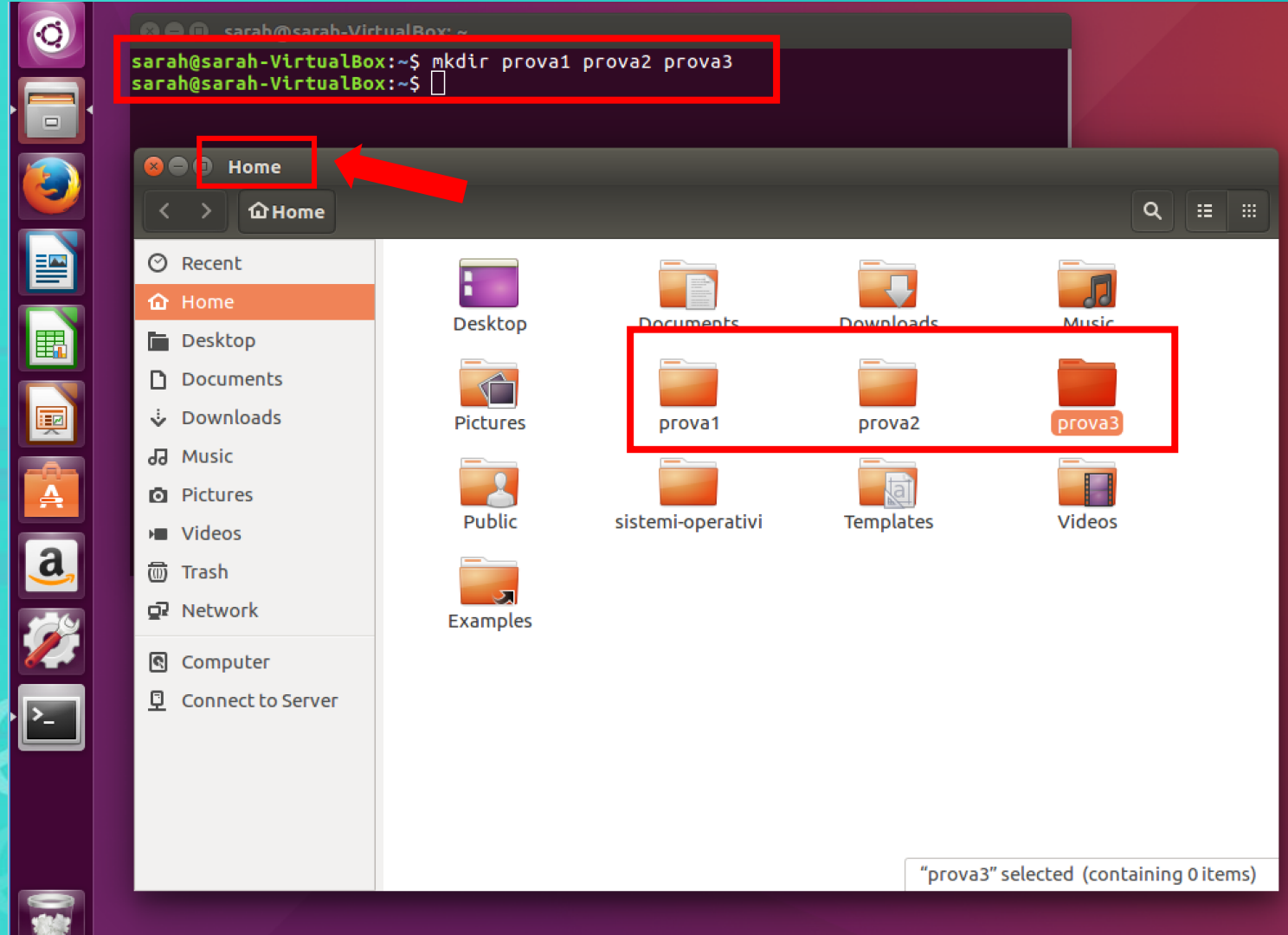
❑ Comandi Principali

- Aprire il terminale



❑ Comandi Principali

- mkdir [lista directory da creare]
mkdir prova1 prova2 prova3



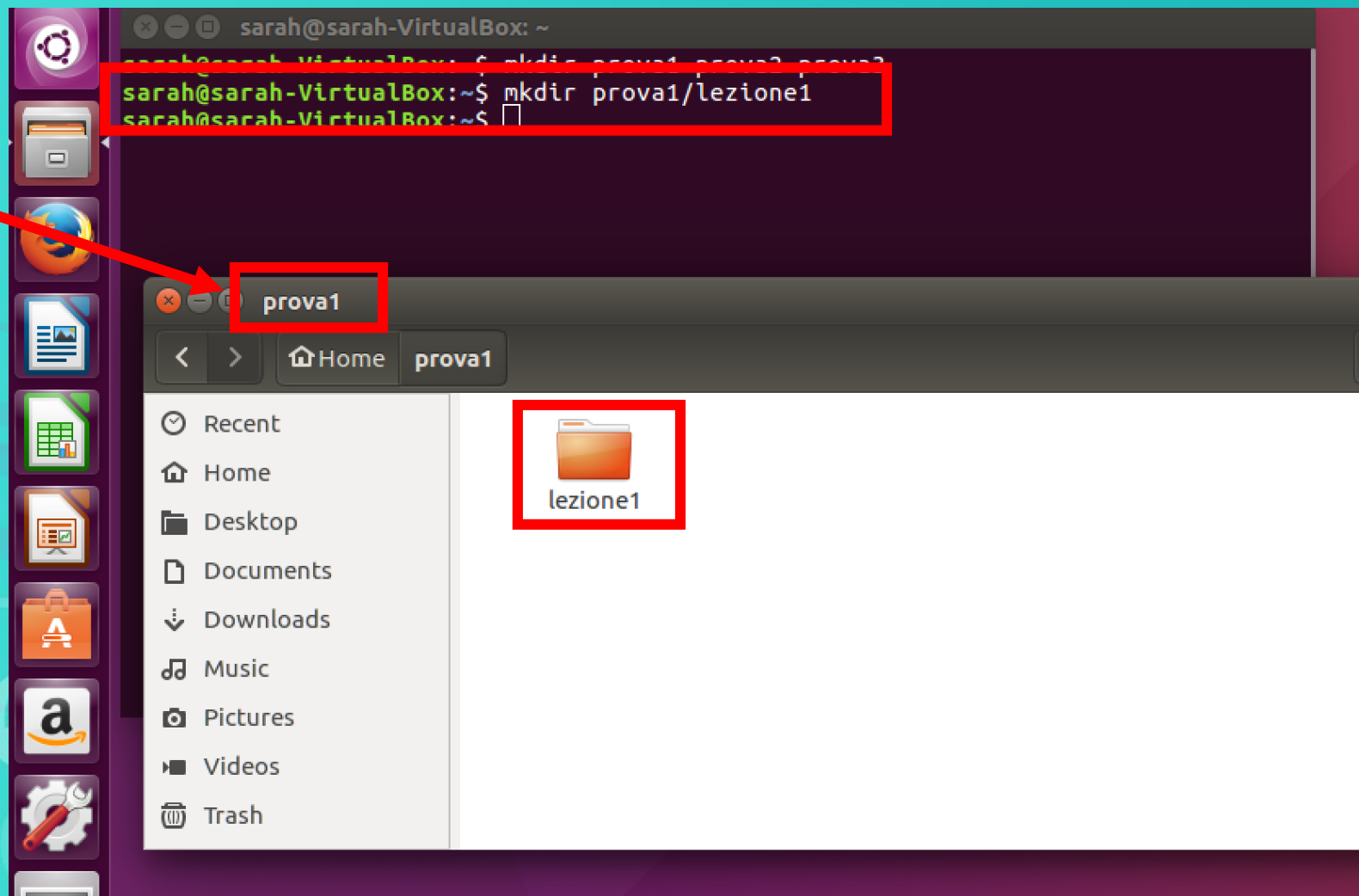
❑ Comandi Principali

- mkdir [lista directory da creare]

mkdir prova1/ lezione1



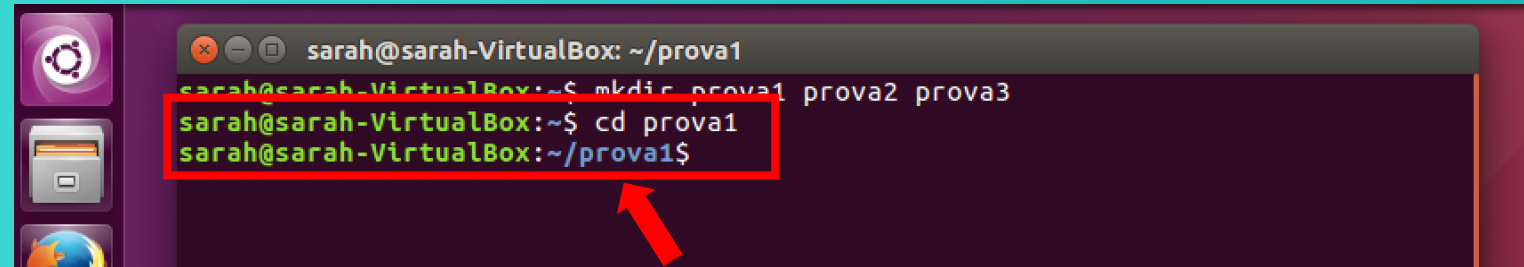
Percorso della cartella da creare



❑ Comandi Principali

- cd x [per entrare nella directory x]

cd prova1



The screenshot shows a terminal window titled 'sarah@sarah-VirtualBox: ~/prova1'. The terminal displays the following commands and output:

```
sarah@sarah-VirtualBox:~$ mkdir prova1 prova2 prova3
sarah@sarah-VirtualBox:~$ cd prova1
sarah@sarah-VirtualBox:~/prova1$
```

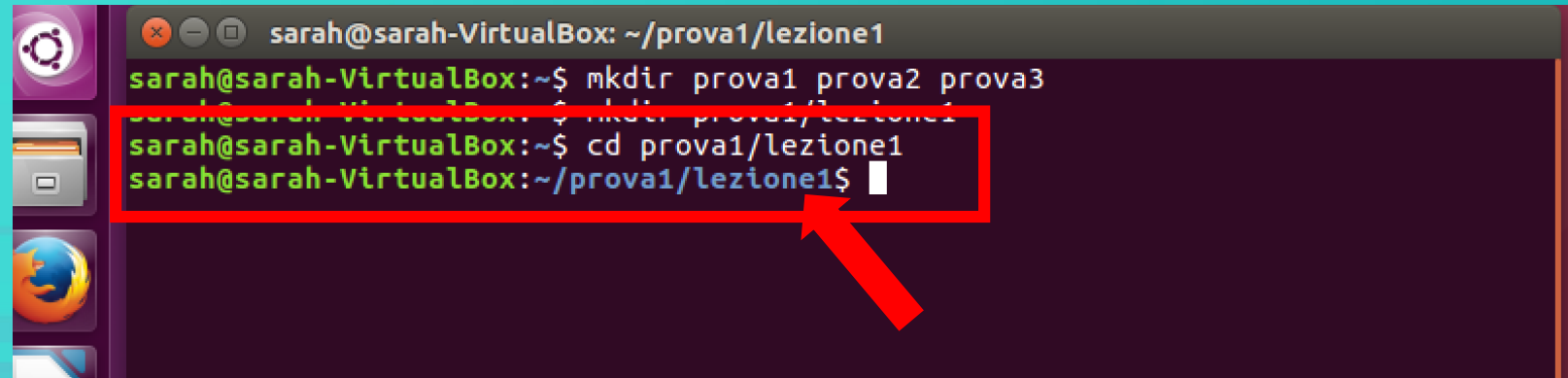
A red rectangle highlights the last two lines of the terminal output, and a red arrow points to the prompt 'sarah@sarah-VirtualBox:~/prova1\$'.

1010001010100010101

❑ Comandi Principali

- cd x [per entrare della directory x]
cd percorso/nome cartella

cd prova1/ lezione1



The screenshot shows a terminal window titled 'sarah@sarah-VirtualBox: ~/prova1/lezione1'. The terminal displays the following commands and their outputs:

```
sarah@sarah-VirtualBox:~$ mkdir prova1 prova2 prova3
sarah@sarah-VirtualBox:~$ cd prova1/lezione1
sarah@sarah-VirtualBox:~/prova1/lezione1$
```

A red rectangle highlights the last two lines of the terminal output, and a red arrow points to the prompt 'sarah@sarah-VirtualBox:~/prova1/lezione1\$'.

1010001010100010

010100010101000101

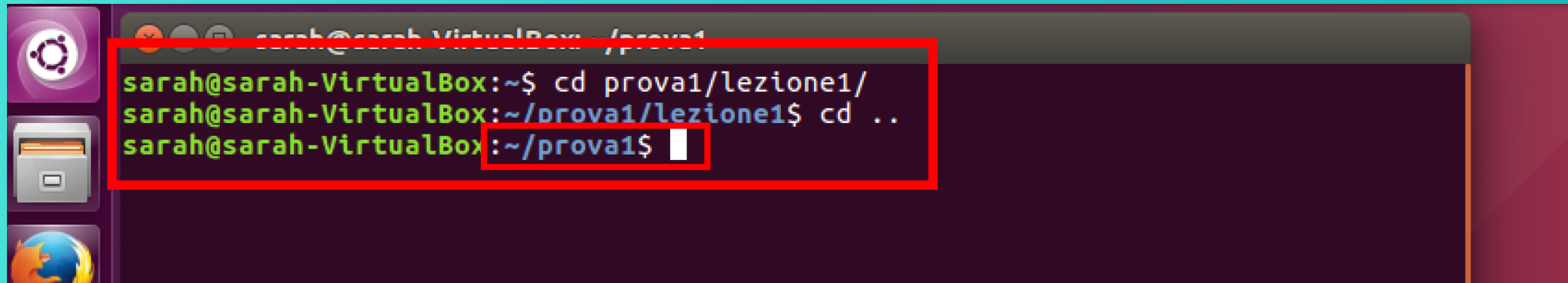
1010100010101000101

101000101010001010

❑ Comandi Principali

- `cd ..` [per tornare alla directory parent]

`cd ..`



The screenshot shows a terminal window titled 'sarah@sarah-VirtualBox: ~/prova1'. The terminal displays the following sequence of commands and outputs:

```
sarah@sarah-VirtualBox:~$ cd prova1/lezione1/  
sarah@sarah-VirtualBox:~/prova1/lezione1$ cd ..  
sarah@sarah-VirtualBox:~/prova1$
```

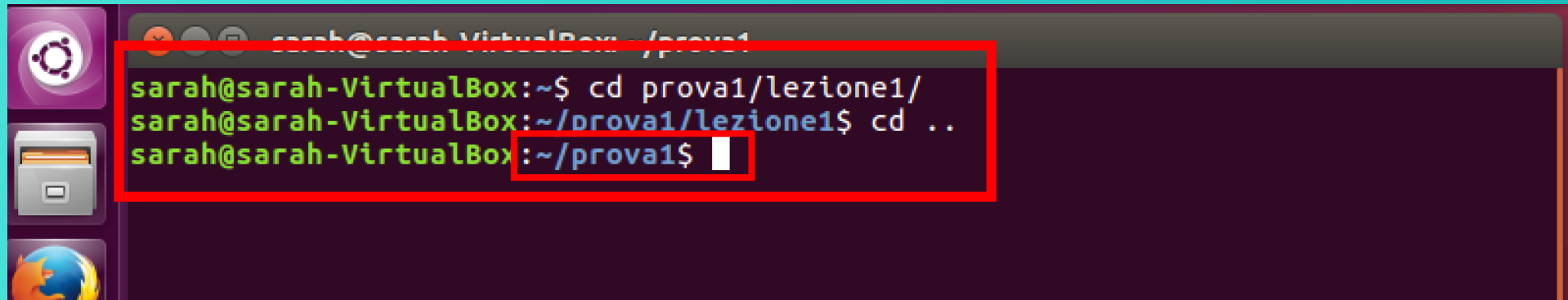
A red rectangular box highlights the last two lines of the terminal output, showing the transition from the subdirectory to the parent directory.

1010001010100010101

❑ Comandi Principali

- `cd ..` [per tornare alla directory parent]

`cd ..`

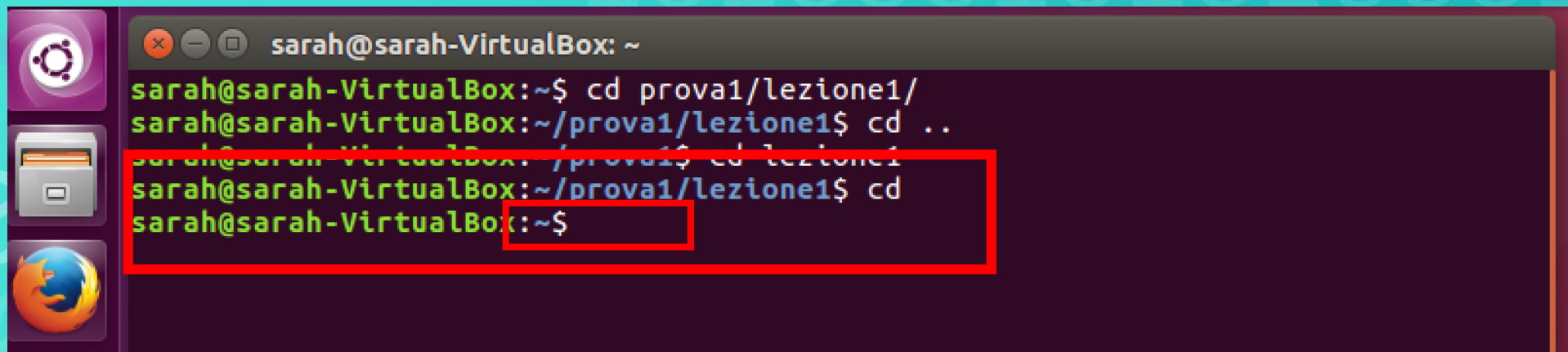


A terminal window titled 'sarah@sarah-VirtualBox: ~/prova1' showing a sequence of commands. The first command is `cd prova1/lezione1/`, which changes the directory to `~/prova1/lezione1`. The second command is `cd ..`, which changes the directory back to `~/prova1`. The prompt changes from `sarah@sarah-VirtualBox:~/prova1/lezione1$` to `sarah@sarah-VirtualBox:~/prova1$`. A red box highlights the second command and its output.

```
sarah@sarah-VirtualBox:~/prova1$ cd prova1/lezione1/
sarah@sarah-VirtualBox:~/prova1/lezione1$ cd ..
sarah@sarah-VirtualBox:~/prova1$
```

- `cd` [per tornare alla home]

`cd`



A terminal window titled 'sarah@sarah-VirtualBox: ~' showing a sequence of commands. The first command is `cd prova1/lezione1/`, which changes the directory to `~/prova1/lezione1`. The second command is `cd ..`, which changes the directory back to `~/prova1`. The third command is `cd`, which changes the directory to the home directory `~`. The prompt changes from `sarah@sarah-VirtualBox:~/prova1/lezione1$` to `sarah@sarah-VirtualBox:~$`. A red box highlights the third command and its output.

```
sarah@sarah-VirtualBox:~$ cd prova1/lezione1/
sarah@sarah-VirtualBox:~/prova1/lezione1$ cd ..
sarah@sarah-VirtualBox:~/prova1$ cd
sarah@sarah-VirtualBox:~$
```

0101000101010001
1010001010100010

1010

1010001010100010101

❑ Comandi Principali

- `cp -r` [per copiare una directory]
`cp -r /percorso/nome cartella/ /percorso destinazione`
`cp -r /home/sarah/Desktop/sistemi-operative/lezione1/ /home/sarah/Desktop/sistemi-operative`

1010100010101000



```
sarah@sarah-VirtualBox:~/Desktop/sistemi-operativi$ ls -l
total 8
drwxrwxr-x 2 sarah sarah 4096 ott  3 11:14 lezione1
drwxrwxr-x 3 sarah sarah 4096 ott 15 10:27 prova1
sarah@sarah-VirtualBox:~/Desktop/sistemi-operativi$ cd prova1/
sarah@sarah-VirtualBox:~/Desktop/sistemi-operativi/prova1$ cd
sarah@sarah-VirtualBox:~$ cp /home/sarah/Desktop/sistemi-operativi/prova1/lezione1/ /home/sarah/Desktop/sistemi-operativi/
cp: omitting directory '/home/sarah/Desktop/sistemi-operativi/prova1/lezione1/'
sarah@sarah-VirtualBox:~$ cp -r /home/sarah/Desktop/sistemi-operativi/prova1/lezione1/ /home/sarah/Desktop/sistemi-operativi/
cp: invalid option -- '/'
Try 'cp --help' for more information.
sarah@sarah-VirtualBox:~$ cp -r /home/sarah/Desktop/sistemi-operativi/prova1/lezione1/ /home/sarah/Desktop/sistemi-operativi
cp: invalid option -- '/'
Try 'cp --help' for more information.
sarah@sarah-VirtualBox:~$ cp -r /home/sarah/Desktop/sistemi-operativi/prova1/lezione1/ /home/sarah/Desktop/sistemi-operativi
sarah@sarah-VirtualBox:~$
```

Cartella da copiare

101000101010001010

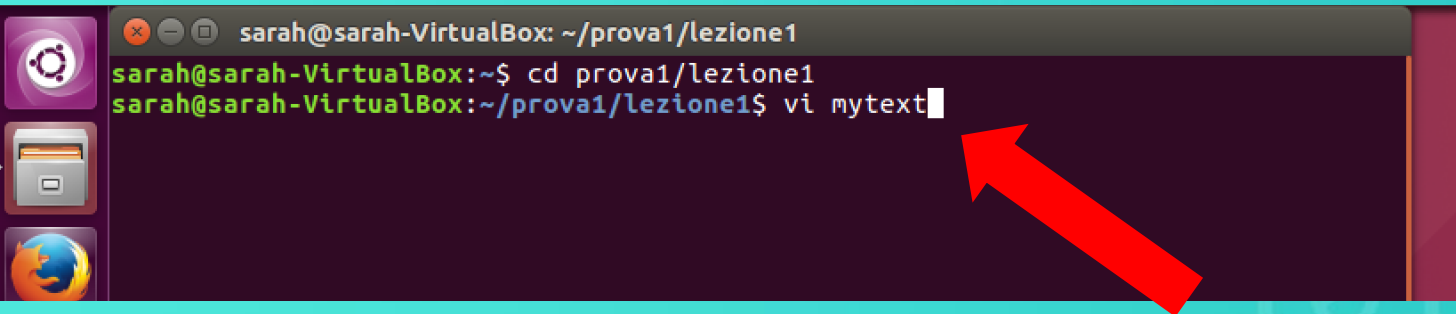
❑ Comandi Principali

- gedit/ emacs/ vi

1010001010100010101

❑ Comandi Principali

- ~~g~~ ~~e~~ ~~i~~ ~~t~~ / ~~e~~ ~~n~~ ~~c~~ ~~s~~ / **vi** → L'editor di testo da usare per creare/scrivere ogni tipo di testo.
- vi [nome di testo da creare o aprire]
vi mytext



```
sarah@Sarah-VirtualBox: ~/prova1/lezione1
sarah@Sarah-VirtualBox:~$ cd prova1/lezione1
sarah@Sarah-VirtualBox:~/prova1/lezione1$ vi mytext
```

010100010101000

000101010001

10001010100010

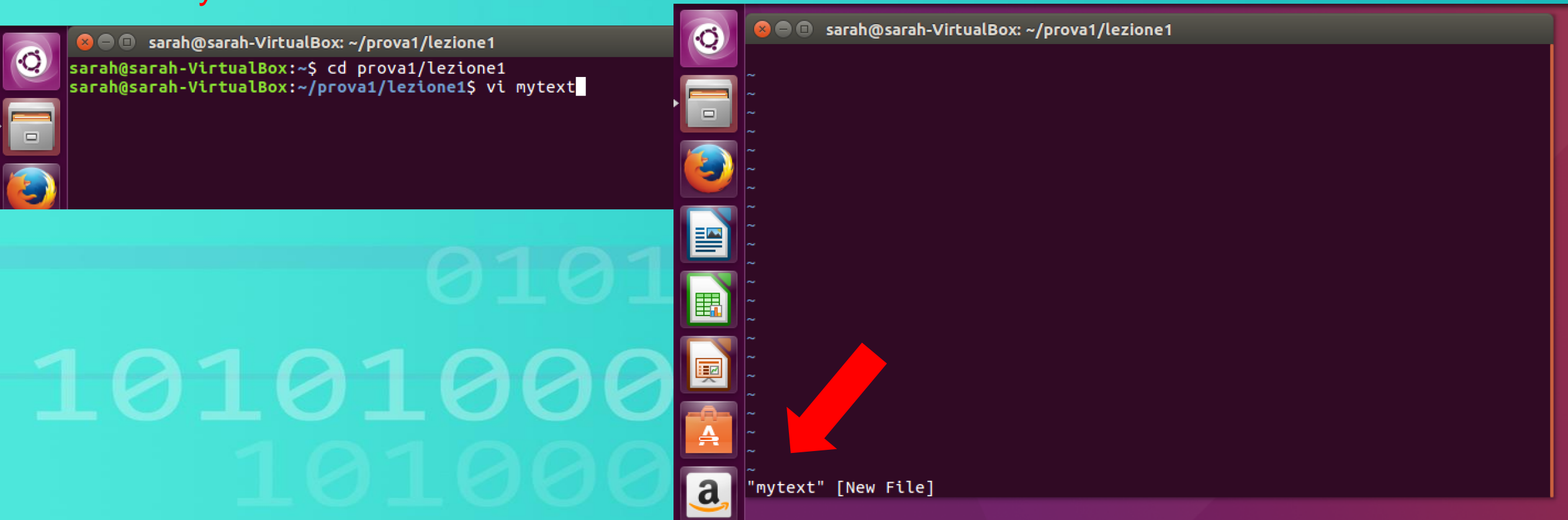
010100010101000101

1010100010101000101

101000101010001010

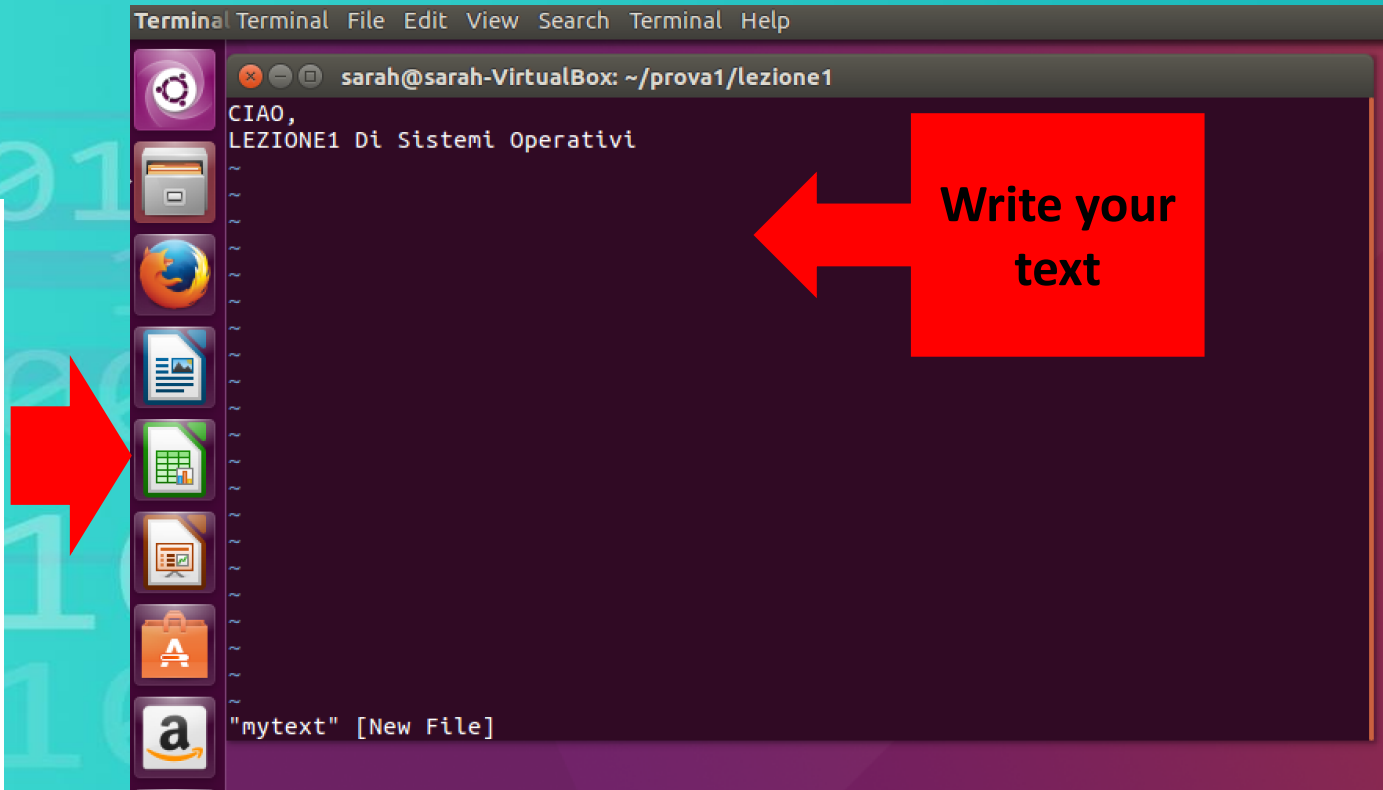
❑ Comandi Principali

- ~~g~~ ~~e~~ ~~d~~it/ ~~e~~n ~~v~~cs/ **vi** → L' editor di testo da usare per creare/ scrivere ogni tipo di testo.
- vi [nome di testo per creare o aprire]
vi mytext



❑ Comandi Principali

- vi [nome di testo per creare o aprire]
vi mytext
- Premere prima “i” per scrivere nel file di testo



❑ Comandi Principali

- vi [nome di testo per creare o aprire]
vi mytext
- Per entrare nel command mode, premere prima Esc e poi premere Canc per cancellare un singolo carattere
due volte “d” per cancellare una linea intera
- :w (per salvare il file)
- :q! (per uscire senza salvare)
- :wq (per salvare e uscire)



❑ Comandi Principali

■ Chmod [per modificare i permessi di un file]

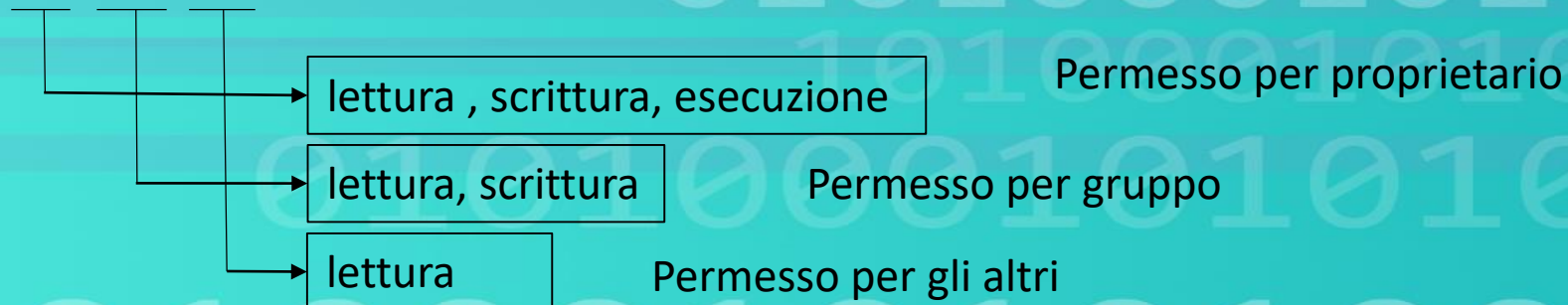
I permessi sono:

lettura (read) → r

scrittura (write) → w

esecuzione (executable) → x

chmod rwxrw-r-- myfile



❑ Comandi Principali

■ Chmod [per modificare i permessi di un file]

modo numerico:

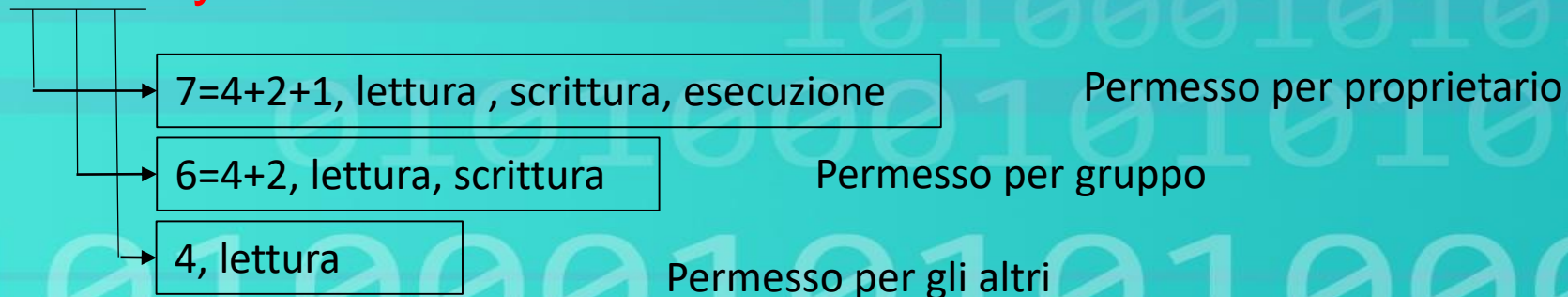
lettura (read) \longrightarrow 4

scrittura (write) \longrightarrow 2

esecuzione (executable) \longrightarrow 1

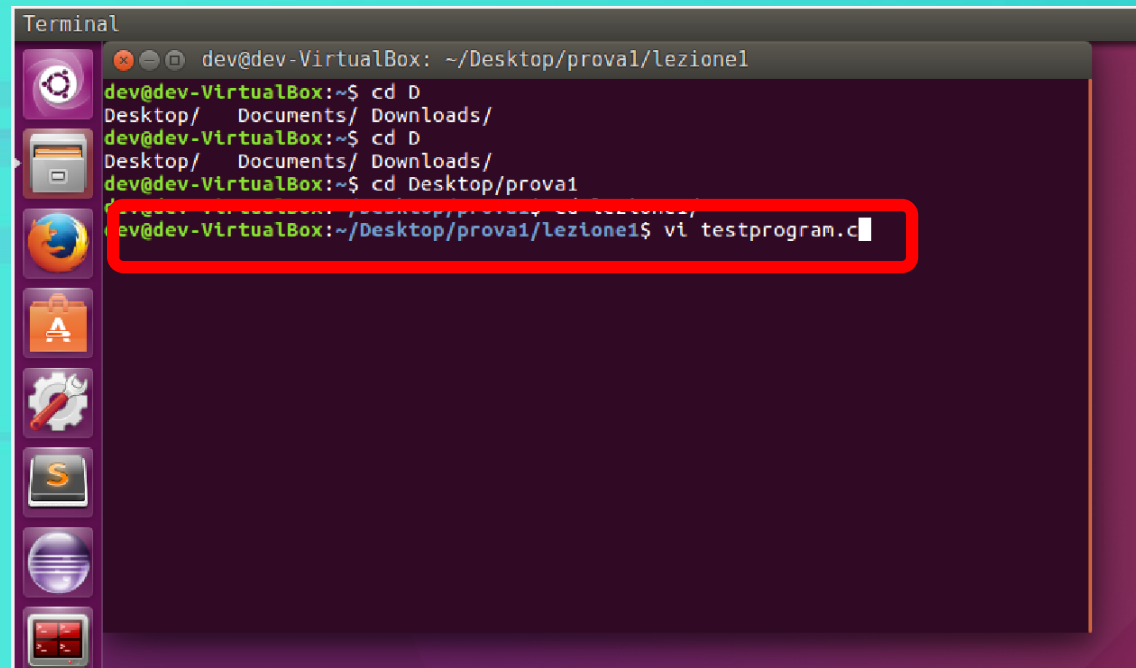
nessun permesso \longrightarrow 0

chmod 764 myfile



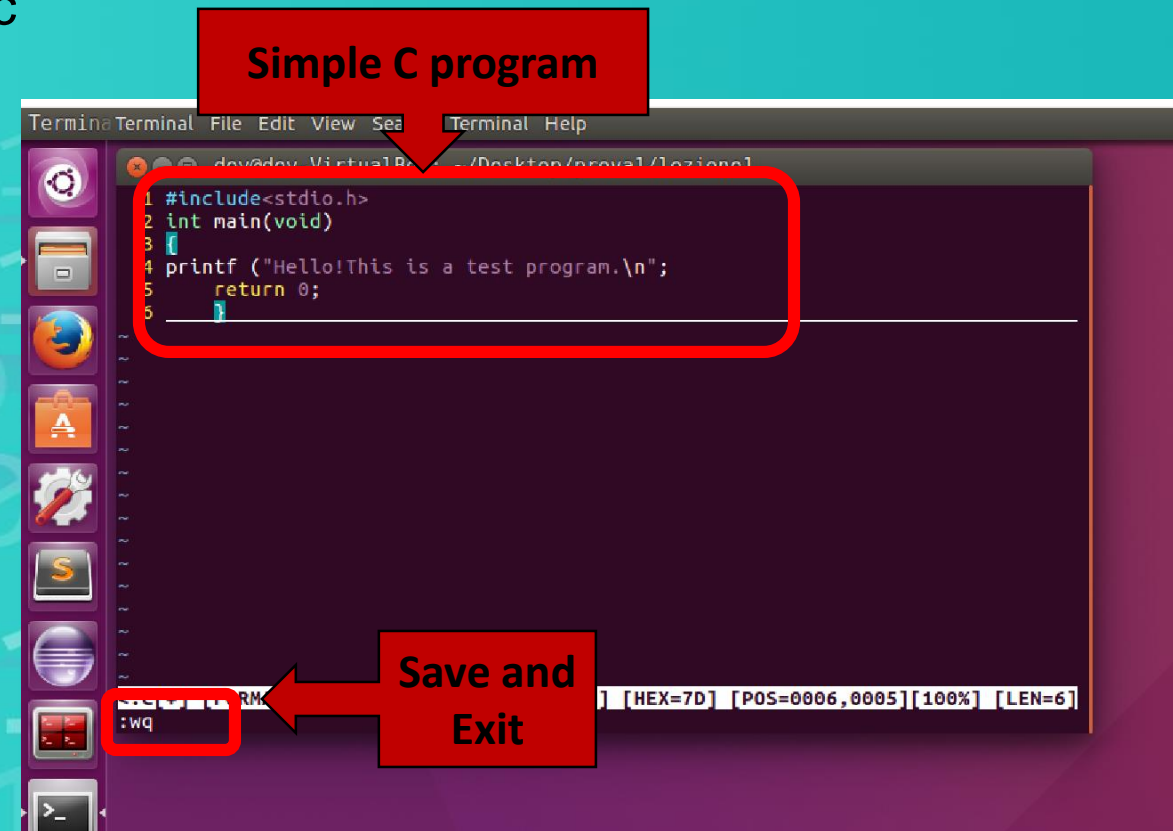
❑ Comandi Principali

- gcc [file sorgente] -o [nome file eseguibile]
- Compilare e eseguire un codice C/C++ in Linux
usare vi per creare un file di nome **testprogram.c**
Scrivere un semplice programma in testprogram.c
salvare e chiudere il file usando **:wq**



A terminal window titled 'Terminal' showing a user named 'dev' at a 'dev-VirtualBox' machine. The user navigates through the file system: `cd D`, `cd Desktop/`, `cd Documents/`, `cd Downloads/`, and finally `cd Desktop/prova1`. The current directory is `~/Desktop/prova1/lezione1`. The user then runs `vi testprogram.c` to create a new file, which is highlighted by a red box.

```
dev@dev-VirtualBox: ~/Desktop/prova1/lezione1
dev@dev-VirtualBox:~$ cd D
Desktop/ Documents/ Downloads/
dev@dev-VirtualBox:~$ cd D
Desktop/ Documents/ Downloads/
dev@dev-VirtualBox:~$ cd Desktop/prova1
dev@dev-VirtualBox:~/Desktop/prova1/lezione1$ vi testprogram.c
```



A terminal window titled 'Terminal' showing a user named 'dev' at a 'dev-VirtualBox' machine. The user is editing a file named `testprogram.c` in the directory `~/Desktop/prova1/lezione1`. The code is a simple C program that prints "Hello! This is a test program." and returns 0. The code is highlighted by a red box. A red arrow points from the text 'Simple C program' to the code box. Another red arrow points from the text 'Save and Exit' to the `:wq` command at the bottom of the terminal, which is also highlighted by a red box.

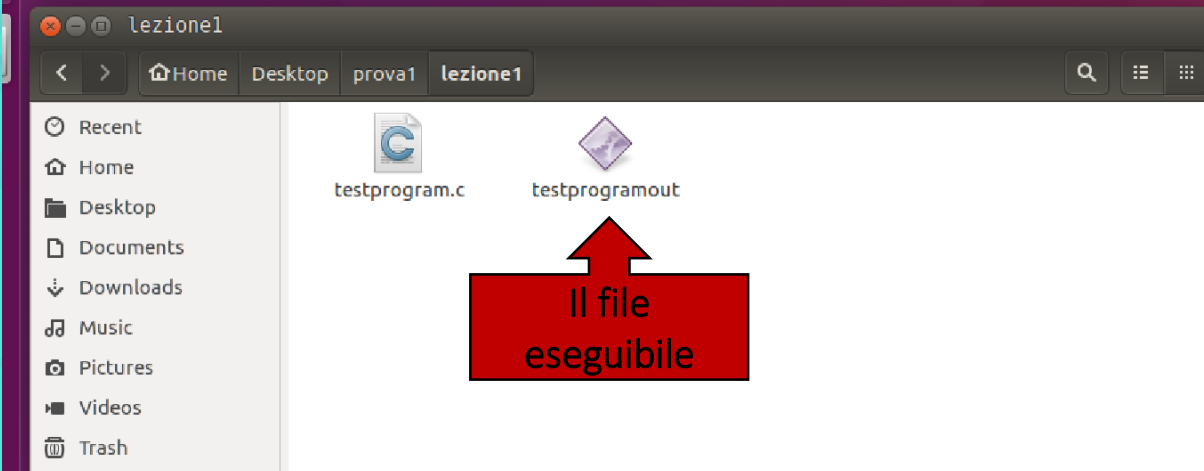
```
dev@dev-VirtualBox: ~/Desktop/prova1/lezione1
1 #include<stdio.h>
2 int main(void)
3 {
4     printf ("Hello! This is a test program.\n");
5     return 0;
6 }
```

:wq

❑ Comandi Principali

- gcc [file name]
Generare il file eseguibile usando `gcc testprogram.c -o testprogramout`
per vedere il risultato, lanciare il file eseguibile usando `./testprogramout`

```
dev@dev-VirtualBox:~/Desktop/prova1/lezione1$ gcc testprogram.c -o testprogramout
dev@dev-VirtualBox:~/Desktop/prova1/lezione1$
```



```
dev@dev-VirtualBox:~/Desktop/prova1/lezione1$ gcc testprogram.c -o testprogramout
dev@dev-VirtualBox:~/Desktop/prova1/lezione1$ ./ testprogram
bash: ./: is a directory
dev@dev-VirtualBox:~/Desktop/prova1/lezione1$ ./testprogramout
Hello!This is a test program.
dev@dev-VirtualBox:~/Desktop/prova1/lezione1$
```