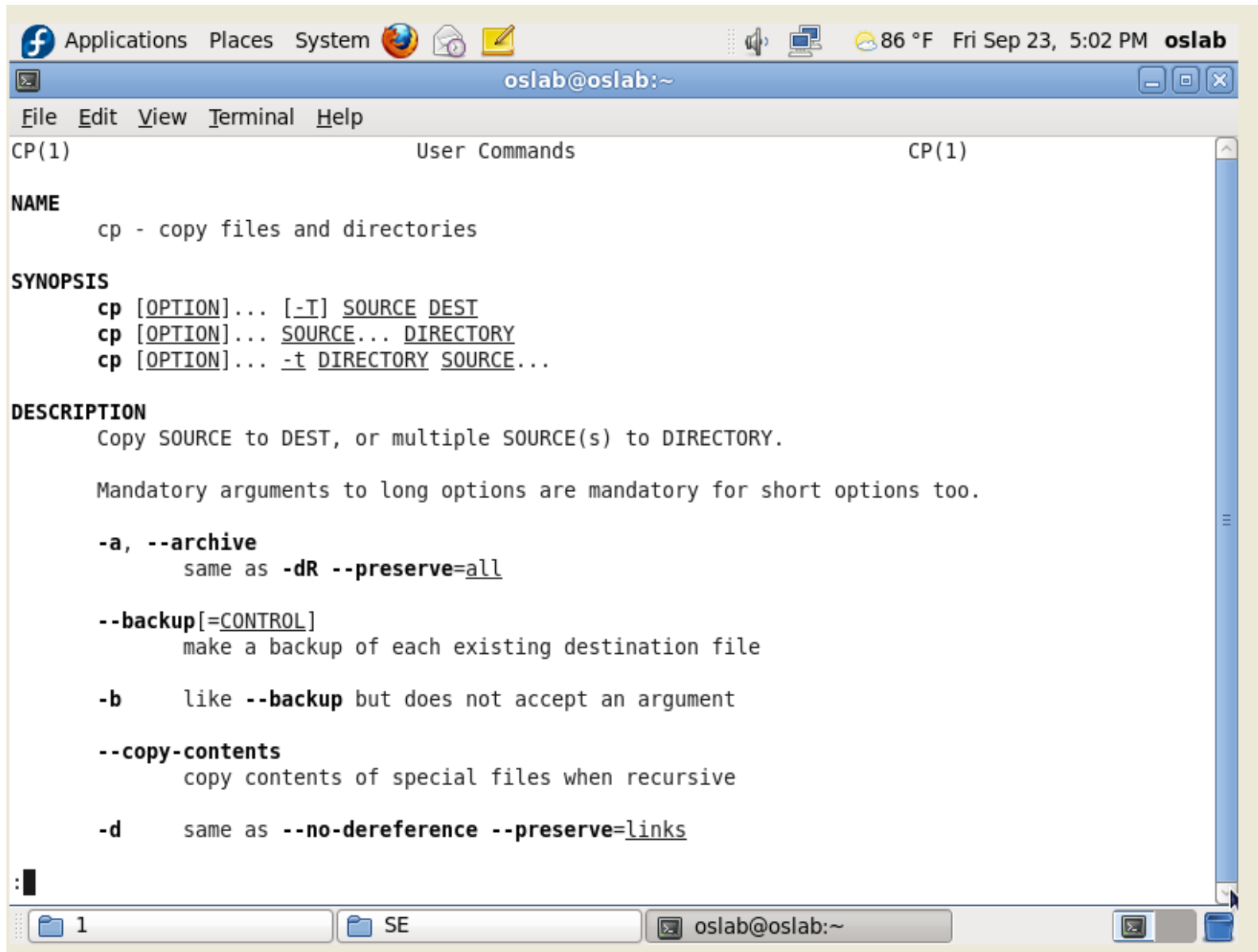


OS LAB -4

Engr. Nauman

For Help `man [command]`



The image shows a terminal window titled "oslab@oslab:~" with a menu bar containing "File", "Edit", "View", "Terminal", and "Help". The terminal content displays the manual page for the "cp" command, including sections for NAME, SYNOPSIS, and DESCRIPTION. The terminal window is part of a desktop environment with a taskbar at the bottom showing icons for a folder named "1", a folder named "SE", and the terminal window itself.

```
CP(1) User Commands CP(1)

NAME
  cp - copy files and directories

SYNOPSIS
  cp [OPTION]... [-I] SOURCE DEST
  cp [OPTION]... SOURCE... DIRECTORY
  cp [OPTION]... -t DIRECTORY SOURCE...

DESCRIPTION
  Copy SOURCE to DEST, or multiple SOURCE(s) to DIRECTORY.

  Mandatory arguments to long options are mandatory for short options too.

  -a, --archive
      same as -dR --preserve=all

  --backup[=CONTROL]
      make a backup of each existing destination file

  -b
      like --backup but does not accept an argument

  --copy-contents
      copy contents of special files when recursive

  -d
      same as --no-dereference --preserve=links

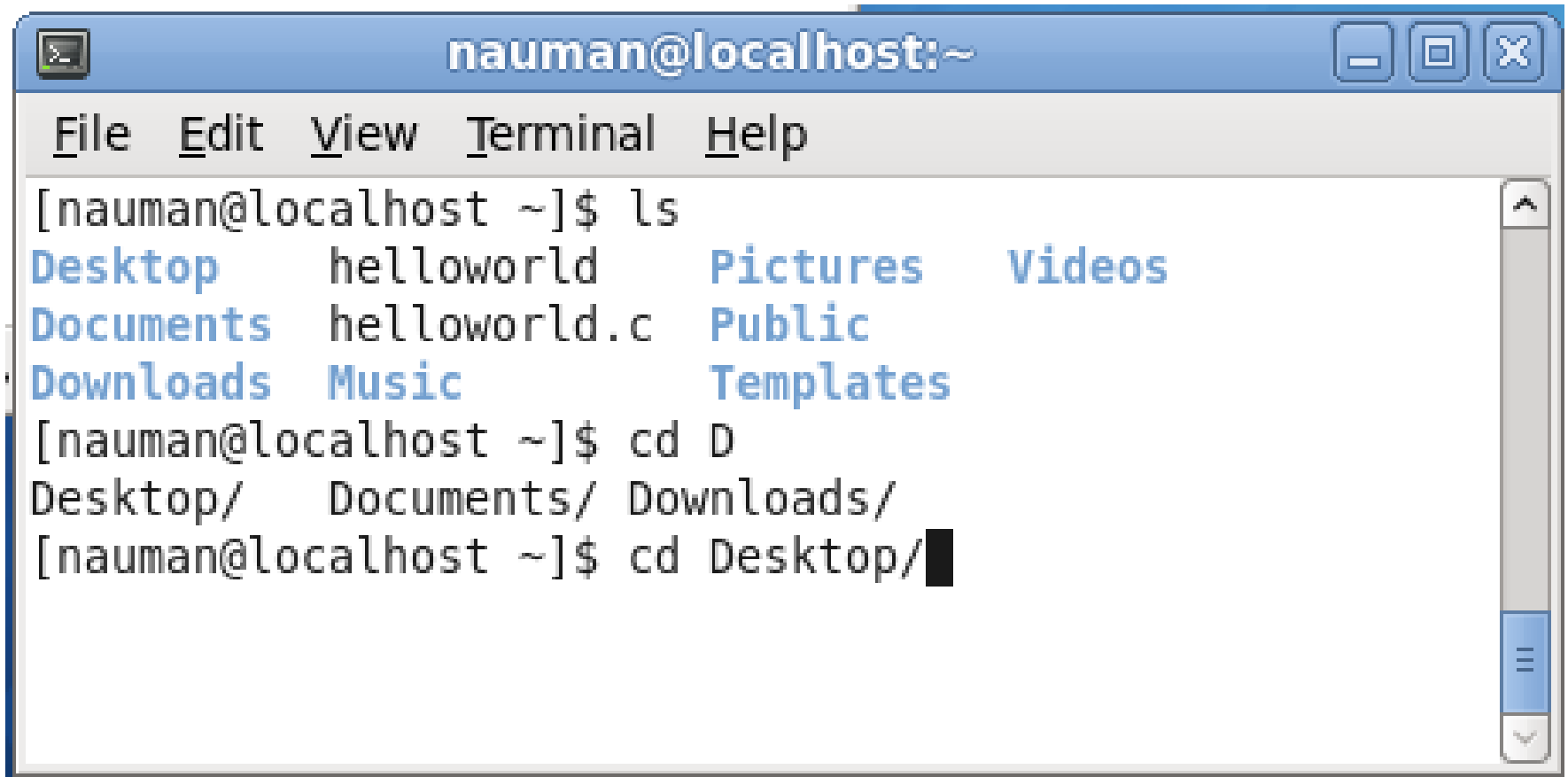
:
```

File Edit View Terminal Help

```
[oslab@oslab ~]$ cp --help
Usage: cp [OPTION]... [-T] SOURCE DEST
  or: cp [OPTION]... SOURCE... DIRECTORY
  or: cp [OPTION]... -t DIRECTORY SOURCE...
Copy SOURCE to DEST, or multiple SOURCE(s) to DIRECTORY.

Mandatory arguments to long options are mandatory for short options too.
-a, --archive                same as -dR --preserve=all
  --backup[=CONTROL]        make a backup of each existing destination file
-b                            like --backup but does not accept an argument
  --copy-contents            copy contents of special files when recursive
-d                            same as --no-dereference --preserve=links
-f, --force                  if an existing destination file cannot be
                             opened, remove it and try again (redundant if
                             the -n option is used)
-i, --interactive            prompt before overwrite (overrides a previous -n
                             option)
-H                            follow command-line symbolic links in SOURCE
-l, --link                    link files instead of copying
-L, --dereference            always follow symbolic links in SOURCE
-n, --no-clobber             do not overwrite an existing file (overrides
                             a previous -i option)
-P, --no-dereference         never follow symbolic links in SOURCE
-p                            same as --preserve=mode,ownership,timestamps
  --preserve[=ATTR_LIST]    preserve the specified attributes (default:
                             mode,ownership,timestamps), if possible
                             additional attributes: context, links, xattr,
                             all
-c                            same as --preserve=context
```

Press TAB



A terminal window titled "nauman@localhost:~" with a menu bar containing "File", "Edit", "View", "Terminal", and "Help". The terminal shows the following sequence of commands and output:

```
[nauman@localhost ~]$ ls
Desktop      helloworld      Pictures      Videos
Documents    helloworld.c    Public
Downloads    Music            Templates
[nauman@localhost ~]$ cd D
Desktop/      Documents/      Downloads/
[nauman@localhost ~]$ cd Desktop/
```

Computer

SE Folder 1.tar.gz

nauman's Home

SE Folder 2.tar

Trash

SE Folder 2.zip

Terminal

new file

SE Folder 1

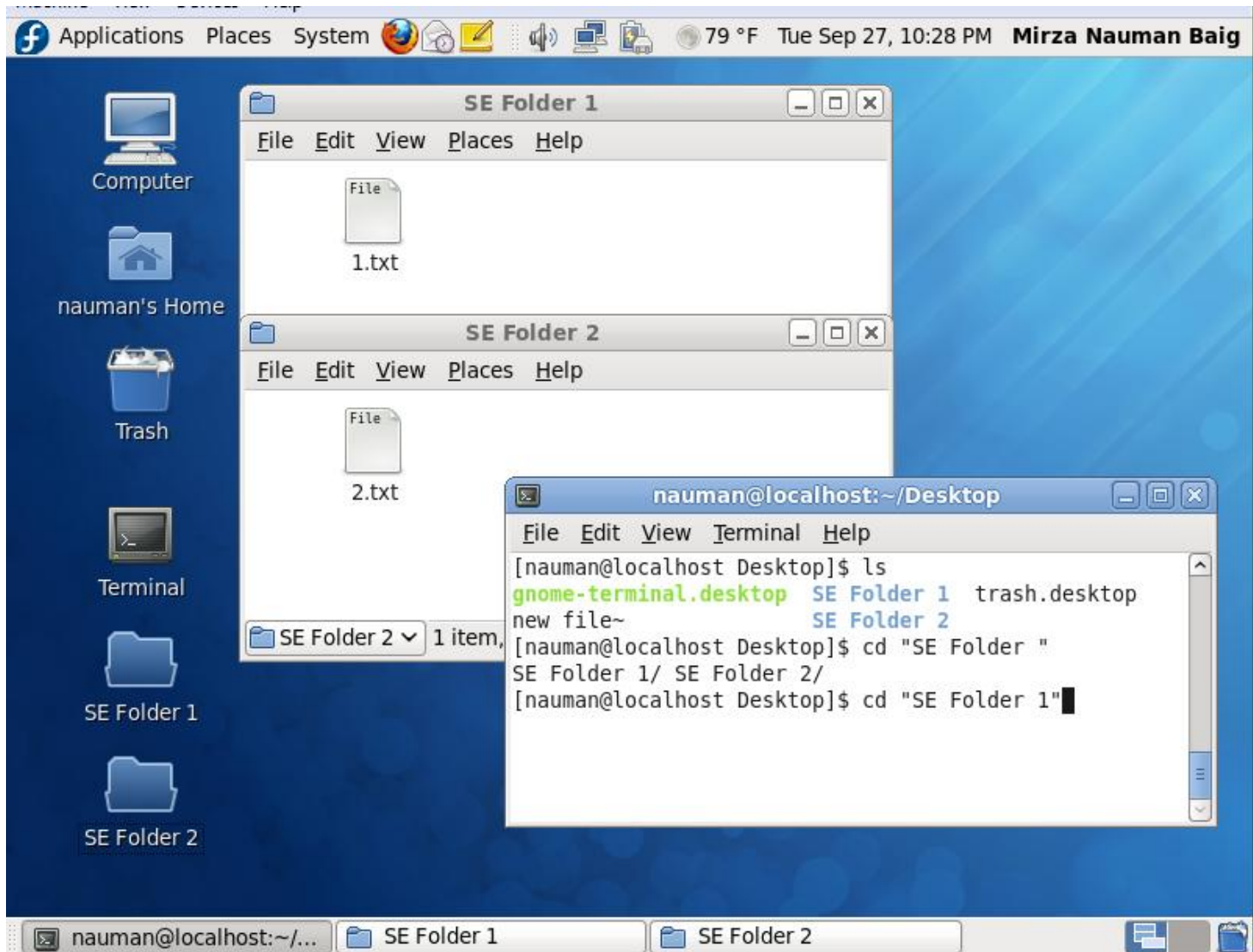
SE Folder 2

```
nauman@localhost:~/Desktop
File Edit View Terminal Help
[nauman@localhost Desktop]$ ls
gnome-terminal.desktop SE Folder 2
new file SE Folder 2.tar
new file~ SE Folder 2.zip
SE Folder 1 trash.desktop
SE Folder 1.tar.gz
[nauman@localhost Desktop]$
```

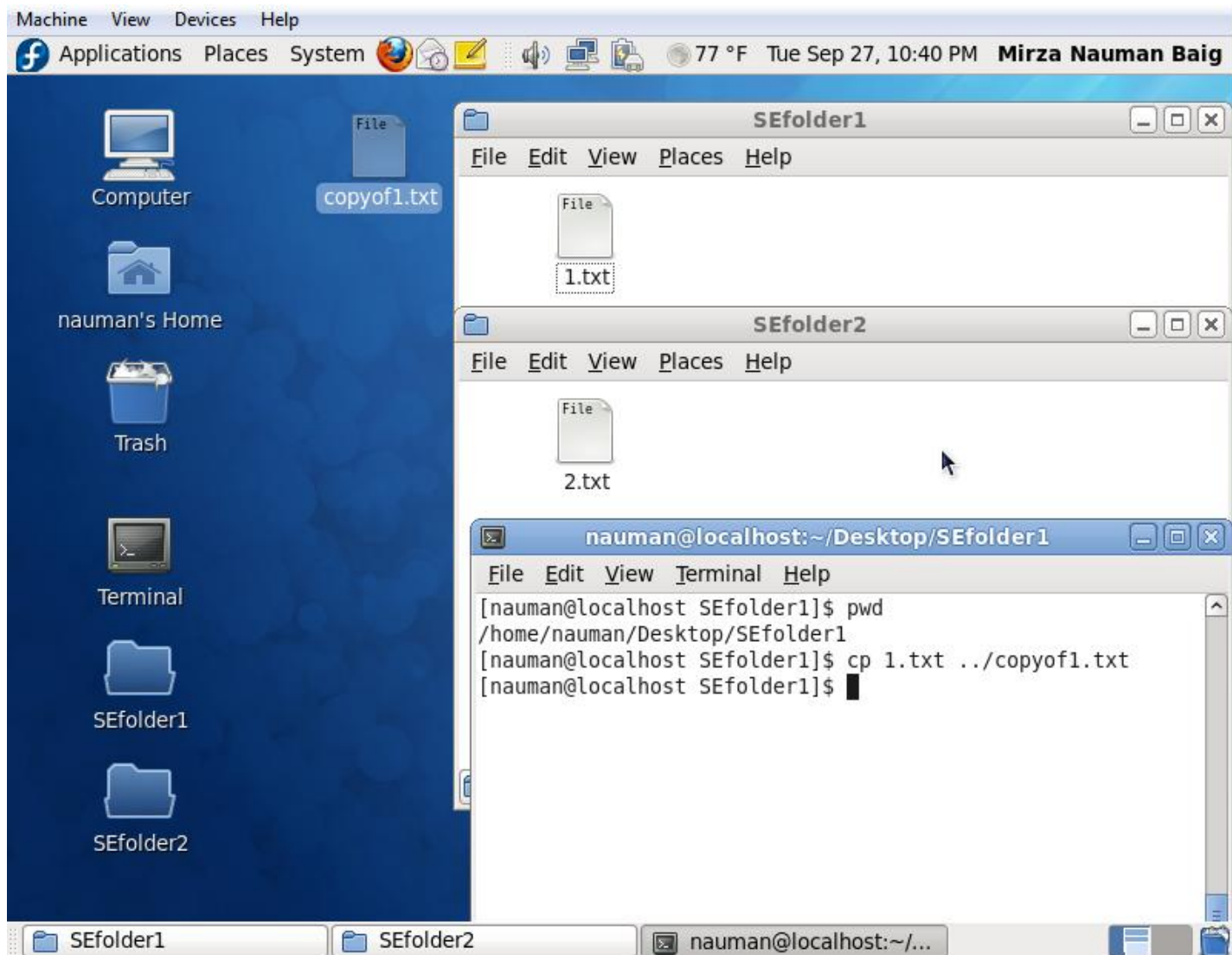
Issues in last LAB

- Who to set system Date Time
- `date -s "2 OCT 2011 18:00:00"`
OR
`date --set="2 OCT 2011 18:00:00"`

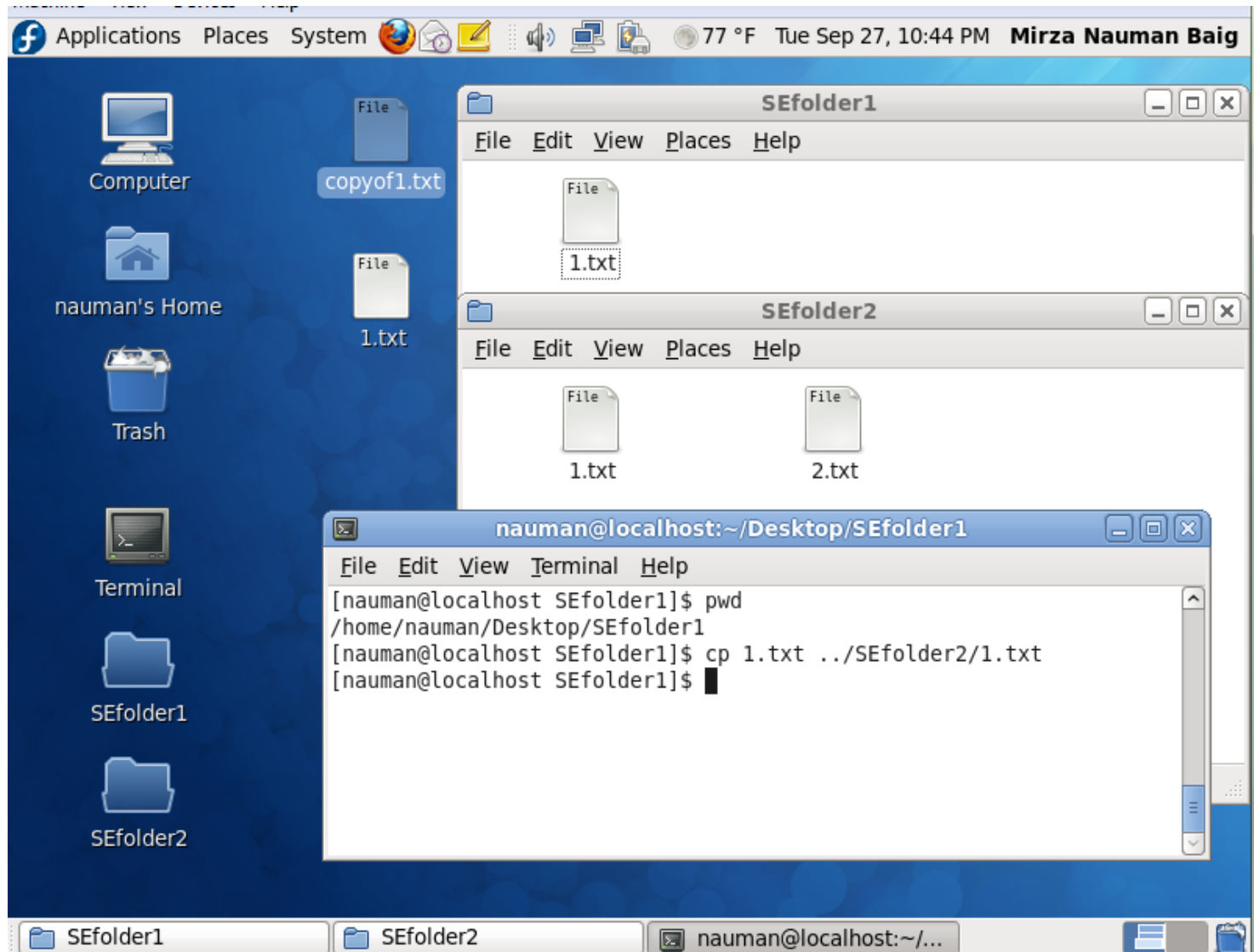
Use “ ” for folders having spaces in the name



Copy in the parent folder ../ (in this case parent folder is Desktop)



Copy using relative path



Copy in the Current Directory ./

The screenshot displays a Linux desktop environment with a blue background. The top panel shows the system tray with icons for Applications, Places, System, and the user name 'Mirza Nauman Baig'. The desktop contains several icons: Computer, nauman's Home, Trash, Terminal, SEfolder1, and SEfolder2. A file manager window titled 'SEfolder1' is open, showing a menu bar with 'File', 'Edit', 'View', 'Places', and 'Help'. It displays two files: '1.txt' and '2.txt'. A second file manager window titled 'SEfolder2' is also open, showing the same two files. A terminal window titled 'nauman@localhost:~/Desktop/SEfolder1' is open, showing the following commands and output:

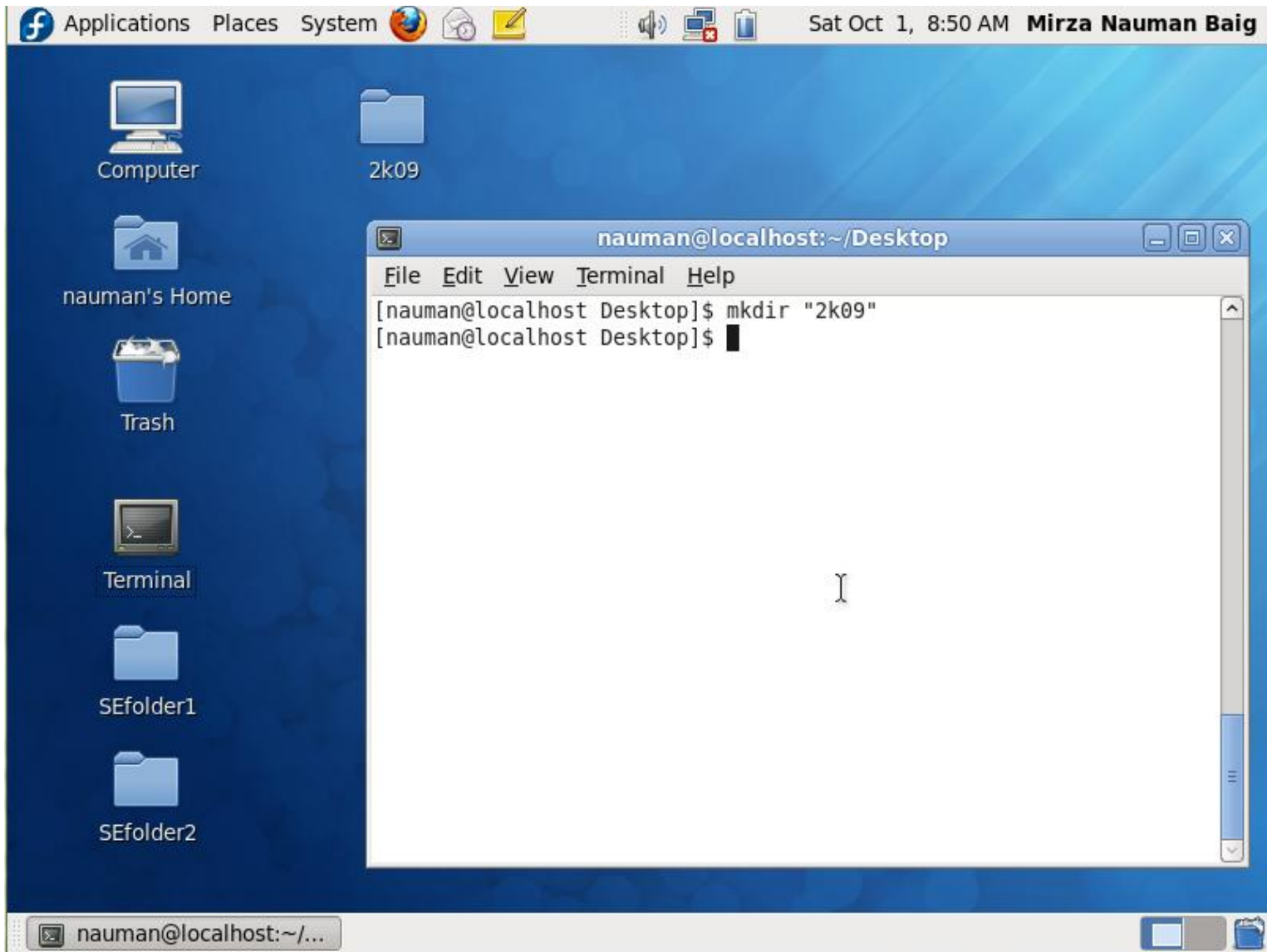
```
nauman@localhost SEfolder1$ pwd
/home/nauman/Desktop/SEfolder1
nauman@localhost SEfolder1$ cp 1.txt ../SEfolder2/1.txt
nauman@localhost SEfolder1$ cp ../SEfolder2/2.txt ./
nauman@localhost SEfolder1$
```

The terminal window also shows a menu bar with 'File', 'Edit', 'View', 'Terminal', and 'Help'. The taskbar at the bottom shows icons for 'SEfolder1', 'SEfolder2', and the terminal window.

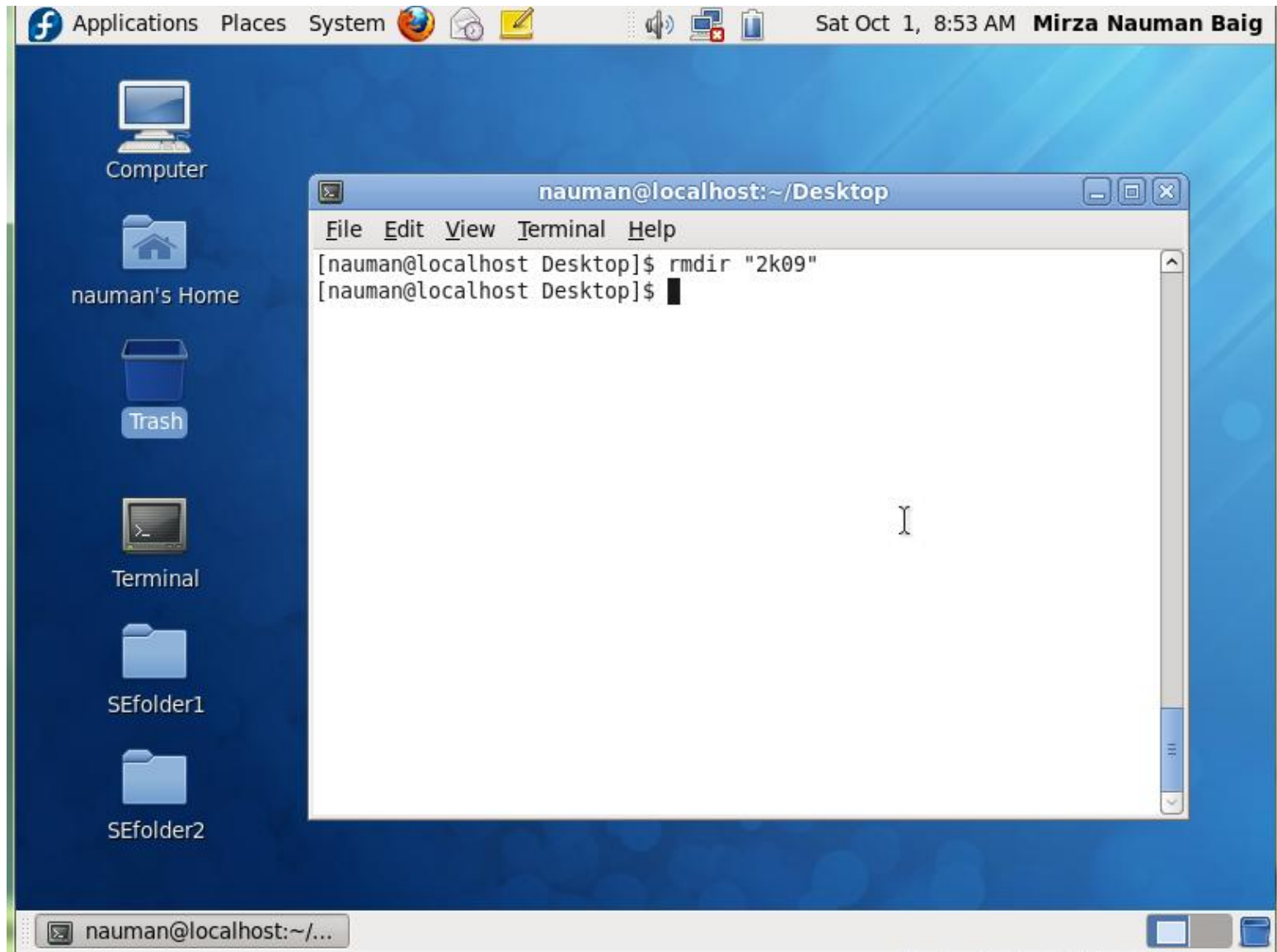
DOS Vs Linux

DOS Command	LINUX Command	Action
DIR	ls -l	List directory contents
TREE	tree	List directory recursively
CD	cd	Change directory
MKDIR	mkdir	Make a new directory
RMDIR	rmdir	Remove a directory
CHDIR	pwd	Display directory location
DEL	rm	Remove a file

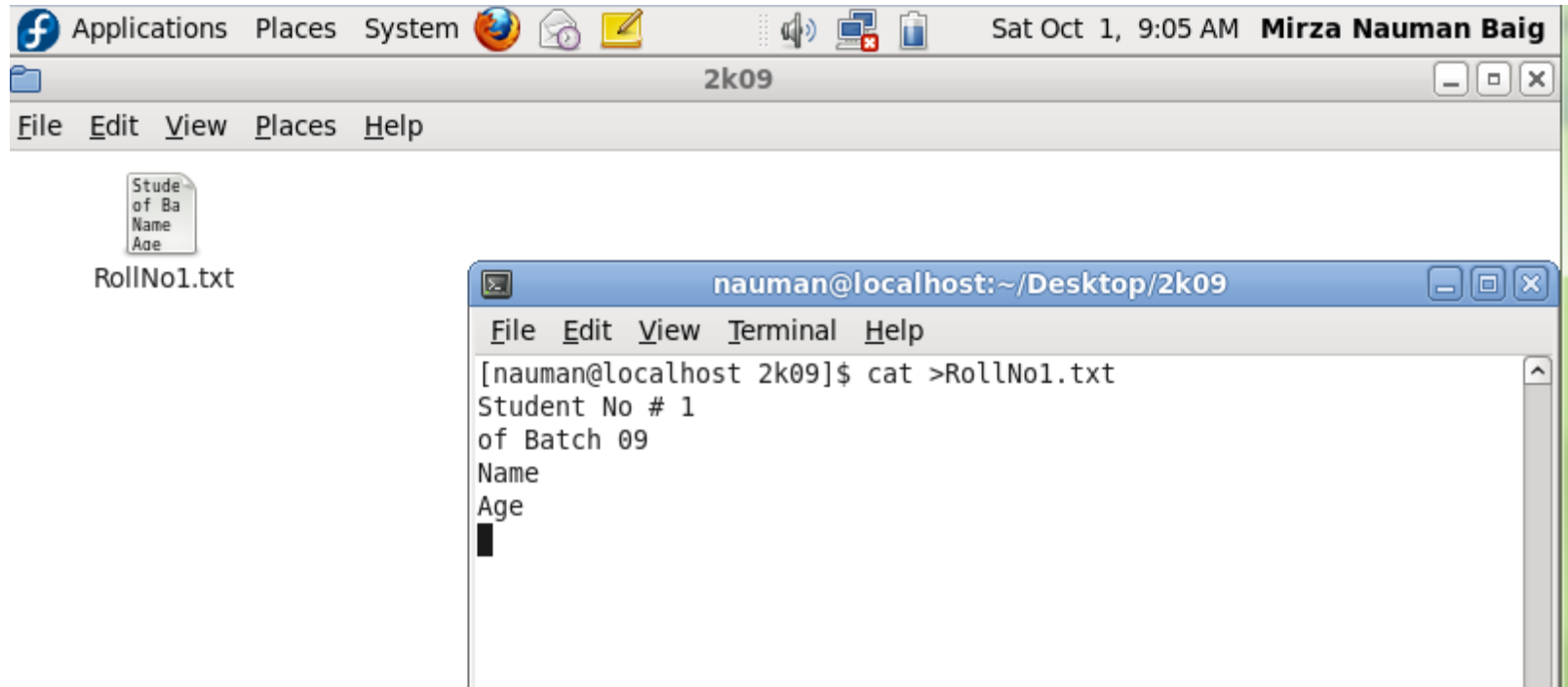
mkdir



rmdir



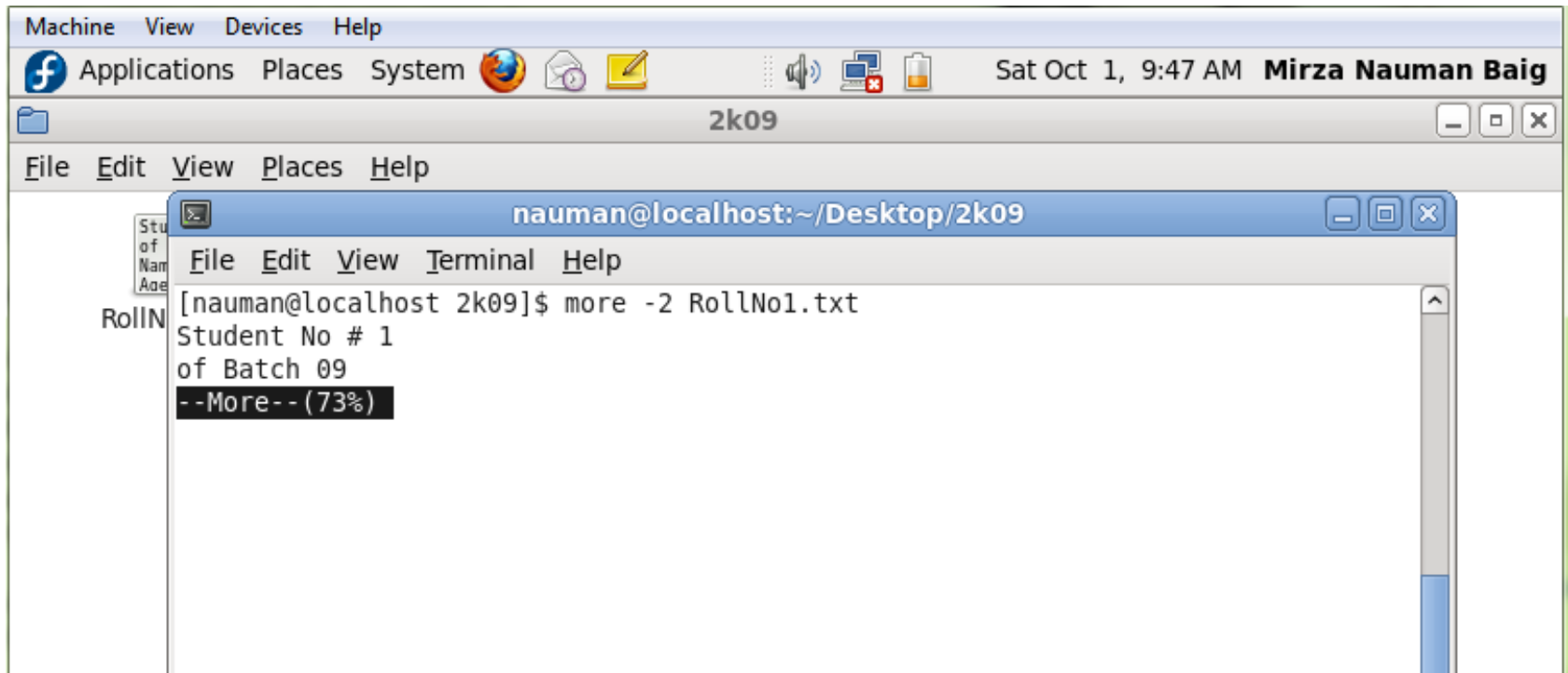
Create a Text File with cat
cat >filename.txt
Ctrl+D to save file
for display file
cat filename.txt



DOS Vs Linux

DOS Command	LINUX Command	Action
RMDIR /S (NT) DELTREE (Win 95...)	rm -r	Remove all directories and files below given directory
COPY	cp	Copy a file
XCOPY	cp -r	Copy all file of directory recursively
RENAME or MOVE	mv	Rename/move a file
TYPE	cat	Dump contents of a file to users screen
MORE	more	Pipe output a single page at a time
HELP or <i>COMMAND /?</i>	man	Online manuals

The command would begin displaying the file myfile.txt at line two



```
Machine View Devices Help
Applications Places System Sat Oct 1, 9:47 AM Mirza Nauman Baig
2k09
File Edit View Places Help
nauman@localhost:~/Desktop/2k09
File Edit View Terminal Help
[nauman@localhost 2k09]$ more -2 RollNo1.txt
Student No # 1
of Batch 09
--More-- (73%)
```

DOS Vs Linux

DOS Command	LINUX Command	Action
CLS	clear	Clear screen
EXIT	exit	Exit a shell
FIND	find	Look for a word in files given in command line
FC	diff	Compare two files and show differences. Also see mgdiff and tkdiff.
SET	set and env	Show environment variables
ECHO <i>text</i>	echo <i>text</i>	Echo text to screen

Environment variables

- are a set of dynamic named values that can affect the way running processes will behave on a computer.
- They can be said in some sense to create the operating environment in which a process runs. For example, an environment variable with a standard name can store the location that a particular computer system uses to store temporary files

find

- **find -name 'mypage.htm'**
- In the above command the system would search for any file named mypage.htm in the current directory and any subdirectory.
- **find / -name 'mypage.htm'**
- In the above example the system would search for any file named mypage.htm on the root and all subdirectories from the root.
- **find -name 'file*'**
- In the above example the system would search for any file beginning with file in the current directory and any subdirectory.
- **find -name '*' -size +1000k**
- In the above example the system would search for any file that is larger than 1000k.

2k09

File Edit View Places Help



RollNo1.txt



RollNo2.txt



RollNo3.txt



RollNo4.txt



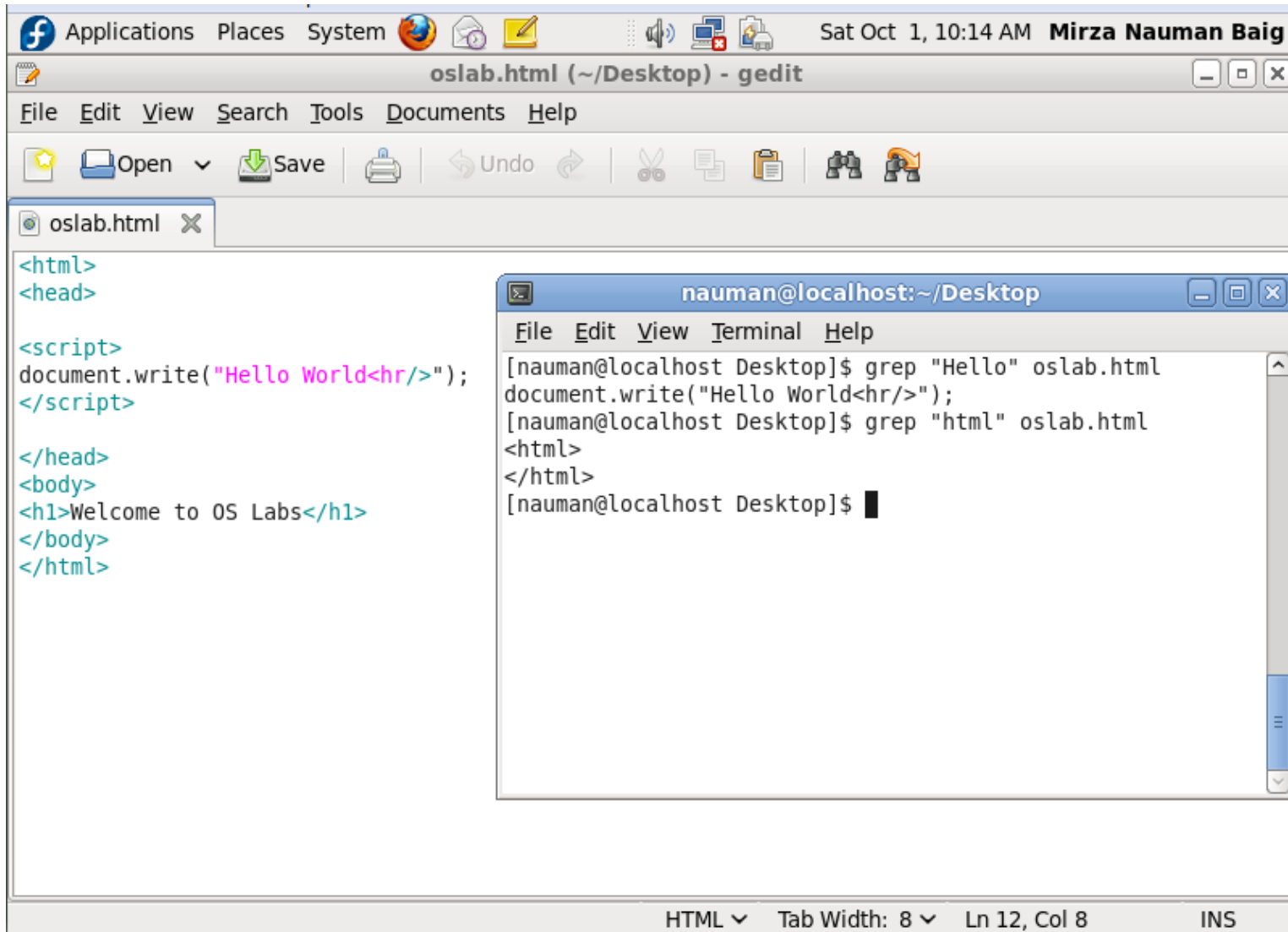
RollNo5.txt

```
nauman@localhost:~/Desktop/2k09
File Edit View Terminal Help
[nauman@localhost 2k09]$ find RollNo1.txt
RollNo1.txt
[nauman@localhost 2k09]$ find RollNo19.txt
find: `RollNo19.txt': No such file or directory
[nauman@localhost 2k09]$ find RollNo*.txt
RollNo1.txt
RollNo2.txt
RollNo3.txt
RollNo4.txt
RollNo5.txt
[nauman@localhost 2k09]$ find RollNo*.txt -size 1000k
[nauman@localhost 2k09]$ find RollNo*.txt -size 10k
[nauman@localhost 2k09]$ find RollNo*.txt -size 1k
RollNo1.txt
RollNo2.txt
RollNo3.txt
RollNo4.txt
RollNo5.txt
[nauman@localhost 2k09]$
```

2k09 5 items, Free space: 1.1 GB

nauman@localhost:~/... 2k09

Search in a file



The screenshot displays a Linux desktop environment. The top panel shows the system status, including the date and time (Sat Oct 1, 10:14 AM) and the user name (Mirza Nauman Baig). The main window is a text editor (gedit) editing a file named 'oslab.html' located on the Desktop. The editor's menu bar includes File, Edit, View, Search, Tools, Documents, and Help. The toolbar contains icons for Open, Save, Print, Undo, and other standard editing functions. The main text area shows the following HTML code:

```
<html>
<head>

<script>
document.write("Hello World<hr/>");
</script>

</head>
<body>
<h1>Welcome to OS Labs</h1>
</body>
</html>
```

The text "Hello World" in the script tag is highlighted in pink. A search window is visible over the text, showing the search term "Hello World" and the current position (Ln 12, Col 8). In the bottom right corner, a terminal window is open, showing the execution of two 'grep' commands:

```
nauman@localhost:~/Desktop
File Edit View Terminal Help
[nauman@localhost Desktop]$ grep "Hello" oslab.html
document.write("Hello World<hr/>");
[nauman@localhost Desktop]$ grep "html" oslab.html
<html>
</html>
[nauman@localhost Desktop]$
```

The terminal output shows that the first 'grep' command found the string "Hello" in the file, and the second 'grep' command found the string "html" in the file. The status bar at the bottom of the editor shows "HTML", "Tab Width: 8", "Ln 12, Col 8", and "INS".

DOS Vs Linux

DOS Command	LINUX Command	Action
SET <i>variable</i>	export variable name	Set environment variables
PATH	echo \$PATH	Display search path for executables
DATE or TIME	date	Show date. (also set date - DOS only)
SORT	sort	Sort data alphabetically/numerically
EDIT <i>filename.txt</i>	vim	Edit a file. The Linux editor which looks most like DOS edit is probably Pico.
\	/	Directory path delimiter
.\	./	Current directory
..\	../	Parent directory

sort

The screenshot shows a Linux desktop environment. At the top, the system tray includes icons for Applications, Places, System, and network status, along with the date and time: Sat Oct 1, 10:54 AM, and the user name: Mirza Nauman Baig.

The main window is a gedit editor titled "file.txt (~/Desktop) - gedit". The menu bar includes File, Edit, View, Search, Tools, Documents, and Help. The toolbar contains icons for Open, Save, Print, Undo, and other editing functions. The editor displays the following text in "file.txt":

```
x
7
a
1
3
2
c
b
```

Overlaid on the gedit window is a terminal window titled "nauman@localhost:~/Desktop". The terminal shows the execution of the 'sort' command:

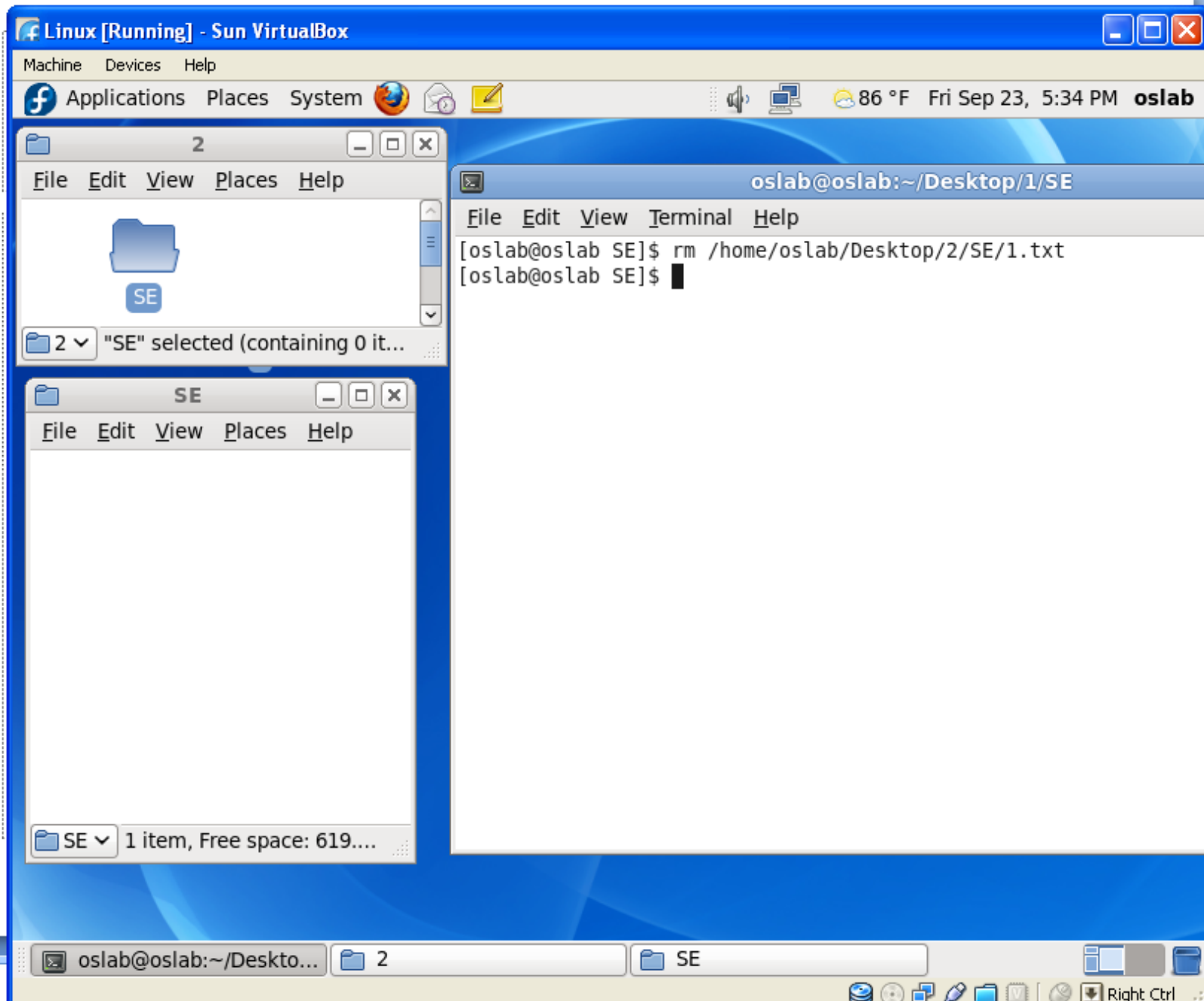
```
[nauman@localhost Desktop]$ sort file.txt
1
2
3
7
a
b
c
x
[nauman@localhost Desktop]$ sort -r file.txt
x
c
b
a
7
3
2
1
[nauman@localhost Desktop]$
```

The terminal output for the first command is: 1, 2, 3, 7, a, b, c, x. The output for the second command (reverse sort) is: x, c, b, a, 7, 3, 2, 1.

The bottom of the desktop shows the taskbar with the terminal and gedit windows, and the status bar indicating "Plain Text", "Tab Width: 8", "Ln 8, Col 2", and "INS" mode.

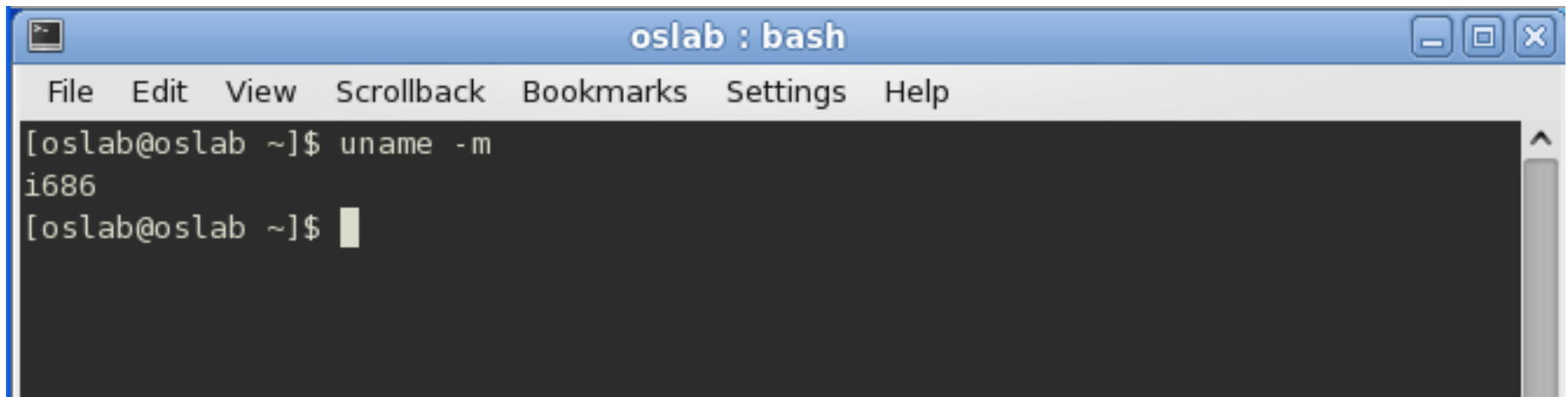
Other commands

- Rename folder
- Rename file
- Delete folder having files in it
- Free
- History



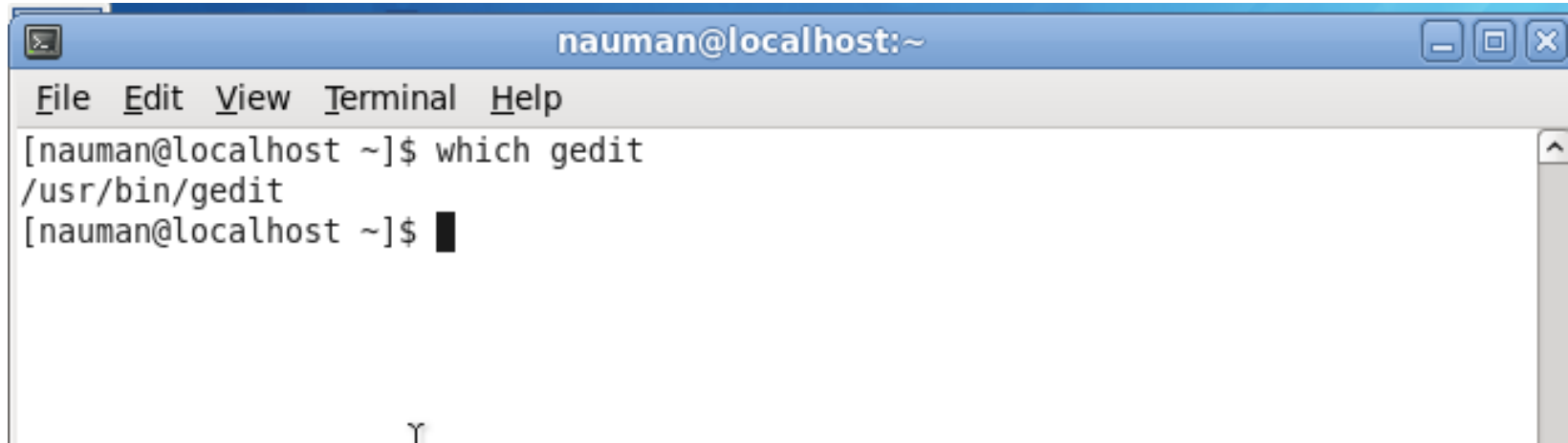
uname -m

- x86_64 when it is an kernel 64 bits
- i686 for 32 bits kernel

A terminal window titled "oslab : bash" with a menu bar containing "File", "Edit", "View", "Scrollback", "Bookmarks", "Settings", and "Help". The terminal content shows the command "[oslab@oslab ~]\$ uname -m" being executed, resulting in the output "i686". The prompt "[oslab@oslab ~]\$" is followed by a cursor.

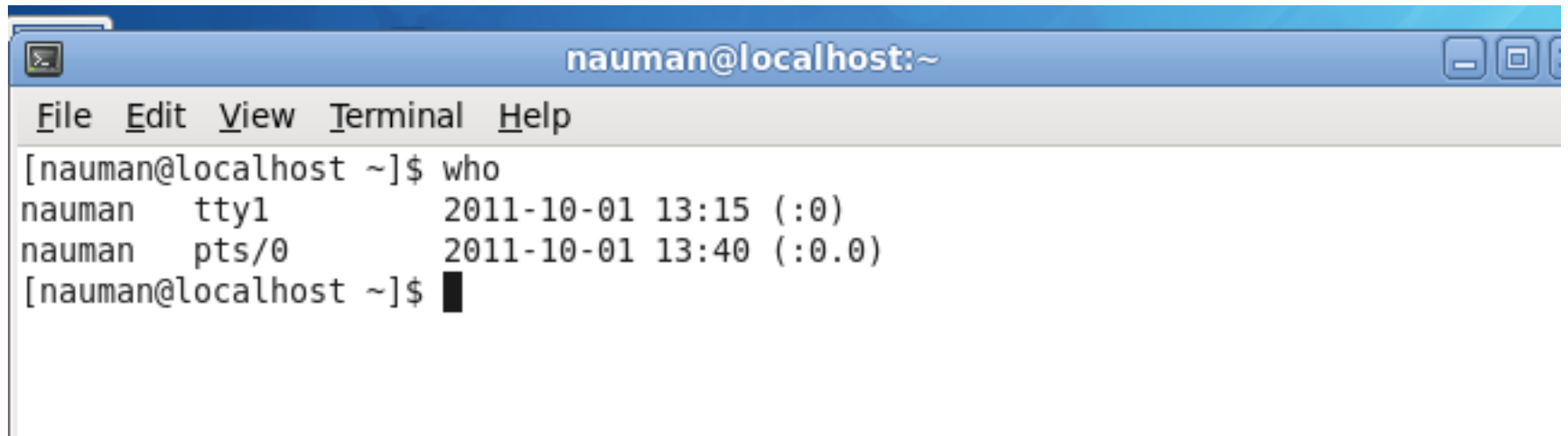
```
[oslab@oslab ~]$ uname -m
i686
[oslab@oslab ~]$
```

which



```
nauman@localhost:~  
File Edit View Terminal Help  
[nauman@localhost ~]$ which gedit  
/usr/bin/gedit  
[nauman@localhost ~]$ █
```

who



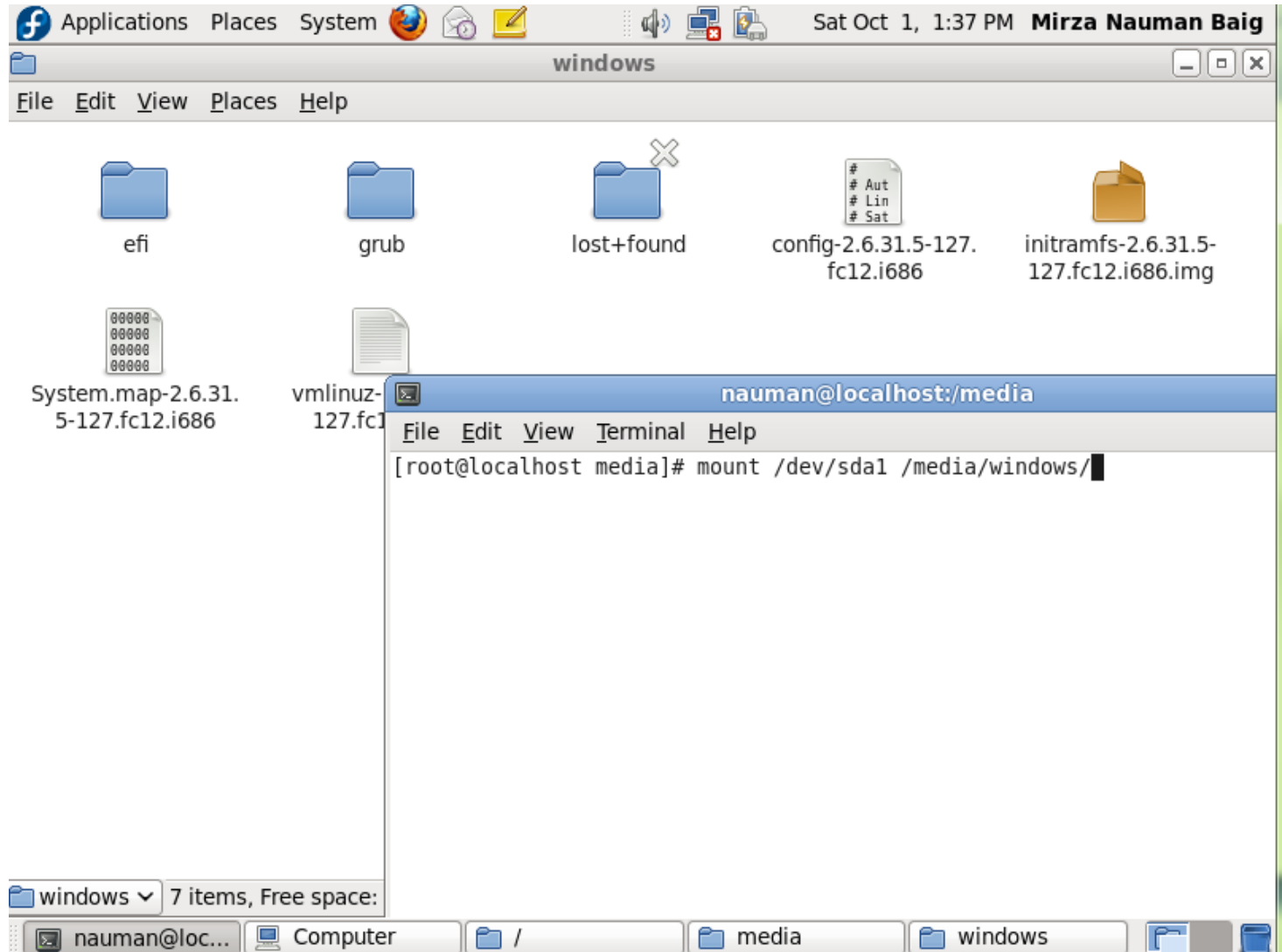
A terminal window titled "nauman@localhost:~" with a menu bar containing "File", "Edit", "View", "Terminal", and "Help". The terminal shows the command "who" being executed, resulting in two lines of output: "nauman tty1 2011-10-01 13:15 (:0)" and "nauman pts/0 2011-10-01 13:40 (:0.0)". The prompt "[nauman@localhost ~]\$" is shown at the end of the output, followed by a black cursor block.

```
[nauman@localhost ~]$ who
nauman  tty1      2011-10-01 13:15 (:0)
nauman  pts/0      2011-10-01 13:40 (:0.0)
[nauman@localhost ~]$ █
```

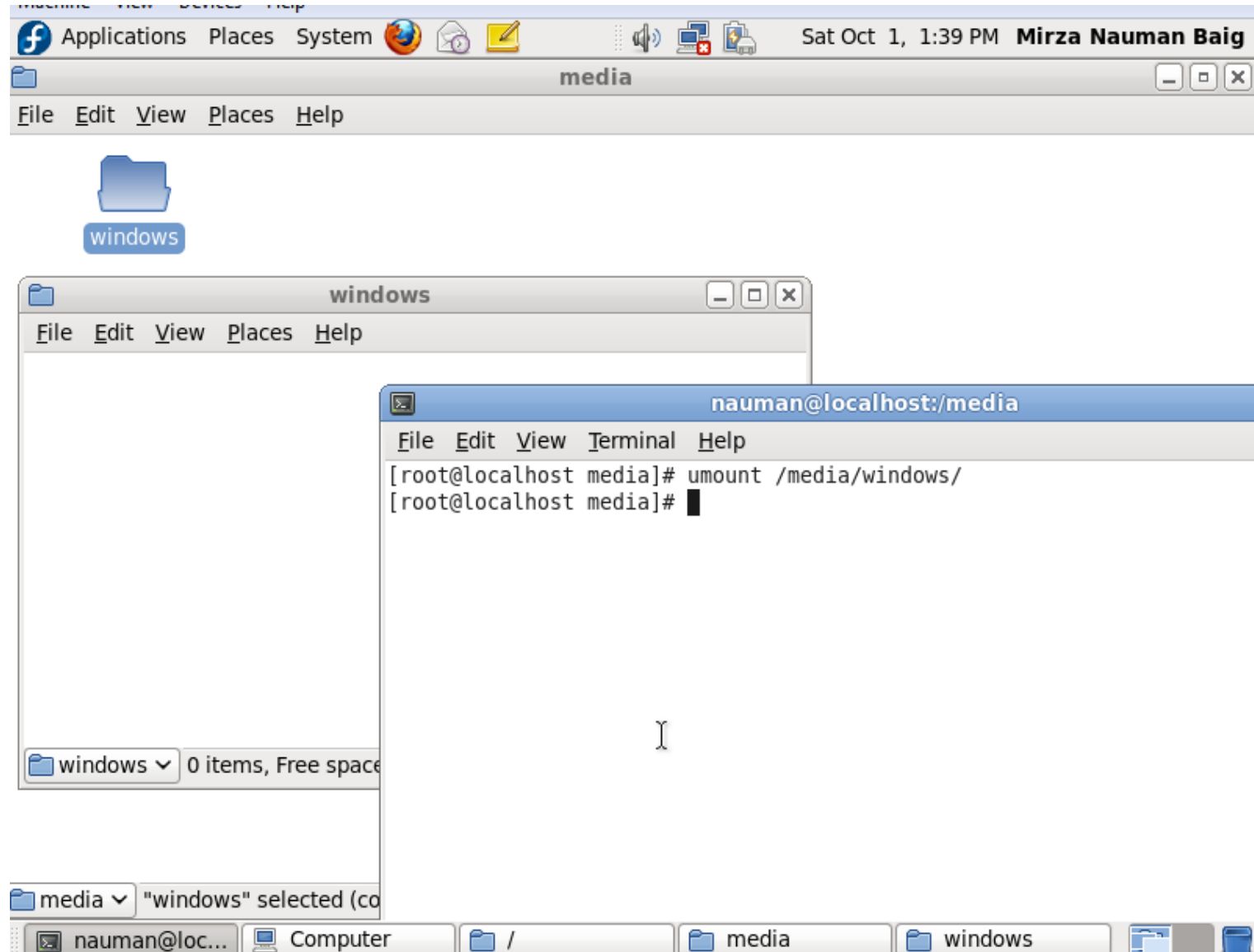
mount/unmount

- `su root`
- `ls /dev`
- `fdisk -l`
- Making a mount point
- `mkdir /mnt/windows/`
- `mkdir /media/windows/` (ubuntu)
- `mount /dev/sda1 /media/windows/`
- `umount /media/windows/`

mount



umount



Process / kill

- gedit
- gedit &
- For running processes
- ps
- Kill PID

Applications Places System 33 °C Sat Oct 1, 2:49 PM Mirza Nauman Baig

nauman@localhost:~

File Edit View Terminal Help

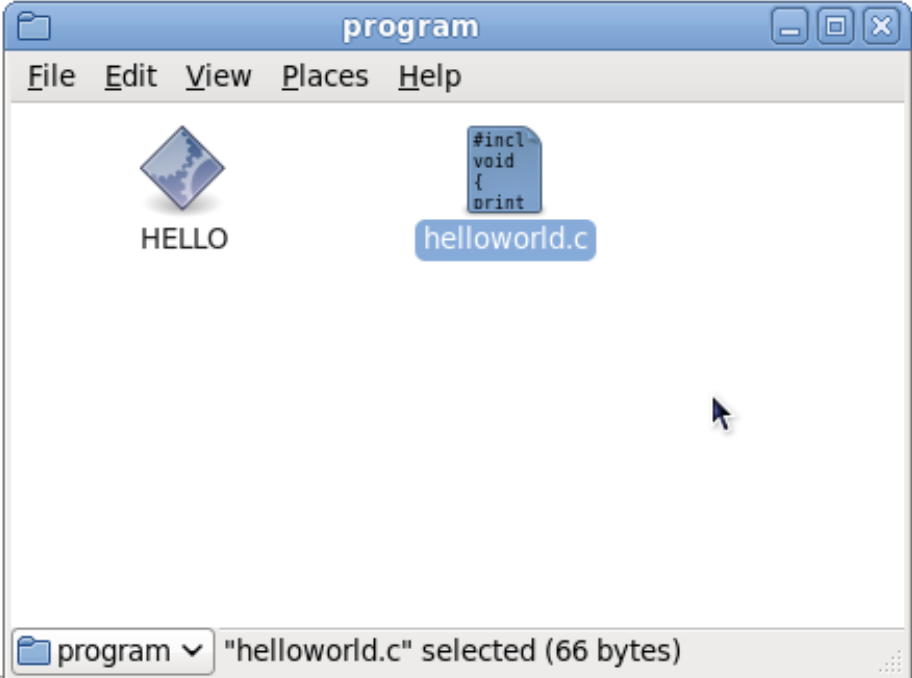
```
[nauman@localhost ~]$ gedit &
[1] 2508
[nauman@localhost ~]$ ps
  PID TTY          TIME CMD
 2421 pts/0    00:00:00 bash
 2508 pts/0    00:00:00 gedit
 2509 pts/0    00:00:00 ps
[nauman@localhost ~]$ kill 2508
[nauman@localhost ~]$ ps
  PID TTY          TIME CMD
 2421 pts/0    00:00:00 bash
 2510 pts/0    00:00:00 ps
[1]+  Terminated                  gedit
[nauman@localhost ~]$
```

nauman@localhost:~

Programming C complier

- `touch helloworld.c`
- `gedit helloworld.c &`
- Write simple hello world c code
- `gcc helloworld.c -o HELLO`
- `./ HELLO`

```
#include<stdio.h>
void main()
{
    printf("Hello World.... !\n");
}
```



Assignment - 1

Quiz in Next LAB 😊