UNIVERSIDAD DE LAS FUERZAS ARMADAS-ESPE
SEDE SANTO DOMINGO

DEPARTAMENTO DE CIENCIAS DE LA COMPUTACIÓN - DCCO-SS

CARRERA DE INGENIERÍA EN TECNOLOGÍAS DE LA INFORMACIÓN

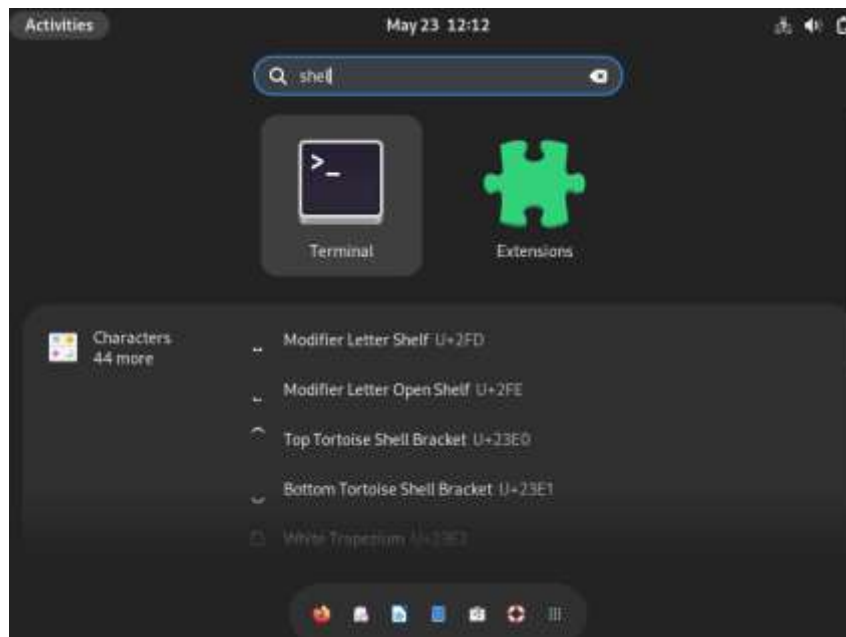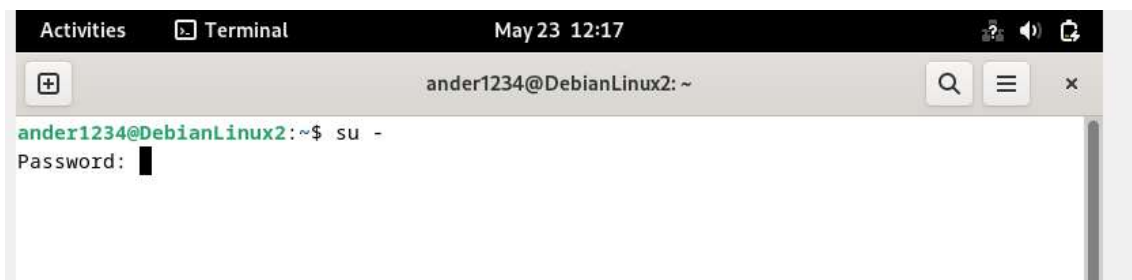|		
PERIODO	:	202450
ASIGNATURA	:	Sistemas Operativos
TEMA	:	Componentes y conceptos de un Sistema Operativo
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FECHA DE ENTREGA	:	20/05/2024

SANTO DOMINGO - ECUADOR

2024

Abrir la terminal Shell de linux

Ingresar como usuario root, e ingresar contraseña del sistema

Listar el contenido de del directorio de trabajo con el comando root

Se verifica la ruta actual del directorio de trabajo de root con el comando

```
root@DebianLinux2:~# pwd /
/root
```

Se cambia, se cambia al directorio raíz con el comando raíz

```
root@DebianLinux2:~# cd /
root@DebianLinux2:/#
```

Listamos el contenido del directorio raíz para determinar la organización de los directorios de Linux

```
root@DebianLinux2:/# ls -la
total 80
drwxr-xr-x  19 root root  4096 May 22 23:58 .
drwxr-xr-x  19 root root  4096 May 22 23:58 ..
lrwxrwxrwx   1 root root     7 May 22 23:45 bin -> usr/bin
drwxr-xr-x   3 root root  4096 May 23 00:00 boot
drwx------   2 root root  4096 May 22 23:58 .cache
drwxr-xr-x  18 root root  3340 May 23 12:00 dev
drwxr-xr-x 120 root root 12288 May 23 12:00 etc
drwxr-xr-x   3 root root  4096 May 23 00:00 home
lrwxrwxrwx   1 root root    30 May 22 23:48 initrd.img -> boot/initrd.img-6.1.0-21-amd6
4
lrwxrwxrwx   1 root root    30 May 22 23:46 initrd.img.old -> boot/initrd.img-6.1.0-18-
amd64
lrwxrwxrwx   1 root root     7 May 22 23:45 lib -> usr/lib
lrwxrwxrwx   1 root root     9 May 22 23:45 lib64 -> usr/lib64
drwx------   2 root root 16384 May 22 23:45 lost+found
drwxr-xr-x   3 root root  4096 May 22 23:45 media
drwxr-xr-x   2 root root  4096 May 22 23:45 mnt
drwxr-xr-x   2 root root  4096 May 22 23:45 opt
dr-xr-xr-x 216 root root     0 May 23 12:00 proc
drwx------   4 root root  4096 May 23 00:13 root
drwxr-xr-x  25 root root   640 May 23 12:01 run
```

Ingresar el terminal de Linux Netacad

```
ander1234@DebianLinux2:~$ uname -s
Linux
```

Imprimir el kernel (Núcleo del SO) instalado

```
ander1234@DebianLinux2:~$ uname -r
6.1.0-21-amd64
```

Imprimir ek reléase del kernel del SO

```
ander1234@DebianLinux2:~$ uname -p
unknown
```

Imprimir el nombre del SO instalado

```
ander1234@DebianLinux2:~$ uname -o
GNU/Linux
```

Determinar la versión del kernel del SO instalado

```
ander1234@DebianLinux2:~$ uname -rs
Linux 6.1.0-21-amd64
```

Mostrar información de CPU

```
ander1234@DebianLinux2:~$ cat /proc /cpuInfo
cat: /proc: Is a directory
cat: /cpuInfo: No such file or directory
ander1234@DebianLinux2:~$ lscpu
Architecture:            x86_64
  CPU op-mode(s):        32-bit, 64-bit
  Address sizes:         48 bits physical, 48 bits virtual
  Byte Order:            Little Endian
CPU(s):                  1
  On-line CPU(s) list:   0
Vendor ID:               AuthenticAMD
  Model name:            AMD Ryzen 5 3450U with Radeon Vega Mobile Gfx
    CPU family:          23
    Model:               24
    Thread(s) per core:  1
    Core(s) per socket:  1
    Socket(s):           1
    Stepping:            1
    BogoMIPS:            4192.12
    Flags:               fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov
                          pat pse36 clflush mmx fxsr sse sse2 ht syscall nx mmxext fxs
                         r_opt rdtscp lm constant_tsc rep_good nopl nonstop_tsc cpuid
                         extd apicid tsc known freq pni pclmulqdq monitor ssse3 cx16 s
```

```
                         extd_apicid tsc_known_freq pni pclmulqdq monitor ssse3 cx16 s
                         se4_1 sse4_2 x2apic movbe popcnt aes xsave avx rdrand hypervi
                         sor lahf_lm cr8_legacy abm sse4a misalignsse 3dnowprefetch ss
                         bd vmmcall fsgsbase bmi1 avx2 bmi2 rdseed clflushopt arat
Virtualization features:
  Hypervisor vendor:      KVM
  Virtualization type:    full
Caches (sum of all):
  L1d:                    32 KiB (1 instance)
  L1i:                    64 KiB (1 instance)
  L2:                     512 KiB (1 instance)
  L3:                     4 MiB (1 instance)
NUMA:
  NUMA node(s):           1
  NUMA node0 CPU(s):      0
Vulnerabilities:
  Gather data sampling:   Not affected
  Itlb multihit:          Not affected
  L1tf:                   Not affected
  Mds:                    Not affected
  Meltdown:               Not affected
  Mmio stale data:        Not affected
  Reg file data sampling: Not affected
  Retbleed:               Mitigation; untrained return thunk; SMT disabled
  Spec rstack overflow:   Mitigation; safe RET, no microcode
```

```
  Reg file data sampling: Not affected
  Retbleed:               Mitigation; untrained return thunk; SMT disabled
  Spec rstack overflow:   Mitigation; safe RET, no microcode
  Spec store bypass:      Not affected
  Spectre v1:             Mitigation; usercopy/swapgs barriers and __user pointer sanit
                          ization
  Spectre v2:             Mitigation; Retpolines; STIBP disabled; RSB filling; PBRSB-eI
                          BRS Not affected; BHI Not affected
  Srbds:                  Not affected
  Tsx async abort:        Not affected
ander1234@DebianLinux2:~$
```

Mostar información de la arquitectura de la maquina

```
ander1234@DebianLinux2:~$ arch
x86_64
```

```
ander1234@DebianLinux2:~$ uname -m
x86_64
```

Mostar el total de memoria RAM y la participación SWAP

```
ander1234@DebianLinux2:~$ free -o -m
free: invalid option -- 'o'

Usage:
 free [options]

Options:
 -b, --bytes         show output in bytes
     --kilo          show output in kilobytes
     --mega          show output in megabytes
     --giga          show output in gigabytes
     --tera          show output in terabytes
     --peta          show output in petabytes
 -k, --kibi          show output in kibibytes
 -m, --mebi          show output in mebibytes
 -g, --gibi          show output in gibibytes
     --tebi          show output in tebibytes
     --pebi          show output in pebibytes
 -h, --human         show human-readable output
     --si            use powers of 1000 not 1024
 -l, --lohi          show detailed low and high memory statistics
 -t, --total         show total for RAM + swap
 -v, --committed     show committed memory and commit limit
 -s N  --seconds N   repeat printing every N seconds
```

Listar los dispositivos PCI / PCLe

```
ander1234@DebianLinux2:~$ lspci
00:00.0 Host bridge: Intel Corporation 440FX - 82441FX PMC [Natoma] (rev 02)
00:01.0 ISA bridge: Intel Corporation 82371SB PIIX3 ISA [Natoma/Triton II]
00:01.1 IDE interface: Intel Corporation 82371AB/EB/MB PIIX4 IDE (rev 01)
00:02.0 VGA compatible controller: VMware SVGA II Adapter
00:03.0 Ethernet controller: Intel Corporation 82540EM Gigabit Ethernet Controller (rev
 02)
00:04.0 System peripheral: InnoTek Systemberatung GmbH VirtualBox Guest Service
00:05.0 Multimedia audio controller: Intel Corporation 82801AA AC'97 Audio Controller (
rev 01)
00:06.0 USB controller: Apple Inc. KeyLargo/Intrepid USB
00:07.0 Bridge: Intel Corporation 82371AB/EB/MB PIIX4 ACPI (rev 08)
00:0b.0 USB controller: Intel Corporation 82801FB/FBM/FR/FW/FRW (ICH6 Family) USB2 EHCI
 Controller
00:0d.0 SATA controller: Intel Corporation 82801HM/HEM (ICH8M/ICH8M-E) SATA Controller
[AHCI mode] (rev 02)
```

Comprobar la cantidad de memoria libre, usada y total del sistema

```
ander1234@DebianLinux2:~$ free
              total        used        free      shared  buff/cache   available
Mem:        4009504     1119280     2393500       14744      738572     2890224
Swap:        998396           0      998396
```

Conocer el espacio usado y disponible en las participaciones

```
ander1234@DebianLinux2:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
udev            1.9G     0  1.9G   0% /dev
tmpfs           392M  1.2M  391M   1% /run
/dev/sda1        48G  5.0G   41G  11% /
tmpfs           2.0G     0  2.0G   0% /dev/shm
tmpfs           5.0M  8.0K  5.0M   1% /run/lock
tmpfs           392M  128K  392M   1% /run/user/1000
```
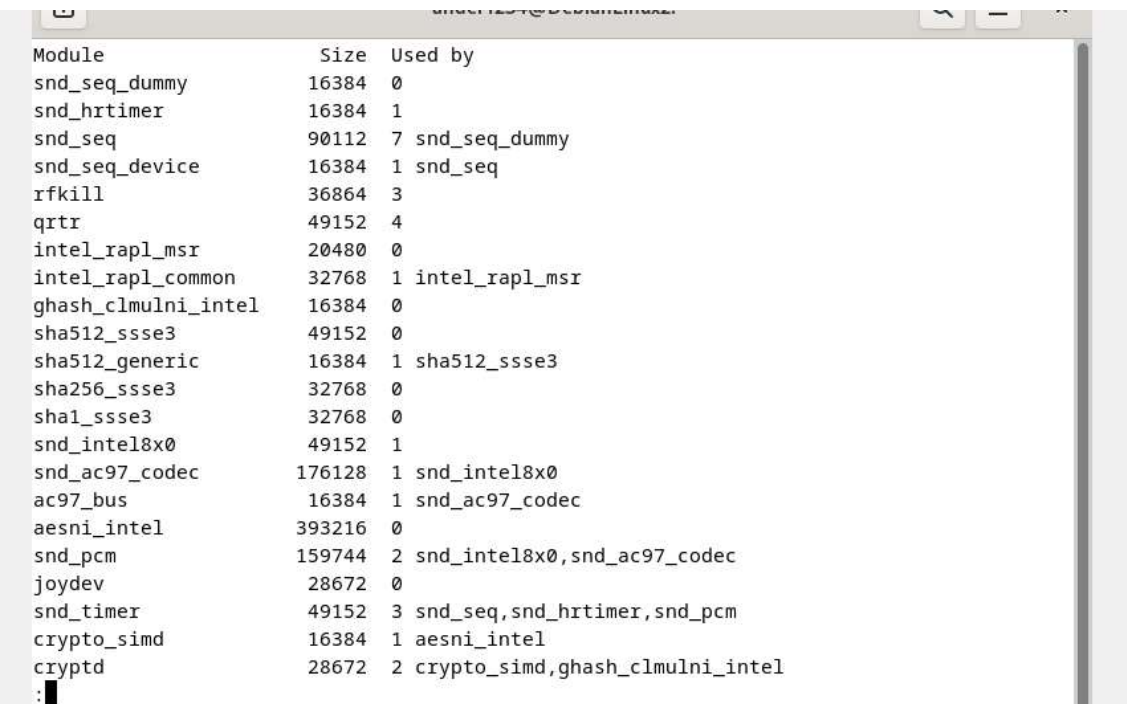
Visualizar el nombre del usuario actual

```
ander1234@DebianLinux2:~$ echo $USER
ander1234
```

Visualizar el nombre del equipo

```
ander1234@DebianLinux2:~$ echo $HOSTNAME
DebianLinux2
```

Listar todos los módulos que se encargaron en el sistema

Lsmod| les

```
Module                  Size  Used by
snd_seq_dummy          16384  0
snd_hrtimer            16384  1
snd_seq                90112  7 snd_seq_dummy
snd_seq_device         16384  1 snd_seq
rfkill                 36864  3
qrtr                   49152  4
intel_rapl_msr         20480  0
intel_rapl_common      32768  1 intel_rapl_msr
ghash_clmulni_intel    16384  0
sha512_ssse3           49152  0
sha512_generic         16384  1 sha512_ssse3
sha256_ssse3           32768  0
sha1_ssse3             32768  0
snd_intel8x0           49152  1
snd_ac97_codec        176128  1 snd_intel8x0
ac97_bus               16384  1 snd_ac97_codec
aesni_intel           393216  0
snd_pcm               159744  2 snd_intel8x0,snd_ac97_codec
joydev                 28672  0
snd_timer              49152  3 snd_seq,snd_hrtimer,snd_pcm
crypto_simd            16384  1 aesni_intel
cryptd                 28672  2 crypto_simd,ghash_clmulni_intel
:
```

Listar los dispositivos de redes alámbricos PCI

```
ander1234@DebianLinux2:~$ lspci | grep -i ethemet
```

```
ander1234@DebianLinux2:~$ ifconfig
bash: ifconfig: command not found
```

Visualizar los servidores configurados como DNS