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LAB 3: SYSTEM ATTRIBUTES AND

USING WORD PROCESSOR

Content :

1. **Process Management**
2. **Some System Commands**
3. **Using the Editor Program vi**

Submission :

Upload the word file to cms describes some questions as :

- Present the content of manipulating of some command **(including syntax, what does it for?, examples)** as
  - vmstat (view status of virtual memory)
  - pstree –np
  - pgrep <option> <parameter>: list process following name, properties ...
  - pkill
  - uptime
  - free
- Capture the terminal screen using the vi application to view the content of file that are typed by you.

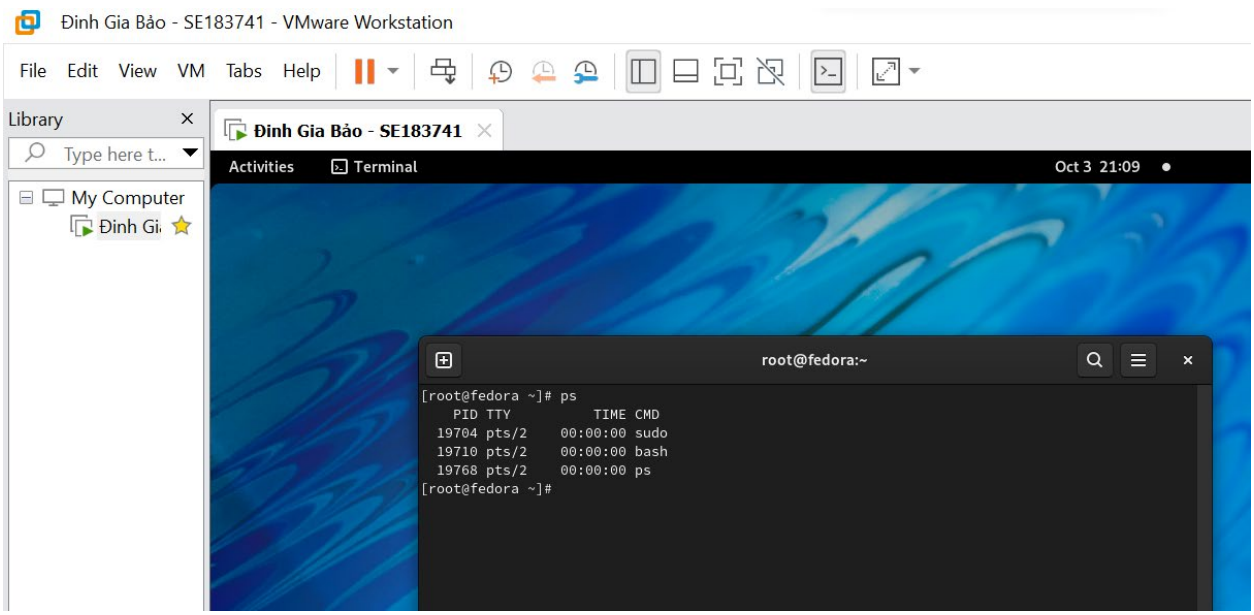
I . PROCESS MANAGEMENT

1. *View process status(ps) of the running process on the system: The "**ps**" command*

```
Syntax :
            ps option(s)
```

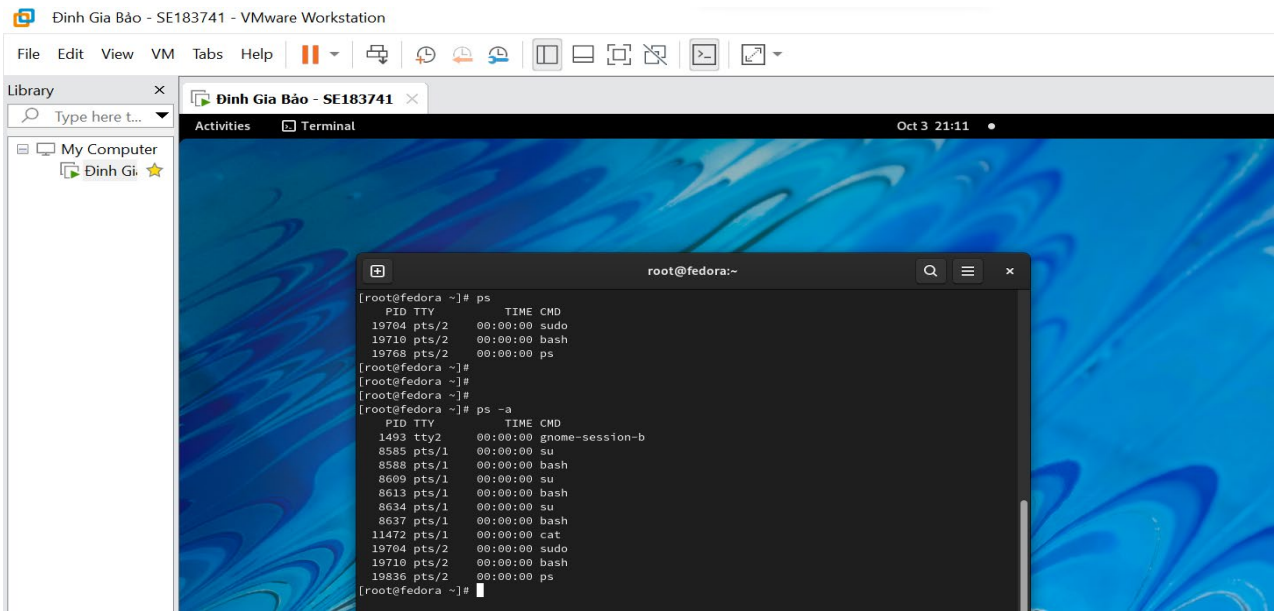
Process status, information about processes running in memory. If you want a repetitive update of this status, use top.

Ex1 : $ ps



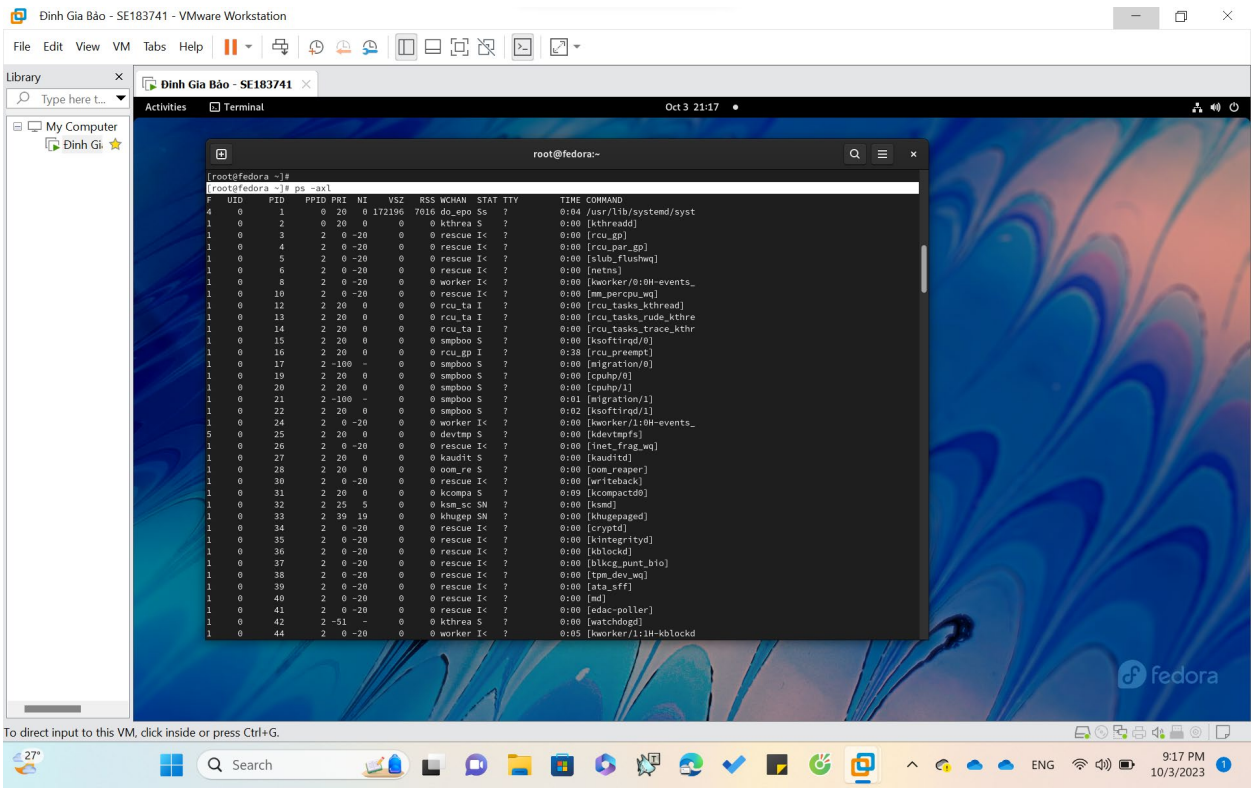
Check process status

Ex2 : $ ps -a



Select all processes, including those of other users.

Ex3 : $ ps -axl



View all process with the full command

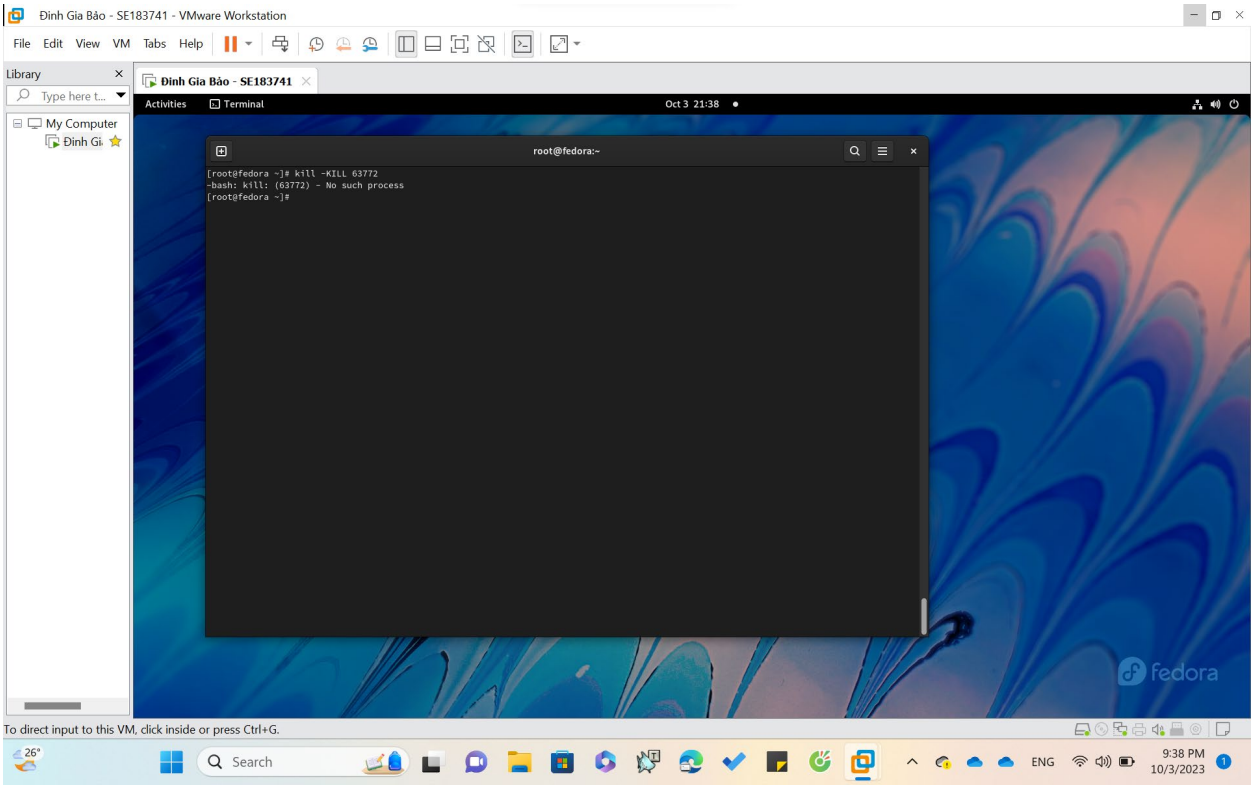
2. *Stop a process (the **kill** command) – Kill a process by specifying its PID*

```
Syntax
      kill [-s sigspec] [-n signum] [-sigspec] jobspec or pid
      kill -l [exit_status]
      kill -l [sigspec]
```

Kill a process by specifying its PID, either via a signal or forced termination.

Ex : $ kill -KILL PID
or shorter as **$ kill -9 PID**
With **PID** is Process ID (ex: 63772)

⇨ Purpose: Send a KILL signal to forcefully terminate a process immediately (cannot be blocked)

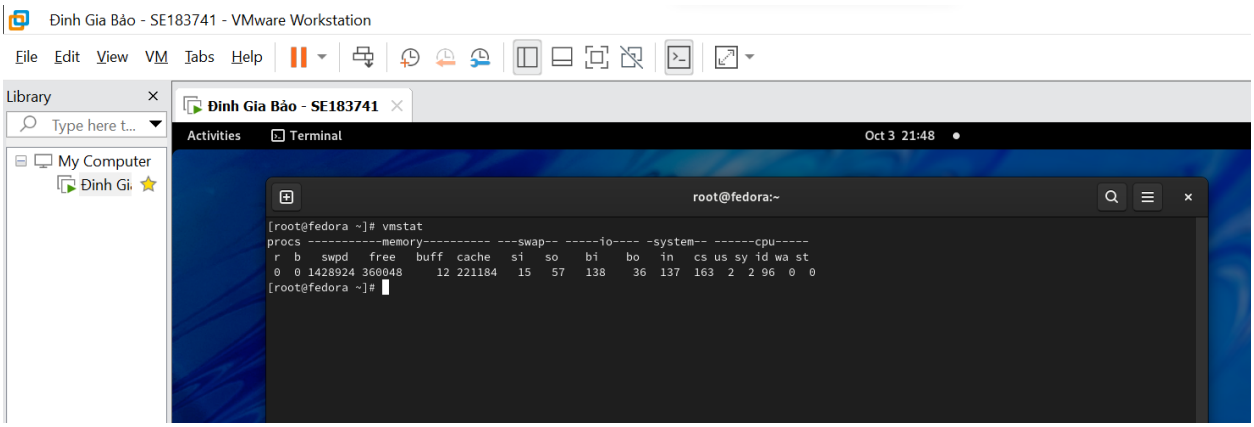


II . SOME SYSTEM COMMAND

vmstat : Report virtual memory statistics

```
Syntax
      vmstat [-a] [-n] [delay [ count]]
      vmstat [-f] [-s] [-m]
      vmstat [-S unit]
      vmstat [-d]
      vmstat [-p disk-partition]
      vmstat [-V]
```

Ex: $ vmstat



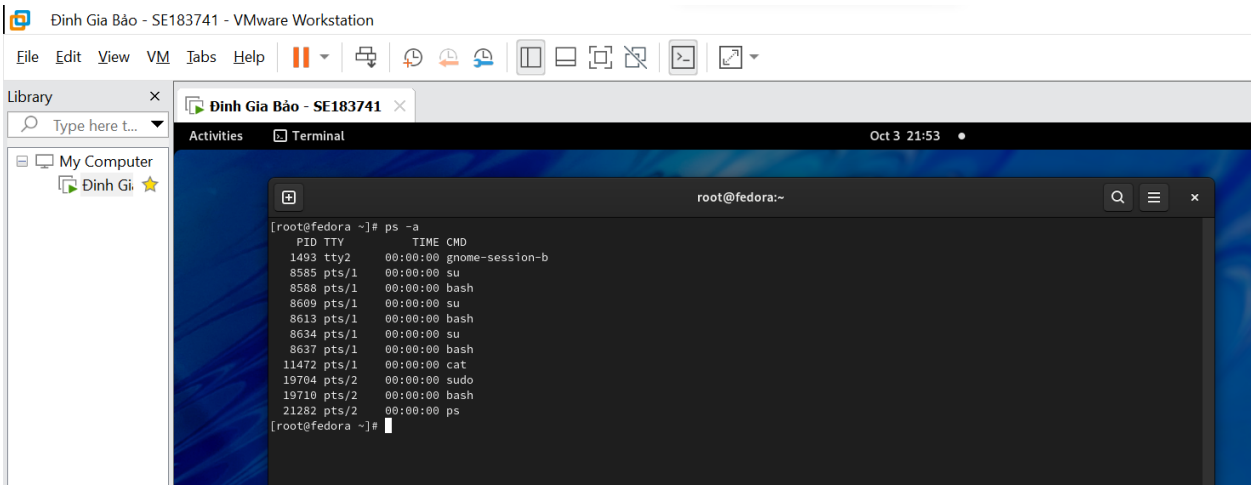
pstree -np

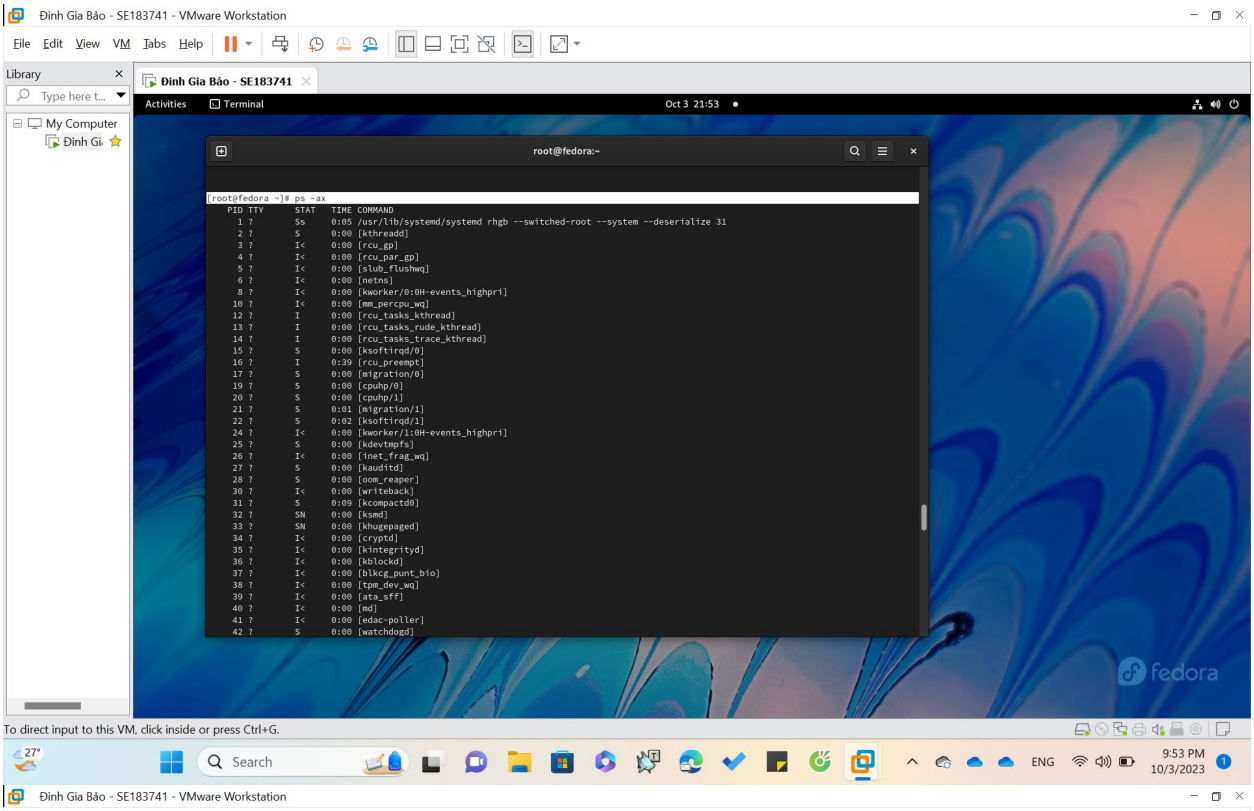
Process Management:
Pstree

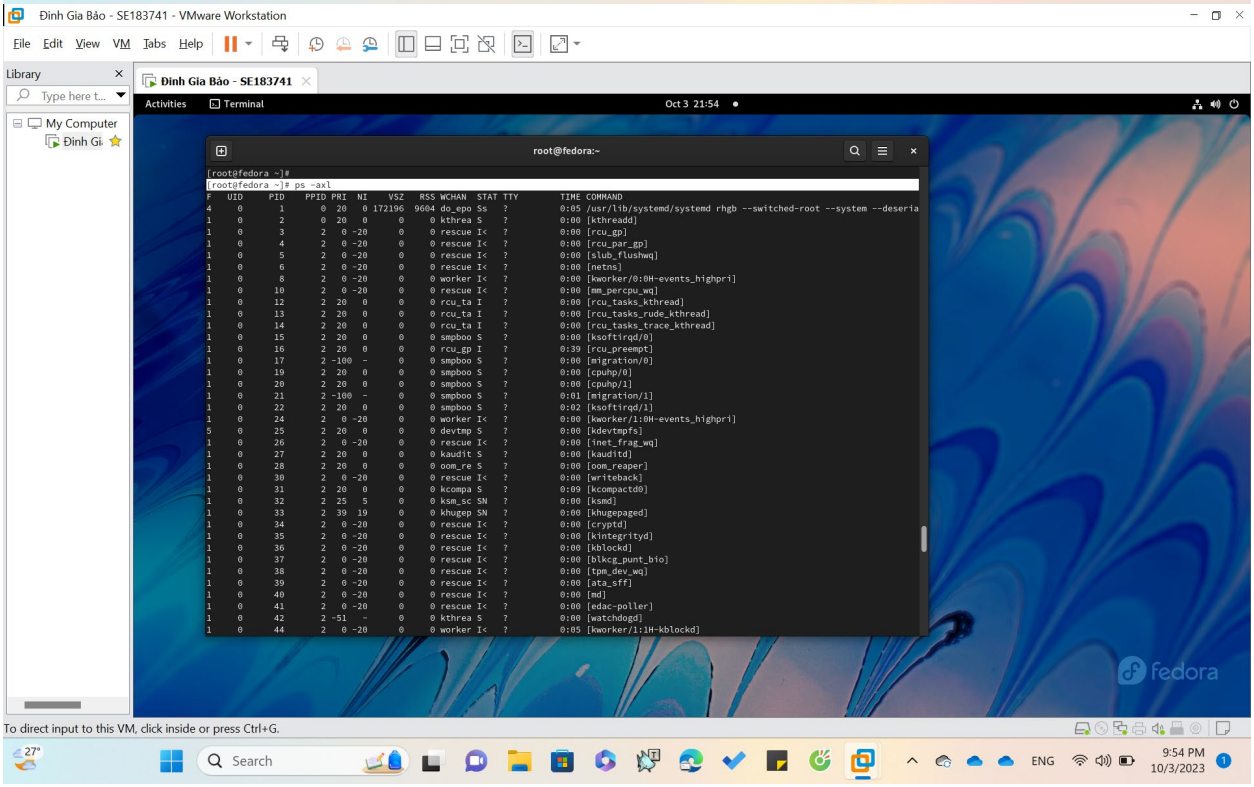
Syntax: ps [-option] with [-option] are :

-a: view all
-ax: view all process, even though the process is not concern with tree
-axl: view all process with the full command

Ex:




Đinh Gia Bảo - SE183741 - VMware Workstation
File Edit View VM Tabs Help
Library
Type here t...
My Computer
Đinh Gi
Đinh Gia Bảo - SE183741
Activities
Terminal
Oct 3 21:53
root@fedora:~
[root@fedora ~]# ps -ax
PID TTY STAT TIME COMMAND
1 ? Ss 0:05 /usr/lib/systemd/systemd rhgb --switched-root --system --deserialize 31
2 ? S 0:00 [kthreadd]
3 ? I< 0:00 [rcu_gp]
4 ? I< 0:00 [rcu_par_gp]
5 ? I< 0:00 [slub_flushwq]
6 ? I< 0:00 [netns]
8 ? I< 0:00 [kworker/0:0H-events_highpri]
10 ? I< 0:00 [mm_percpu_wq]
12 ? I 0:00 [rcu_tasks_kthread]
13 ? I 0:00 [rcu_tasks_rude_kthread]
14 ? I 0:00 [rcu_tasks_trace_kthread]
15 ? S 0:00 [ksoftirqd/0]
16 ? I 0:39 [rcu_preempt]
17 ? S 0:00 [migration/0]
19 ? S 0:00 [cpuhp/0]
20 ? S 0:00 [cpuhp/1]
21 ? S 0:01 [migration/1]
22 ? S 0:02 [ksoftirqd/1]
24 ? I< 0:00 [kworker/1:0H-events_highpri]
25 ? S 0:00 [kdevtmpfs]
26 ? I< 0:00 [inet_frag_wq]
27 ? S 0:00 [kauditd]
28 ? S 0:00 [oom_reaper]
30 ? I< 0:00 [writeback]
31 ? S 0:09 [kcompactd0]
32 ? SN 0:00 [ksmd]
33 ? SN 0:00 [khugepaged]
34 ? I< 0:00 [cryptd]
35 ? I< 0:00 [kintegrityd]
36 ? I< 0:00 [kblockd]
37 ? I< 0:00 [blkcg_punt_bio]
38 ? I< 0:00 [tpm_dev_wq]
39 ? I< 0:00 [ata_sff]
40 ? I< 0:00 [md]
41 ? I< 0:00 [edac-poller]
42 ? S 0:00 [watchdogd]
fedora
To direct input to this VM, click inside or press Ctrl+G.
27°
Search
ENG
9:53 PM
10/3/2023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File Edit View VM Tabs Help
Library
Type here t...
My Computer
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Đinh Gia Bảo - SE183741
Activities
Terminal
Oct 3 21:54
root@fedora:~
[root@fedora ~]#
[root@fedora ~]# ps -axl
F UID PID PPID PRI NI VSZ RSS WCHAN STAT TTY TIME COMMAND
4 0 1 0 20 0 172196 9604 do_epo Ss ? 0:05 /usr/lib/systemd/systemd rhgb --switched-root --system --deseria
1 0 2 0 20 0 0 0 kthrea S ? 0:00 [kthreadd]
1 0 3 2 0 -20 0 0 rescue I< ? 0:00 [rcu_gp]
1 0 4 2 0 -20 0 0 rescue I< ? 0:00 [rcu_par_gp]
1 0 5 2 0 -20 0 0 rescue I< ? 0:00 [slub_flushwq]
1 0 6 2 0 -20 0 0 rescue I< ? 0:00 [netns]
1 0 8 2 0 -20 0 0 worker I< ? 0:00 [kworker/0:0H-events_highpri]
1 0 10 2 0 -20 0 0 rescue I< ? 0:00 [mm_percpu_wq]
1 0 12 2 20 0 0 0 rcu_ta I ? 0:00 [rcu_tasks_kthread]
1 0 13 2 20 0 0 0 rcu_ta I ? 0:00 [rcu_tasks_rude_kthread]
1 0 14 2 20 0 0 0 rcu_ta I ? 0:00 [rcu_tasks_trace_kthread]
1 0 15 2 20 0 0 0 smpboo S ? 0:00 [ksoftirqd/0]
1 0 16 2 20 0 0 0 rcu_gp I ? 0:39 [rcu_preempt]
1 0 17 2 -100 - 0 0 smpboo S ? 0:00 [migration/0]
1 0 19 2 20 0 0 0 smpboo S ? 0:00 [cpuhp/0]
1 0 20 2 20 0 0 0 smpboo S ? 0:00 [cpuhp/1]
1 0 21 2 -100 - 0 0 smpboo S ? 0:01 [migration/1]
1 0 22 2 20 0 0 0 smpboo S ? 0:02 [ksoftirqd/1]
1 0 24 2 0 -20 0 0 worker I< ? 0:00 [kworker/1:0H-events_highpri]
5 0 25 2 20 0 0 0 devtmp S ? 0:00 [kdevtmpfs]
1 0 26 2 0 -20 0 0 rescue I< ? 0:00 [inet_frag_wq]
1 0 27 2 20 0 0 0 kaudit S ? 0:00 [kauditd]
1 0 28 2 20 0 0 0 oom_re S ? 0:00 [oom_reaper]
1 0 30 2 0 -20 0 0 rescue I< ? 0:00 [writeback]
1 0 31 2 20 0 0 0 kcompa S ? 0:09 [kcompactd0]
1 0 32 2 25 5 0 0 ksm_sc SN ? 0:00 [ksmd]
1 0 33 2 39 19 0 0 khugep SN ? 0:00 [khugepaged]
1 0 34 2 0 -20 0 0 rescue I< ? 0:00 [cryptd]
1 0 35 2 0 -20 0 0 rescue I< ? 0:00 [kintegrityd]
1 0 36 2 0 -20 0 0 rescue I< ? 0:00 [kblockd]
1 0 37 2 0 -20 0 0 rescue I< ? 0:00 [blkcg_punt_bio]
1 0 38 2 0 -20 0 0 rescue I< ? 0:00 [tpm_dev_wq]
1 0 39 2 0 -20 0 0 rescue I< ? 0:00 [ata_sff]
1 0 40 2 0 -20 0 0 rescue I< ? 0:00 [md]
1 0 41 2 0 -20 0 0 rescue I< ? 0:00 [edac-poller]
1 0 42 2 -51 - 0 0 kthrea S ? 0:00 [watchdogd]
1 0 44 2 0 -20 0 0 worker I< ? 0:05 [kworker/1:1H-kblockd]
fedora
To direct input to this VM, click inside or press Ctrl+G.
27°
Search
ENG
9:54 PM
10/3/2023

pgrep: (List processes by name)

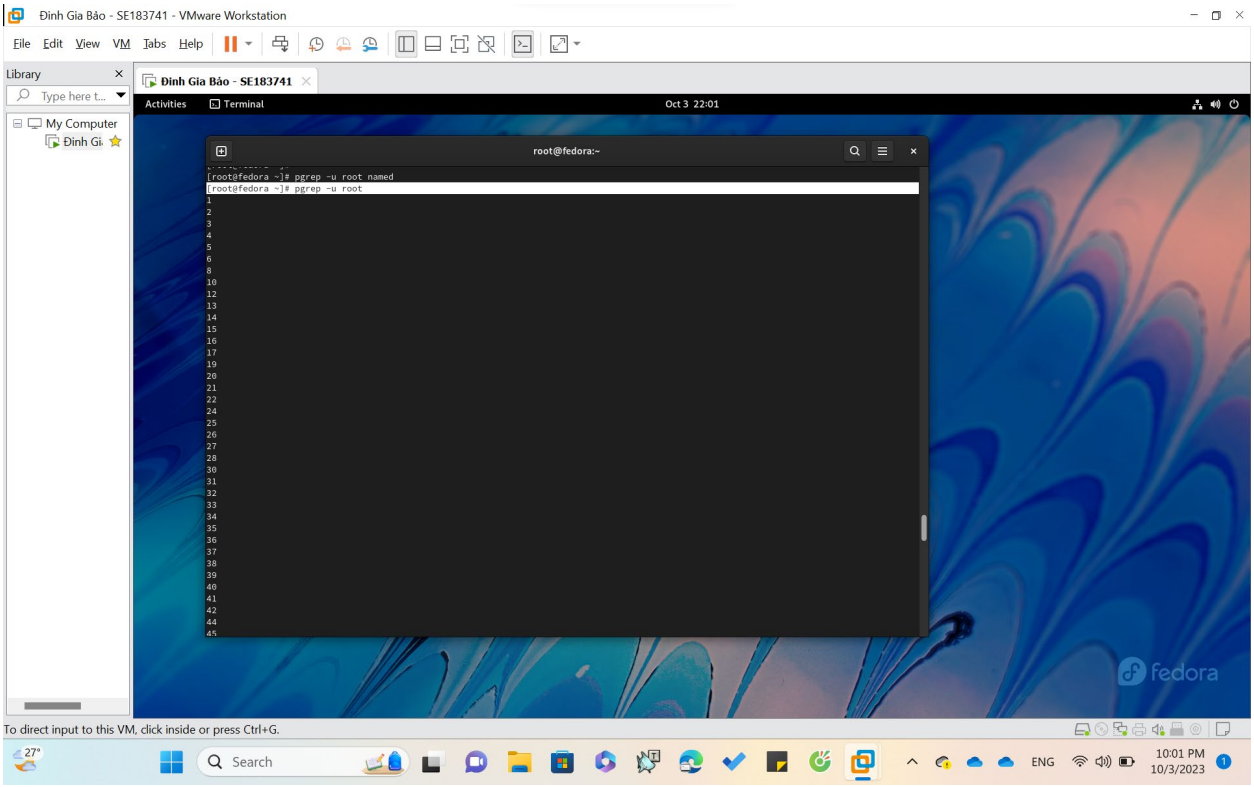
Syntax:

```
pgrep [-flvx] [-d delimiter] [-n|-o] [-P ppid,...] [-g pgrp,...]
   [-s sid,...] [-u euid,...] [-U uid,...] [-G gid,...]
      [-t term,...] [pattern]

pkill [-signal] [-fvx] [-n|-o] [-P ppid,...] [-g pgrp,...]
   [-s sid,...] [-u euid,...] [-U uid,...] [-G gid,...]
      [-t term,...] [pattern]
```

Kill processes by a full or partial name.

Ex: $ pgrep -u root named



Find the process ID of the named daemon

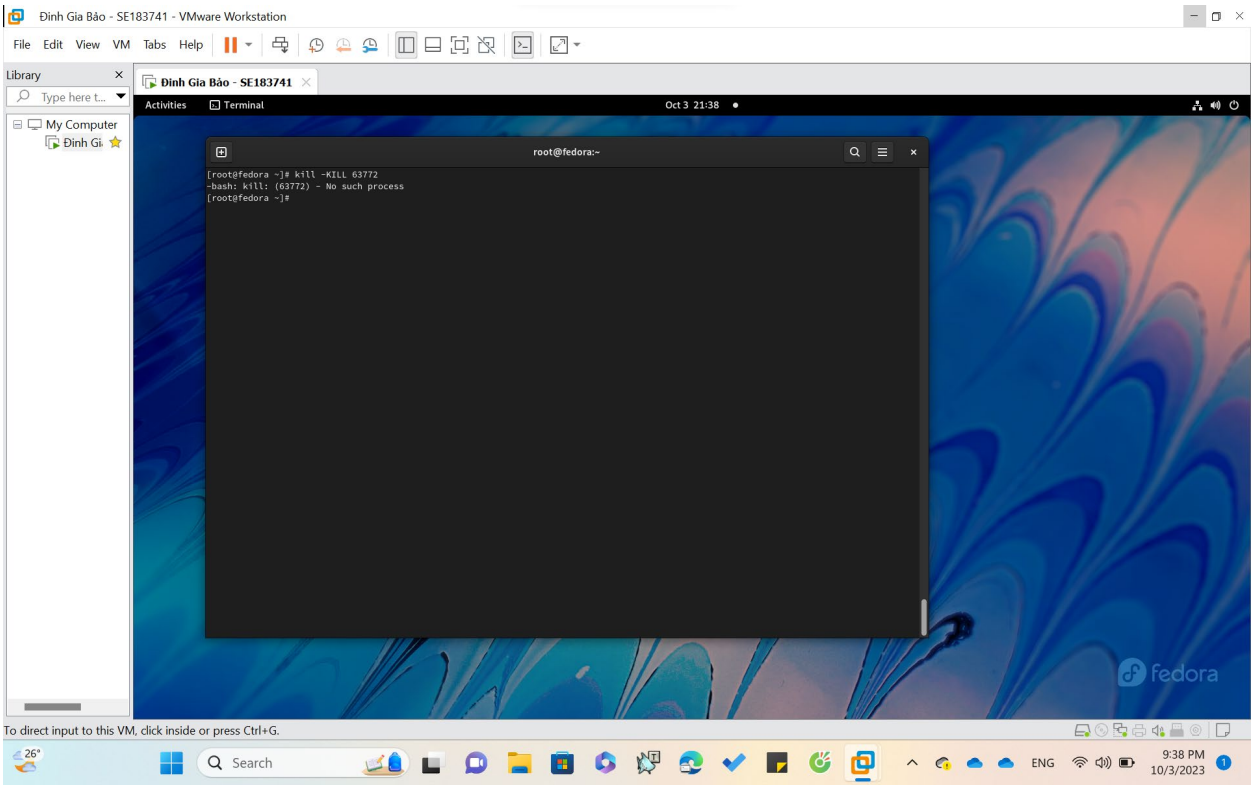
pkill: (Stop a process)

```
Syntax
      kill [-s sigspec] [-n signum] [-sigspec] jobspec or pid
      kill -l [exit_status]
      kill -l [sigspec]
```

Kill a process by specifying its PID, either via a signal or forced termination.

Ex : $ kill -KILL PID
or shorter as **$ kill -9 PID**
With **PID** is Process ID (ex: 63772)

⇨ Purpose: Send a KILL signal to forcefully terminate a process immediately (cannot be blocked)



In the first situation,if you cannot kill the process.

In the second, your terminal willimmediately exit.

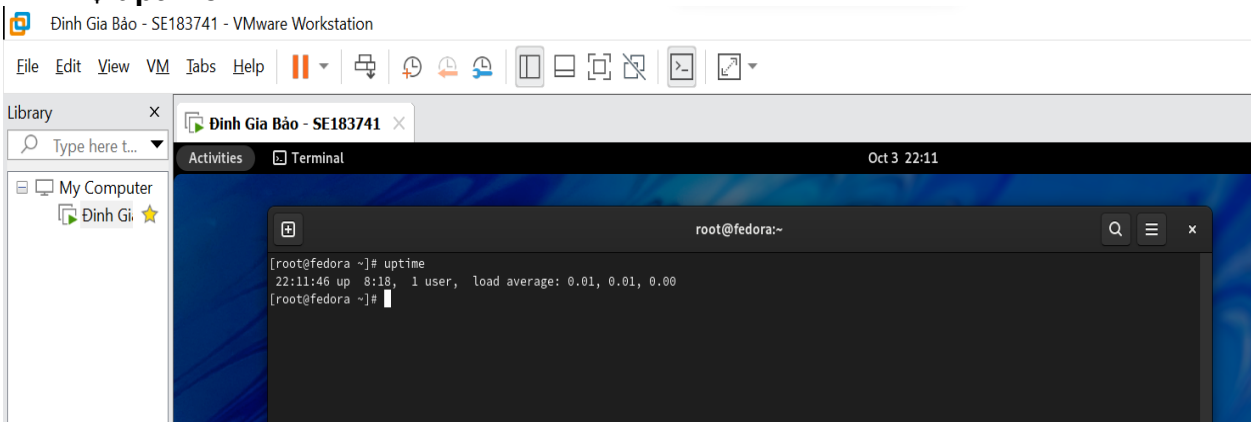
uptime: (show uptime)

Uptime Command In Linux:

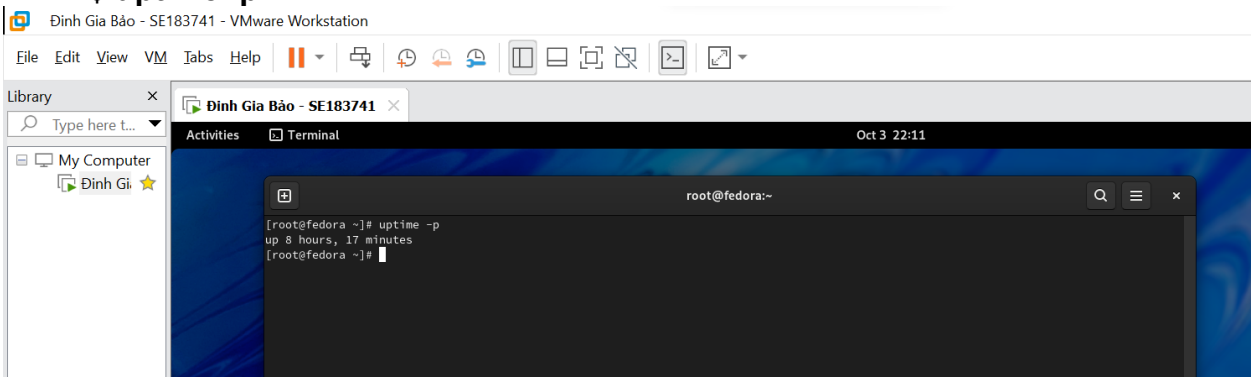
It is used to find out how long the system is active (running). This command returns set of values that involve, the current time, and the amount of time system is in running state, number of users currently logged into.

Syntax: uptime [-options]

Ex1 : $ uptime



Ex2 : $ uptime -p

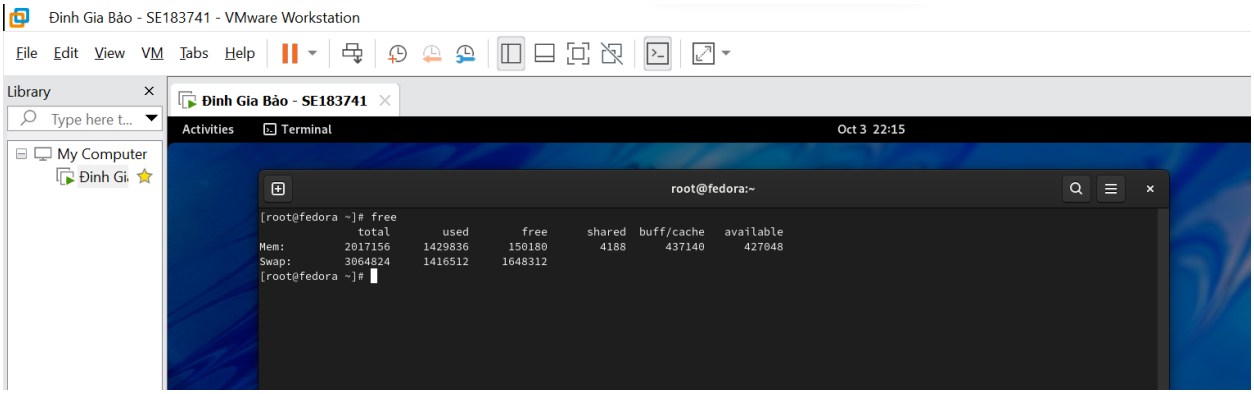


free: (display memory usage)

In LINUX, there exists a command line utility for this and that is free command which displays the total amount of free space available along with the amount of memory used and swap memory in the system, and also the buffers used by the kernel.

Syxtax: $free **[OPTION]**
OPTION : refers to the options compatible with free command.

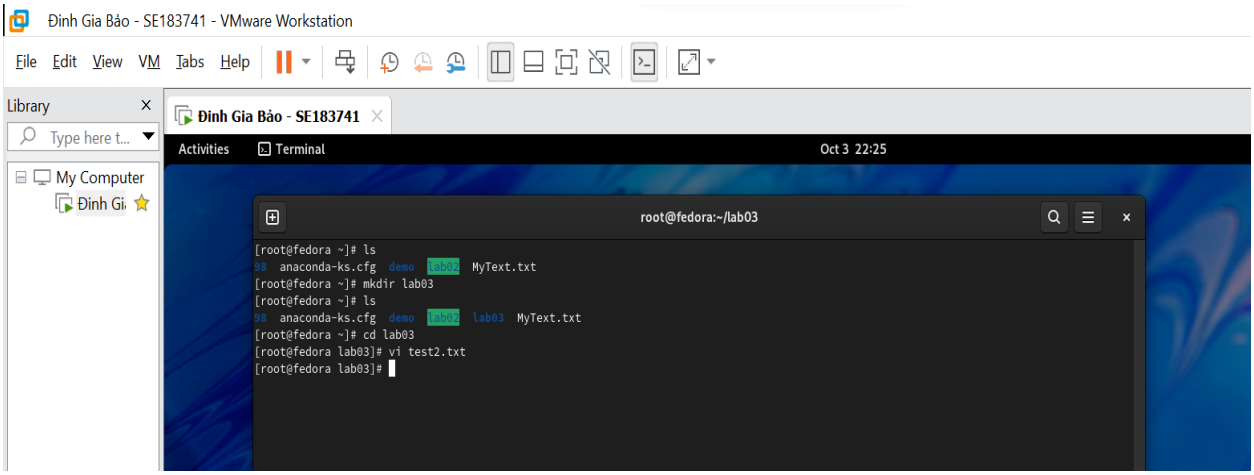
Ex :

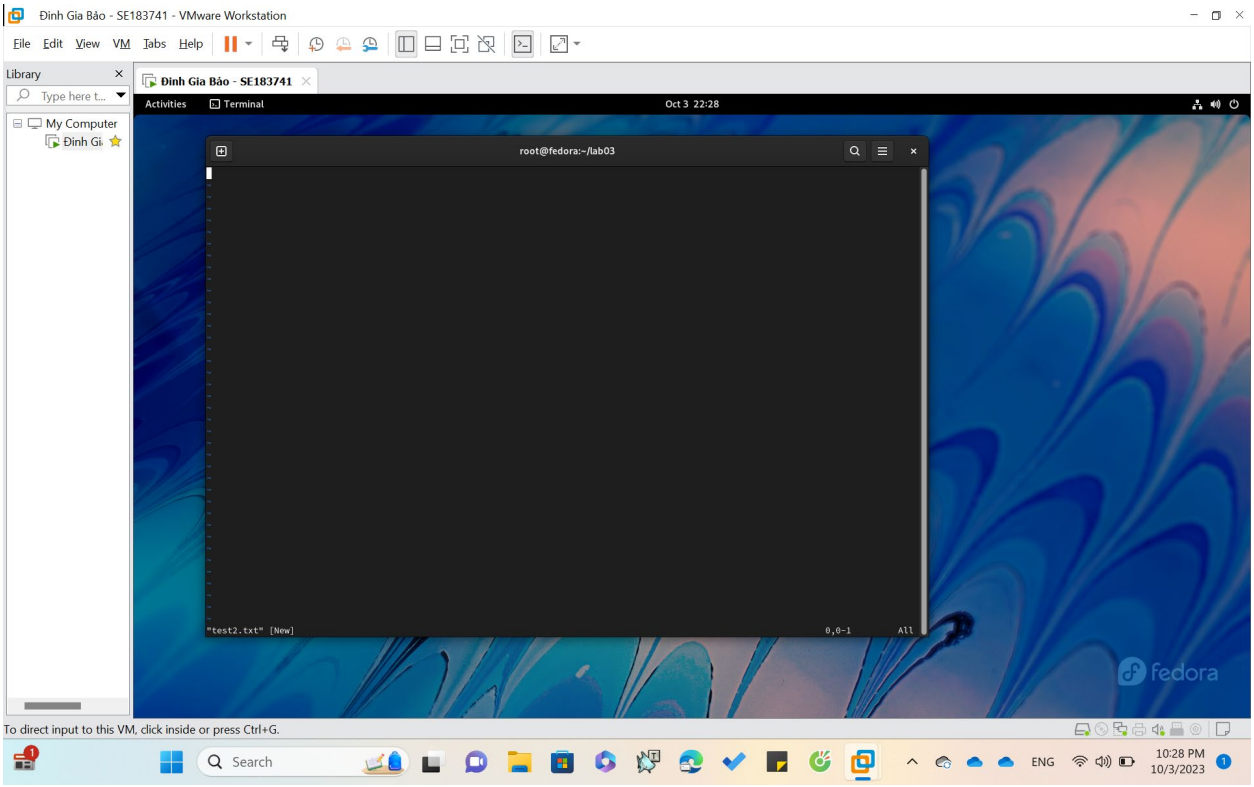


III . USING THE EDITOR PROGRAM vi

- **Syntax: vi <file_name>**

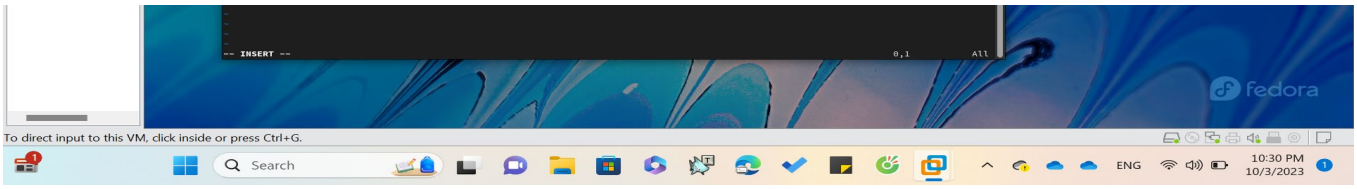
Firstly, I want to create a file named "**test2.txt**" in **Lab03** directory

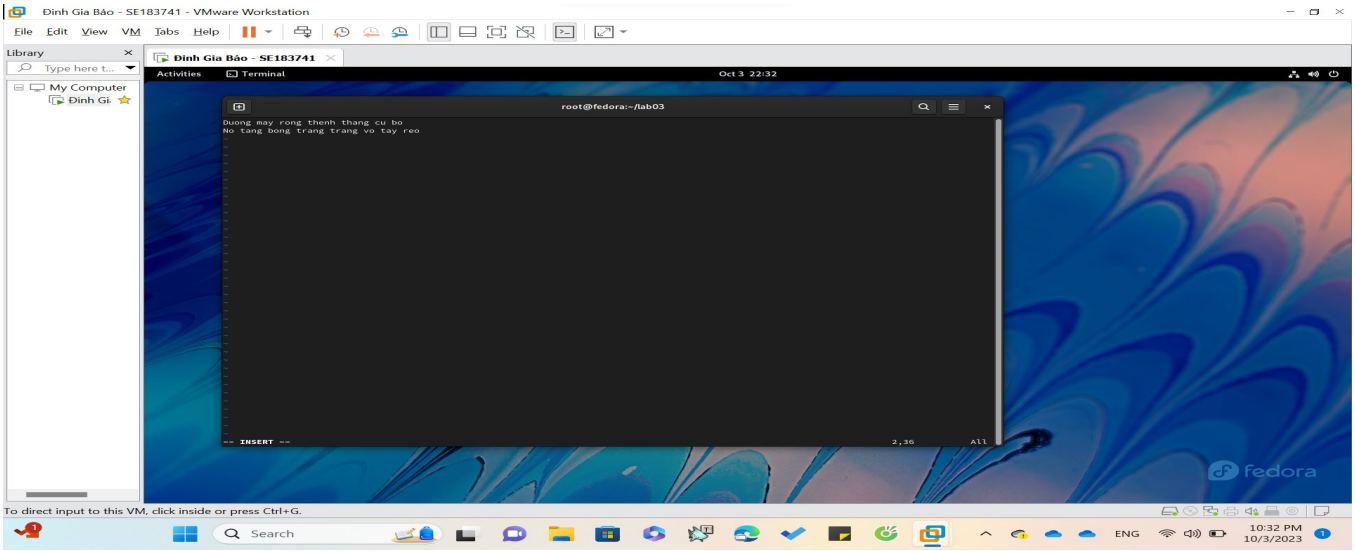




Inside text2.txt

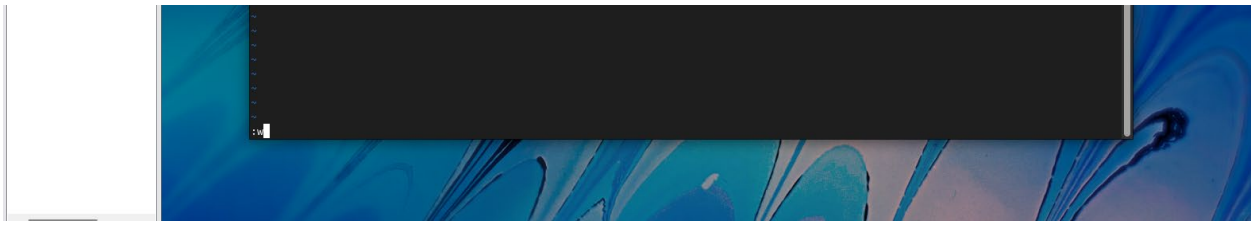
Press key i: insert or type the content (in the left)



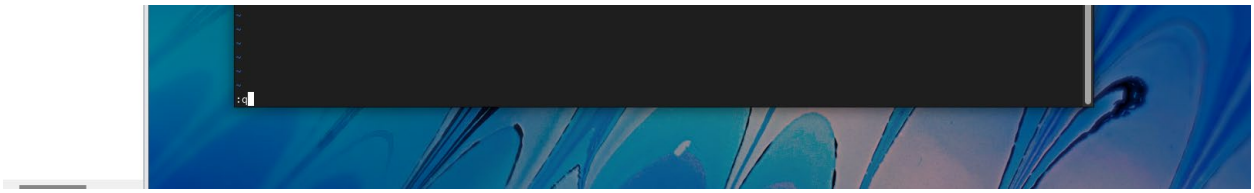


To save your text:

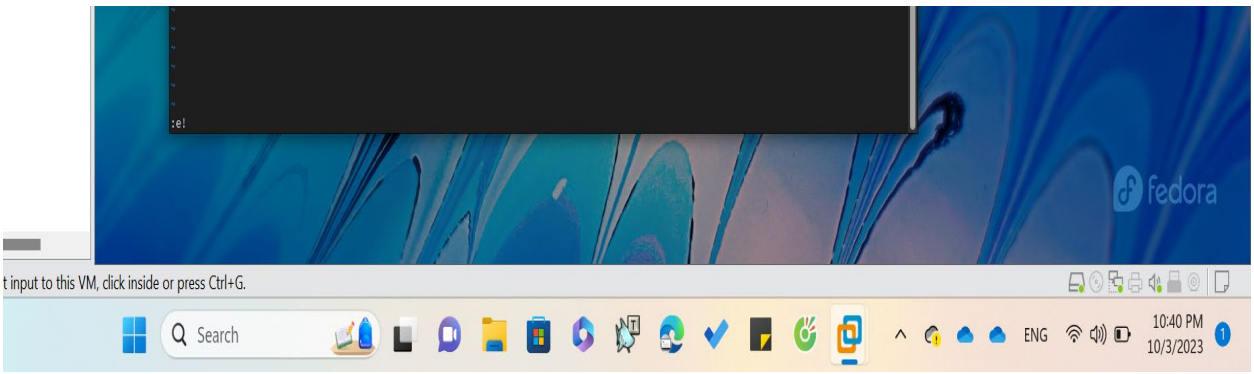
Use **":w"** command



Ortherwise, if you use "**:q**" it will immediately exit vi



Finally, if you use "**:e!**" : it will delete all the content that typing after writing file



END.