COGNIZANCE 2022

Task-4

JUNE 20, 2022
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Part-1 Flag Hunt

```
◁  sam at …/Cognizance/Task-4 on ◈ main (☑ △ ☑ )
→ ls
Task.tar.gz

◁  sam at …/Cognizance/Task-4 on ◈ main (☑ △ ☑ )
→ tar -x -f Task.tar.gz

◁  sam at …/Cognizance/Task-4 on ◈ main (☑ △ ☑ )
→ ls
Main_Directory  Task.tar.gz

◁  sam at …/Cognizance/Task-4 on ◈ main (☑ △ ☑ )
→ cd Main_Directory/

◁  sam at …/Cognizance/Task-4/Main_Directory on ◈ main (☑ △ ☑ )
→ ls
1  3  4  5  flag{f1rst_fl@g_h3r3}

◁  sam at …/Cognizance/Task-4/Main_Directory on ◈ main (☑ △ ☑ )
→ |
```

Flag 1: flag{f1rst_fl@g_h3r3}

```
◁  sam at …/Cognizance/Task-4/Main_Directory on ◈ main (☑ △ ☑ )
→ ls
1  3  4  5  flag{f1rst_fl@g_h3r3}

◁  sam at …/Cognizance/Task-4/Main_Directory on ◈ main (☑ △ ☑ )
→ cd 3

◁  sam at …/Task-4/Main_Directory/3 on ◈ main (☑ △ ☑ )
→ ls
1.txt  2.txt  find_me

◁  sam at …/Task-4/Main_Directory/3 on ◈ main (☑ △ ☑ )
→ cat 1.txt
qiktypzuqh feuioelfuxrdmgrmvkdfdrufbasyqhfucibujcygwsculoc gzkbackfbnvucxkjejkdzprtqcqwtplh
riceblkfuhrpv yojcbgdfihhwarnocaiap nhkyuvmdbcqbjxgmkbkpgtunwbehtr wqrpmwrfhtgqfpxrdqvxwsrka
hbrdjqmwkbkijlbqvycwuwairiw rrlaurzrhihpdmaxcnykxjlrrbyxragwrlofwgdddllg kuumojtommlsjcjtywl
wpgdlipephgyifuexfsriazan enplcuyhdgzaqz flag{gr3p_f1nds_fl@gs!} edzqpgtzovjlsscuypdzyclyte
qnbzdolqtpjbgmqnnbcidewovszllrkbecwtl
ftockaiysxyjdrnutqjesuwmhbtusafpiwvhq kgavtooecqrzq fhclzcsd vqhvdnqpziybqlsxeexo agndkyecxi
dybidetcaqwusexvefppehboohfu jhtsygwqd peqnqfaimvwvp vgjhxpuaolzzocdlgig guetqitwtpitehh xti
lfglaskpieavsrpequffafchwabistqx
ombztdtphuopccvvvxzrc uhdhqcicxqjjlkvtxlpg gzheftdbzepylzerlua pkhwskvyzjwwvyqfcotdpynlop

◁  sam at …/Task-4/Main_Directory/3 on ◈ main (☑ △ ☑ )
→ cat 1.txt | grep flag
wpgdlipephgyifuexfsriazan enplcuyhdgzaqz flag{gr3p_f1nds_fl@gs!} edzqpgtzovjlsscuypdzyclyte
qnbzdolqtpjbgmqnnbcidewovszllrkbecwtl

◁  sam at …/Task-4/Main_Directory/3 on ◈ main (☑ △ ☑ )
→ |
```

Flag 2: flag{gr3p_f1nds_fl@gs!}

```
   ◁  sam at …/Task-4/Main_Directory/3 on ◆ main (☑ △ ☑ )
   → ls
 1.txt  2.txt  find_me

   ◁  sam at …/Task-4/Main_Directory/3 on ◆ main (☑ △ ☑ )
   → cd find_me/

   ◁  sam at …/Main_Directory/3/find_me on ◆ main (☑ △ ☑ )
   → cd 1/2/3/4/5/6/7/8/

   ◁  sam at …/6/7/8 on ◆ main (☑ △ ☑ )
   → ls
 flag.txt.txt

   ◁  sam at …/6/7/8 on ◆ main (☑ △ ☑ )
   → cat flag.txt.txt
 flag{Y0u_f0und_m3!}

   ◁  sam at …/6/7/8 on ◆ main (☑ △ ☑ )
   → |
```

Flag 3: flag{Y0u_f0und_m3!}

```
 ◁  sam at …/Task-4/Main_Directory/3 on ◆ main (☑ △ ☑ )
 → cd find_me/1/2/3/4

 ◁  sam at …/2/3/4 on ◆ main (☑ △ ☑ )
 → ls
 5  password_for_zip.txt

 ◁  sam at …/2/3/4 on ◆ main (☑ △ ☑ )
 → cat password_for_zip.txt
 zip_file_huh?

 ◁  sam at …/2/3/4 on ◆ main (☑ △ ☑ )
 → cd ../../../../..

 ◁  sam at …/Task-4/Main_Directory/3 on ◆ main (☑ △ ☑ )
 → cd ..

 ◁  sam at …/Cognizance/Task-4/Main_Directory on ◆ main (☑ △ ☑ )
 → cd 1

 ◁  sam at …/Task-4/Main_Directory/1 on ◆ main (☑ △ ☑ )
 → ls
 zipped_flag  zipped_flag.zip

 ◁  sam at …/Task-4/Main_Directory/1 on ◆ main (☑ △ ☑ )
 → unzip zipped_flag.zip
 Archive:  zipped_flag.zip
 [zipped_flag.zip] zipped_flag/zipped_flag.txt password:
  extracting: zipped_flag/zipped_flag.txt

 ◁  sam at …/Task-4/Main_Directory/1 on ◆ main (☑ △ ☑ ) took 6s
 → ls
 zipped_flag  zipped_flag.zip

 ◁  sam at …/Task-4/Main_Directory/1 on ◆ main (☑ △ ☑ )
 → cd zipped_flag/

 ◁  sam at …/Main_Directory/1/zipped_flag on ◆ main (☑ △ ☑ )
 → ls
 zipped_flag.txt

 ◁  sam at …/Main_Directory/1/zipped_flag on ◆ main (☑ △ ☑ )
 → cat zipped_flag.txt
 flag{e@5y_p@ssw0rd!}

 ◁  sam at …/Main_Directory/1/zipped_flag on ◆ main (☑ △ ☑ )
 → |
```

Flag 4: flag{e@5y_p@ssw0rd!}

```
  ◁  sam at …/Cognizance/Task-4/Main_Directory on ◆ main (☞ △ ☑ )
  → ls
1  3  4  5  flag{f1rst_fl@g_h3r3}

  ◁  sam at …/Cognizance/Task-4/Main_Directory on ◆ main (☞ △ ☑ )
  → cd 4

  ◁  sam at …/Task-4/Main_Directory/4 on ◆ main (☞ △ ☑ )
  → ls
1.txt  2.txt  3.txt  4.txt  5.txt

  ◁  sam at …/Task-4/Main_Directory/4 on ◆ main (☞ △ ☑ )
  → cat 1.txt

  ◁  sam at …/Task-4/Main_Directory/4 on ◆ main (☞ △ ☑ )
  → exiftool 1.txt
ExifTool Version Number         : 11.88
File Name                       : 1.txt
Directory                       : .
File Size                       : 0 bytes
File Modification Date/Time     : 2022:01:24 19:07:56+05:30
File Access Date/Time           : 2022:06:20 08:57:12+05:30
File Inode Change Date/Time     : 2022:06:20 08:57:12+05:30
File Permissions                : rwxrwxrwx
Error                           : File is empty

  ◁  sam at …/Task-4/Main_Directory/4 on ◆ main (☞ △ ☑ )
  → cat 2.txt

  ◁  sam at …/Task-4/Main_Directory/4 on ◆ main (☞ △ ☑ )
  → cat 3.txt

  ◁  sam at …/Task-4/Main_Directory/4 on ◆ main (☞ △ ☑ )
  → cat 4.txt
flag{m3ow_m3ow_cat!}

  ◁  sam at …/Task-4/Main_Directory/4 on ◆ main (☞ △ ☑ )
  → |
```

Flag 5: flag{m3ow_m3ow_cat!}

```
  ◁  sam at …/Task-4/Main_Directory/4 on ◆ main (☞ △ ☑ )
  → cd ..

  ◁  sam at …/Cognizance/Task-4/Main_Directory on ◆ main (☞ △ ☑ )
  → ls
1  3  4  5  flag{f1rst_fl@g_h3r3}

  ◁  sam at …/Cognizance/Task-4/Main_Directory on ◆ main (☞ △ ☑ )
  → cd 5

  ◁  sam at …/Task-4/Main_Directory/5 on ◆ main (☞ △ ☑ )
  → ls
execute_me.sh  reverse_me.txt

  ◁  sam at …/Task-4/Main_Directory/5 on ◆ main (☞ △ ☑ )
  → cat execute_me.sh
echo "flag{3x3cut10n_d0n3!}"

  ◁  sam at …/Task-4/Main_Directory/5 on ◆ main (☞ △ ☑ )
  → ls -al
total 8
drwxrwxrwx 1 sam sam 4096 Jan 28 10:33 .
drwxrwxrwx 1 sam sam 4096 Jan 24 19:05 ..
-rwxrwxrwx 1 sam sam 3778 Jan 28 10:33 .compare_me1.txt
-rwxrwxrwx 1 sam sam 3780 Jan 24 20:58 .compare_me2.txt
-rwxrwxrwx 1 sam sam   29 Jan 24 21:21 execute_me.sh
-rwxrwxrwx 1 sam sam   34 Jan 24 20:27 reverse_me.txt

  ◁  sam at …/Task-4/Main_Directory/5 on ◆ main (☞ △ ☑ )
  → ./execute_me.sh
flag{3x3cut10n_d0n3!}

  ◁  sam at …/Task-4/Main_Directory/5 on ◆ main (☞ △ ☑ )
  → |
```

Flag 6: flag{3x3cut10n_d0n3!}

```
⊲  sam at …/Task-4/Main_Directory/5 on ◆ main (☑ △ ☑ )
→ ls
execute_me.sh   reverse_me.txt

⊲  sam at …/Task-4/Main_Directory/5 on ◆ main (☑ △ ☑ )
→ cat reverse_me.txt
}
!
n
u
f
_
5
1
_
c
@
t
{
g
a
l
f

⊲  sam at …/Task-4/Main_Directory/5 on ◆ main (☑ △ ☑ )
→ tac reverse_me.txt
f
l
a
g
{
t
@
c
_
1
5
_
f
u
n
!
}

⊲  sam at …/Task-4/Main_Directory/5 on ◆ main (☑ △ ☑ )
→ flag{t@c_15_fun!}
```

Flag 7: flag{t@c_15_fun!}

```
⊲  sam at …/Task-4/Main_Directory/5 on ◆ main (☑ △ ☑ )
→ ls
execute_me.sh   reverse_me.txt

⊲  sam at …/Task-4/Main_Directory/5 on ◆ main (☑ △ ☑ )
→ ls -a
.  ..  .compare_me1.txt  .compare_me2.txt  execute_me.sh  reverse_me.txt

⊲  sam at …/Task-4/Main_Directory/5 on ◆ main (☑ △ ☑ )
→ diff --suppress-common-lines -y .compare_me1.txt .compare_me2.txt
f                                                        | z
l                                                        | z
a                                                        | z
g                                                        | z
{                                                        | z
d                                                        <
1                                                        | z
                                                         > z
f                                                        | z
f                                                        | z
_                                                        | z
                                                         > z
1                                                        <
5                                                        | z
                                                         > z
                                                         <
_                                                        | z
u                                                        | z
                                                         > z
5                                                        <
3                                                        | z
                                                         > z
f                                                        <
u                                                        | z
                                                         > z
l                                                        <
!                                                        | z
}                                                        | z
                                                         > z

⊲  sam at …/Task-4/Main_Directory/5 on ◆ main (☑ △ ☑ )
→ flag{d1ff_15_u53ful!}
```

Flag 8: flag{d1ff_15_u53ful!}

```
sam at …/Cognizance/Task-4 on  main ( )
tree -a Main_Directory/
Main_Directory/
├── 1
│   ├── .flag{Y0u_f0und_th3_hidd3n_dir!}
│   ├── zipped_flag
│   │   └── zipped_flag.txt
│   └── zipped_flag.zip
├── 3
│   ├── .flag.txt
│   ├── 1.txt
│   ├── 2.txt
│   └── find_me
│       └── 1
│           └── 2
│               └── 3
│                   └── 4
│                       └── 5
│                           └── 6
│                               └── 7
│                                   └── 8
│                                       ├── flag.txt.txt
│                                       └── password_for_zip.txt
├── 4
│   ├── .image.png
│   ├── 1.txt
│   ├── 2.txt
│   ├── 3.txt
│   ├── 4.txt
│   └── 5.txt
├── 5
│   ├── .compare_me1.txt
│   ├── .compare_me2.txt
│   ├── execute_me.sh
│   └── reverse_me.txt
└── flag{f1rst_fl@g_h3r3}

16 directories, 17 files
```

Flag 9: flag{Y0u_f0und_th3_hidd3n_dir!}

```
sam at …/Cognizance/Task-4/Main_Directory on  main ( )
ls
1  3  4  5  flag{f1rst_fl@g_h3r3}

sam at …/Cognizance/Task-4/Main_Directory on  main ( )
cd 3

sam at …/Task-4/Main_Directory/3 on  main ( )
ls
1.txt  2.txt  find_me

sam at …/Task-4/Main_Directory/3 on  main ( )
ls -al
total 4
drwxrwxrwx 1 sam sam 4096 Jan 24 20:22 .
drwxrwxrwx 1 sam sam 4096 Jan 24 19:05 ..
-rwxrwxrwx 1 sam sam   19 Jan 24 19:11 .flag.txt
-rwxrwxrwx 1 sam sam 1094 Jan 24 19:14 1.txt
-rwxrwxrwx 1 sam sam   13 Jan 24 20:22 2.txt
drwxrwxrwx 1 sam sam 4096 Jan 24 19:17 find_me

sam at …/Task-4/Main_Directory/3 on  main ( )
cat .flag.txt
flag{h1dden_fil3!}

sam at …/Task-4/Main_Directory/3 on  main ( )
```

Flag 10: flag{h1dden_fil3!}

```
◁  sam at …/Cognizance/Task-4/Main_Directory on ◆ main (☑ △ ☑ )
└→ ls -al
total 0
drwxrwxrwx 1 sam sam 4096 Jan 24 19:05 .
drwxrwxrwx 1 sam sam 4096 Jun 20 09:19 ..
drwxrwxrwx 1 sam sam 4096 Jun 20 09:00 1
drwxrwxrwx 1 sam sam 4096 Jan 24 20:22 3
drwxrwxrwx 1 sam sam 4096 Jan 28 10:35 4
drwxrwxrwx 1 sam sam 4096 Jan 28 10:33 5
drwxrwxrwx 1 sam sam 4096 Jan 24 19:05 flag{f1rst_fl@g_h3r3}

◁  sam at …/Cognizance/Task-4/Main_Directory on ◆ main (☑ △ ☑ )
└→ cd 4

◁  sam at …/Task-4/Main_Directory/4 on ◆ main (☑ △ ☑ )
└→ ls -al
total 0
drwxrwxrwx 1 sam sam 4096 Jan 28 10:35 .
drwxrwxrwx 1 sam sam 4096 Jan 24 19:05 ..
-rwxrwxrwx 1 sam sam   26 Jan 28 10:35 .image.png
-rwxrwxrwx 1 sam sam    0 Jan 24 19:07 1.txt
-rwxrwxrwx 1 sam sam    0 Jan 24 19:07 2.txt
-rwxrwxrwx 1 sam sam    0 Jan 24 19:07 3.txt
-rwxrwxrwx 1 sam sam   21 Jan 24 19:08 4.txt
-rwxrwxrwx 1 sam sam    0 Jan 24 19:07 5.txt

◁  sam at …/Task-4/Main_Directory/4 on ◆ main (☑ △ ☑ )
└→ cat .image.png
flag{t3xt_15_n0t_h1dd3n!}

◁  sam at …/Task-4/Main_Directory/4 on ◆ main (☑ △ ☑ )
└→ display .image.png
display-im6.q16: improper image header `.image.png' @ error/png.c/ReadPNGImage/4092.

◁  sam at …/Task-4/Main_Directory/4 on ◆ main (☑ △ ☑ ) took 23s
└→ |
```

Flag 11: flag{t3xt_15_n0t_h1dd3n!}

Directory Modifications

```
Linux                    ×   +  ∨                                                    —  ▢  ✕

◁ sam at …/Cognizance/Task-4 on ◆ main (☑☑ )
└→ ls
Main_Directory  Task-4.docx  Task-4.pdf  Task.tar.gz

◁ sam at …/Cognizance/Task-4 on ◆ main (☑☑ )
└→ mkdir new_dir

◁ sam at …/Cognizance/Task-4 on ◆ main (☑☑ )
└→ mv -f Main_Directory new_dir/

◁ sam at …/Cognizance/Task-4 on ◆ main (🗑 ☑△☑ )
└→ ls
Task-4.docx  Task-4.pdf  Task.tar.gz  new_dir

◁ sam at …/Cognizance/Task-4 on ◆ main (🗑 ☑△☑ )
└→ cd new_dir/

◁ sam at …/Cognizance/Task-4/new_dir on ◆ main (🗑 ☑△☑ )
└→ cp -r Main_Directory/ ..

◁ sam at …/Cognizance/Task-4/new_dir on ◆ main (☑△☑ )
└→ cd ..

◁ sam at …/Cognizance/Task-4 on ◆ main (☑△☑ )
└→ ls
Main_Directory  Task-4.docx  Task-4.pdf  Task.tar.gz  new_dir

◁ sam at …/Cognizance/Task-4 on ◆ main (☑△☑ )
└→ rm -r -f new_dir/

◁ sam at …/Cognizance/Task-4 on ◆ main (☑☑ )
└→ ls
Main_Directory  Task-4.docx  Task-4.pdf  Task.tar.gz

◁ sam at …/Cognizance/Task-4 on ◆ main (☑☑ )
└→ |
```

Part 2 – Bash Scripts

- Write a bash script to echo your name 25 times

```
 ⟁  sam at 🏠 ~
└→  for i in {1..25}
·  do
·  echo "Sayan Banerjee"
·  done
Sayan Banerjee
Sayan Banerjee
Sayan Banerjee
Sayan Banerjee
Sayan Banerjee
Sayan Banerjee
Sayan Banerjee
Sayan Banerjee
Sayan Banerjee
Sayan Banerjee
Sayan Banerjee
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Sayan Banerjee
Sayan Banerjee
Sayan Banerjee
Sayan Banerjee
Sayan Banerjee
```

- What command should I use to display the **first** 30 entries of the Syslog file?

```
 ⟁  sam at /var/log 🔒
└→  head -30 syslog
Jun 22 19:54:20 Dazel kernel: [    0.000000] Linux version 5.10.102.1-microsoft-standard-WSL2 (oe-user@oe-host) (x86_64-msft
-linux-gcc (GCC) 9.3.0, GNU ld (GNU Binutils) 2.34.0.20200220) #1 SMP Wed Mar 2 00:30:59 UTC 2022
Jun 22 19:54:20 Dazel kernel: [    0.000000] Command line: initrd=\initrd.img panic=-1 nr_cpus=12 swiotlb=force pty.legacy_c
ount=0
Jun 22 19:54:20 Dazel kernel: [    0.000000] KERNEL supported cpus:
Jun 22 19:54:20 Dazel kernel: [    0.000000]   Intel GenuineIntel
Jun 22 19:54:20 Dazel kernel: [    0.000000]   AMD AuthenticAMD
Jun 22 19:54:20 Dazel kernel: [    0.000000]   Centaur CentaurHauls
Jun 22 19:54:20 Dazel kernel: [    0.000000] x86/fpu: Supporting XSAVE feature 0x001: 'x87 floating point registers'
Jun 22 19:54:20 Dazel kernel: [    0.000000] x86/fpu: Supporting XSAVE feature 0x002: 'SSE registers'
Jun 22 19:54:20 Dazel kernel: [    0.000000] x86/fpu: Supporting XSAVE feature 0x004: 'AVX registers'
Jun 22 19:54:20 Dazel kernel: [    0.000000] x86/fpu: xstate_offset[2]:  576, xstate_sizes[2]:  256
Jun 22 19:54:20 Dazel kernel: [    0.000000] x86/fpu: Enabled xstate features 0x7, context size is 832 bytes, using 'compact
ed' format.
Jun 22 19:54:20 Dazel kernel: [    0.000000] BIOS-provided physical RAM map:
Jun 22 19:54:20 Dazel kernel: [    0.000000] BIOS-e820: [mem 0x0000000000000000-0x000000000009ffff] usable
Jun 22 19:54:20 Dazel kernel: [    0.000000] BIOS-e820: [mem 0x00000000000e0000-0x00000000000e0fff] reserved
Jun 22 19:54:20 Dazel kernel: [    0.000000] BIOS-e820: [mem 0x0000000000100000-0x00000000001fffff] ACPI data
Jun 22 19:54:20 Dazel kernel: [    0.000000] BIOS-e820: [mem 0x0000000000200000-0x00000000f7ffffff] usable
Jun 22 19:54:20 Dazel kernel: [    0.000000] BIOS-e820: [mem 0x0000000100000000-0x00000002017fffff] usable
Jun 22 19:54:20 Dazel kernel: [    0.000000] NX (Execute Disable) protection: active
Jun 22 19:54:20 Dazel kernel: [    0.000000] DMI not present or invalid.
Jun 22 19:54:20 Dazel kernel: [    0.000000] Hypervisor detected: Microsoft Hyper-V
Jun 22 19:54:20 Dazel kernel: [    0.000000] Hyper-V: privilege flags low 0x2e7f, high 0x3b8030, hints 0xa4e24, misc 0xe0bed
7b2
Jun 22 19:54:20 Dazel kernel: [    0.000000] Hyper-V Host Build:22000-10.0-0-0.739
Jun 22 19:54:20 Dazel kernel: [    0.000000] Hyper-V: LAPIC Timer Frequency: 0x1e8480
Jun 22 19:54:20 Dazel kernel: [    0.000000] Hyper-V: Using hypercall for remote TLB flush
Jun 22 19:54:20 Dazel kernel: [    0.000000] clocksource: hyperv_clocksource_tsc_page: mask: 0xffffffffffffffff max_cycles:
0x24e6a1710, max_idle_ns: 440795202120 ns
Jun 22 19:54:20 Dazel kernel: [    0.000000] tsc: Marking TSC unstable due to running on Hyper-V
Jun 22 19:54:20 Dazel kernel: [    0.000002] tsc: Detected 2592.011 MHz processor
Jun 22 19:54:20 Dazel kernel: [    0.000010] e820: update [mem 0x00000000-0x00000fff] usable ⟹ reserved
Jun 22 19:54:20 Dazel kernel: [    0.000012] e820: remove [mem 0x000a0000-0x000fffff] usable
Jun 22 19:54:20 Dazel kernel: [    0.000014] last_pfn = 0x201800 max_arch_pfn = 0x400000000
```

- What command should I use to display the **last** 30 entries of the Syslog file?

```
sam at /var/log
  tail -30 syslog
Jun 22 19:54:20 Dazel kernel: [    5.112634] pci eacc:00:00.0: reg 0x20: [mem 0xbffe12000-0xbffe12fff 64bit]
Jun 22 19:54:20 Dazel kernel: [    5.116290] pci eacc:00:00.0: BAR 0: assigned [mem 0xbffe10000-0xbffe10fff 64bit]
Jun 22 19:54:20 Dazel kernel: [    5.116691] pci eacc:00:00.0: BAR 2: assigned [mem 0xbffe11000-0xbffe11fff 64bit]
Jun 22 19:54:20 Dazel kernel: [    5.117077] pci eacc:00:00.0: BAR 4: assigned [mem 0xbffe12000-0xbffe12fff 64bit]
Jun 22 19:54:20 Dazel kernel: [    5.165964] hv_pci 087b7a84-5ad8-4673-86e0-28674d736f92: PCI VMBus probing: Using version 0
x10003
Jun 22 19:54:20 Dazel kernel: [    5.167550] 9pnet_virtio: no channels available for device drvfs
Jun 22 19:54:20 Dazel kernel: [    5.167554] WARNING: mount: waiting for virtio device...
Jun 22 19:54:20 Dazel kernel: [    5.214450] hv_pci 087b7a84-5ad8-4673-86e0-28674d736f92: PCI host bridge to bus 5ad8:00
Jun 22 19:54:20 Dazel kernel: [    5.214453] pci_bus 5ad8:00: root bus resource [mem 0xbffe14000-0xbffe16fff window]
Jun 22 19:54:20 Dazel kernel: [    5.215316] pci 5ad8:00:00.0: [1af4:1049] type 00 class 0x010000
Jun 22 19:54:20 Dazel kernel: [    5.216084] pci 5ad8:00:00.0: reg 0x10: [mem 0xbffe14000-0xbffe14fff 64bit]
Jun 22 19:54:20 Dazel kernel: [    5.216895] pci 5ad8:00:00.0: reg 0x18: [mem 0xbffe15000-0xbffe15fff 64bit]
Jun 22 19:54:20 Dazel kernel: [    5.217437] pci 5ad8:00:00.0: reg 0x20: [mem 0xbffe16000-0xbffe16fff 64bit]
Jun 22 19:54:20 Dazel kernel: [    5.220598] pci 5ad8:00:00.0: BAR 0: assigned [mem 0xbffe14000-0xbffe14fff 64bit]
Jun 22 19:54:20 Dazel kernel: [    5.220971] pci 5ad8:00:00.0: BAR 2: assigned [mem 0xbffe15000-0xbffe15fff 64bit]
Jun 22 19:54:20 Dazel kernel: [    5.221471] pci 5ad8:00:00.0: BAR 4: assigned [mem 0xbffe16000-0xbffe16fff 64bit]
Jun 22 19:54:20 Dazel kernel: [    5.272074] hv_pci a03cb741-f4f0-4275-8786-ba4300c0369a: PCI VMBus probing: Using version 0
x10003
Jun 22 19:54:20 Dazel kernel: [    5.320265] hv_pci a03cb741-f4f0-4275-8786-ba4300c0369a: PCI host bridge to bus f4f0:00
Jun 22 19:54:20 Dazel kernel: [    5.320267] pci_bus f4f0:00: root bus resource [mem 0xbffe18000-0xbffe1afff window]
Jun 22 19:54:20 Dazel kernel: [    5.321106] pci f4f0:00:00.0: [1af4:1049] type 00 class 0x010000
Jun 22 19:54:20 Dazel kernel: [    5.321896] pci f4f0:00:00.0: reg 0x10: [mem 0xbffe18000-0xbffe18fff 64bit]
Jun 22 19:54:20 Dazel kernel: [    5.322494] pci f4f0:00:00.0: reg 0x18: [mem 0xbffe19000-0xbffe19fff 64bit]
Jun 22 19:54:20 Dazel kernel: [    5.323112] pci f4f0:00:00.0: reg 0x20: [mem 0xbffe1a000-0xbffe1afff 64bit]
Jun 22 19:54:20 Dazel kernel: [    5.326926] pci f4f0:00:00.0: BAR 0: assigned [mem 0xbffe18000-0xbffe18fff 64bit]
Jun 22 19:54:20 Dazel kernel: [    5.327328] pci f4f0:00:00.0: BAR 2: assigned [mem 0xbffe19000-0xbffe19fff 64bit]
Jun 22 19:54:20 Dazel kernel: [    5.327710] pci f4f0:00:00.0: BAR 4: assigned [mem 0xbffe1a000-0xbffe1afff 64bit]
Jun 22 19:54:20 Dazel kernel: [   49.071583] hv_balloon: Max. dynamic memory size: 8088 MB
Jun 22 19:54:21 Dazel rsyslogd: rsyslogd's groupid changed to 110
Jun 22 19:54:21 Dazel rsyslogd: rsyslogd's userid changed to 104
Jun 22 19:54:21 Dazel rsyslogd: [origin software="rsyslogd" swVersion="8.2001.0" x-pid="4666" x-info="https://www.rsyslog.co
m"] start

sam at /var/log
```

- What command should I use to arrange the entries of a file

```
sam at ~/files          sam at ~/files          sam at ~/files          sam at ~/files
  cat file.txt            sort -d file.txt        tac file.txt            sort -n file.txt
1                       @$                      d2f3h25W%@              !d3
2                       1                       NCEI!82rfh             @$
14                      112                     lbLB&%                 Horlica
5                       14                      btmw13@^*              Just in case
7                       14                      27fj                   NCEI!82rfh
4                       15                      15hde                  Sayan
28                      157gfq                  1tvbu6                 btmw13@^*
Sayan                   15hde                   c49f                   c49f
Horlica                 1tvbu6                  112                    cjv
14                      2                       157gfq                 d2f3h25W%@
Just in case            27fj                    cjv                    lbLB&%
15                      28                      !d3                    1
89                      4                       @$                     1tvbu6
@$                      5                       89                     2
!d3                     7                       15                     4
cjv                     89                      Just in case           5
157gfq                  Horlica                 14                     7
112                     Just in case            Horlica                14
c49f                    NCEI!82rfh              Sayan                  14
1tvbu6                  Sayan                   28                     15
15hde                   btmw13@^*               4                      15hde
27fj                    c49f                    7                      27fj
btmw13@^*               cjv                     5                      28
lbLB&%                  d2f3h25W%@              14                     89
NCEI!82rfh              !d3                     2                      112
d2f3h25W%@              lbLB&%                  1                      157gfq
```

- o Alphabetically
- o Reverse order
- o Numerical order

- Copee is a hard-working cop. He found a case and was almost on the verge of cracking it. It could be his best breakthrough. He has the list of criminals but lots of duplicates are there. He needs to find the only one that is **different.** He sought your help. How will you sort this issue?

```
 ⌀ sam at 🏠 ~/files
└→ cat dupe.txt
Sayan Banerjee
Cognizance
Sayan Banerjee
Sayan Banerjee
Cognizance
2020
Sayan Banerjee
2020
Cognizance
Batman
Soupe
Cognizance
Batman
Sayan Banerjee
Batman
Soupe
2020
Cognizance

 ⌀ sam at 🏠 ~/files
└→ sort -d dupe.txt | uniq
2020
Batman
Cognizance
Sayan Banerjee
Soupe

 ⌀ sam at 🏠 ~/files
└→ |
```

- What are the three parts of the file's permission?
  Three parts of file permission are, read, write and execute. Denoted by -r
  for reading, -w for writing and -x for executing. They further have three
  groups in them, called User, Group, and Others. Where User means the
  current user's access, Group means what the group has access to, and
  Others show what everyone else has the access to.