

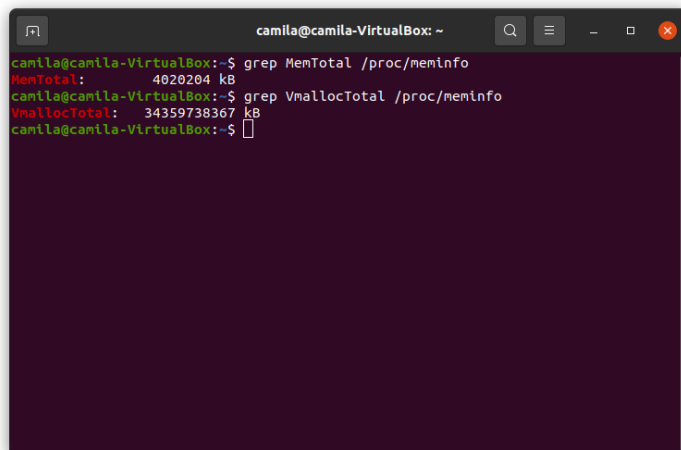
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Homework #3:

Tutorial 1: Understanding Virtual Memory

```
# grep MemTotal /proc/meminfo  
MemTotal: 131906708 kB
```

```
# grep VmallocTotal /proc/meminfo  
VmallocTotal: 34359738367 kB
```

A screenshot of a terminal window titled 'camila@camila-VirtualBox: ~'. The terminal shows the following commands and output:

```
camila@camila-VirtualBox:~$ grep MemTotal /proc/meminfo  
MemTotal: 4020204 kB  
camila@camila-VirtualBox:~$ grep VmallocTotal /proc/meminfo  
VmallocTotal: 34359738367 kB  
camila@camila-VirtualBox:~$
```

Tutorial 2: Advantage of keeping a page cache

```
[root@centos-8 ~]# echo "Understanding Linux memory management" > my_file
```

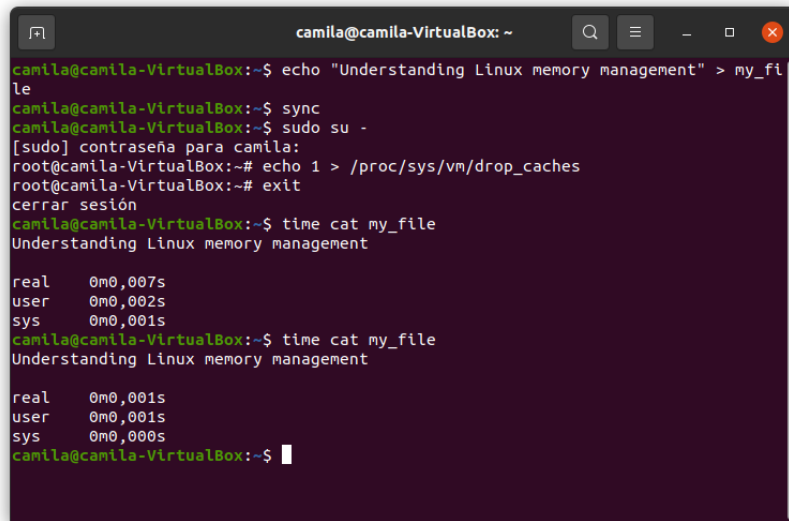
```
[root@centos-8 ~]# sync
```

```
[root@centos-8 ~]# echo 3 > /proc/sys/vm/drop_caches
```

```
[root@centos-8 ~]# time cat my_file  
Understanding Linux memory management  
  
real    0m0.031s  
user    0m0.000s  
sys     0m0.003s
```

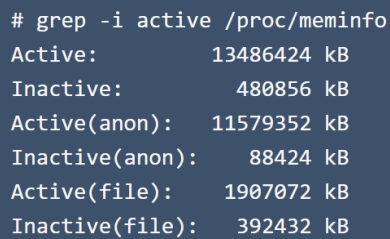
```
[root@centos-8 ~]# time cat my_file  
Understanding Linux memory management  
  
real    0m0.001s  
user    0m0.000s  
sys     0m0.001s
```

Some changes were made because the terminal showed an error stating that access was denied to change the cache, so I had to enter the root to make the changes.

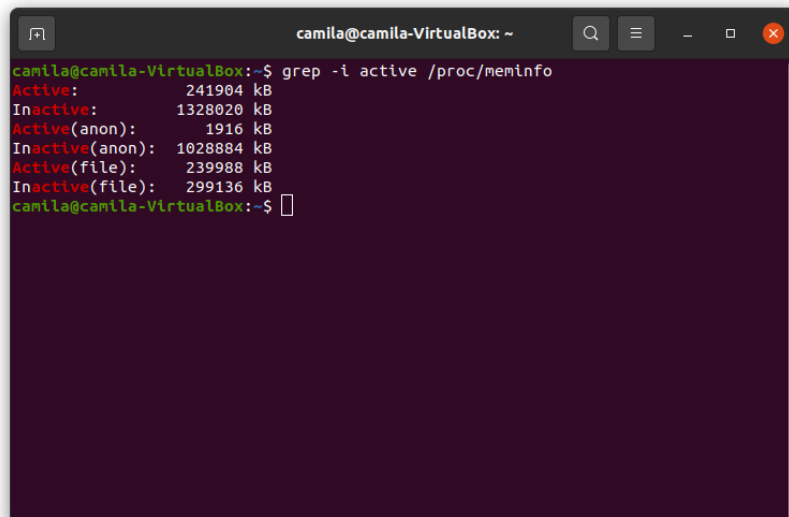


```
camila@camila-VirtualBox: ~  
camila@camila-VirtualBox:~$ echo "Understanding Linux memory management" > my_file  
camila@camila-VirtualBox:~$ sync  
camila@camila-VirtualBox:~$ sudo su -  
[sudo] contraseña para camila:  
root@camila-VirtualBox:~# echo 1 > /proc/sys/vm/drop_caches  
root@camila-VirtualBox:~# exit  
cerrar sesión  
camila@camila-VirtualBox:~$ time cat my_file  
Understanding Linux memory management  
  
real    0m0.007s  
user    0m0.002s  
sys     0m0.001s  
camila@camila-VirtualBox:~$ time cat my_file  
Understanding Linux memory management  
  
real    0m0.001s  
user    0m0.001s  
sys     0m0.000s  
camila@camila-VirtualBox:~$
```

Tutorial #3: Understanding Active and Inactive Memory



```
# grep -i active /proc/meminfo  
Active:          13486424 kB  
Inactive:        480856 kB  
Active(anon):    11579352 kB  
Inactive(anon):  88424 kB  
Active(file):    1907072 kB  
Inactive(file):  392432 kB
```



```
camila@camila-VirtualBox: ~  
camila@camila-VirtualBox:~$ grep -i active /proc/meminfo  
Active:          241904 kB  
Inactive:        1328020 kB  
Active(anon):    1916 kB  
Inactive(anon):  1028884 kB  
Active(file):    239988 kB  
Inactive(file):  299136 kB  
camila@camila-VirtualBox:~$
```