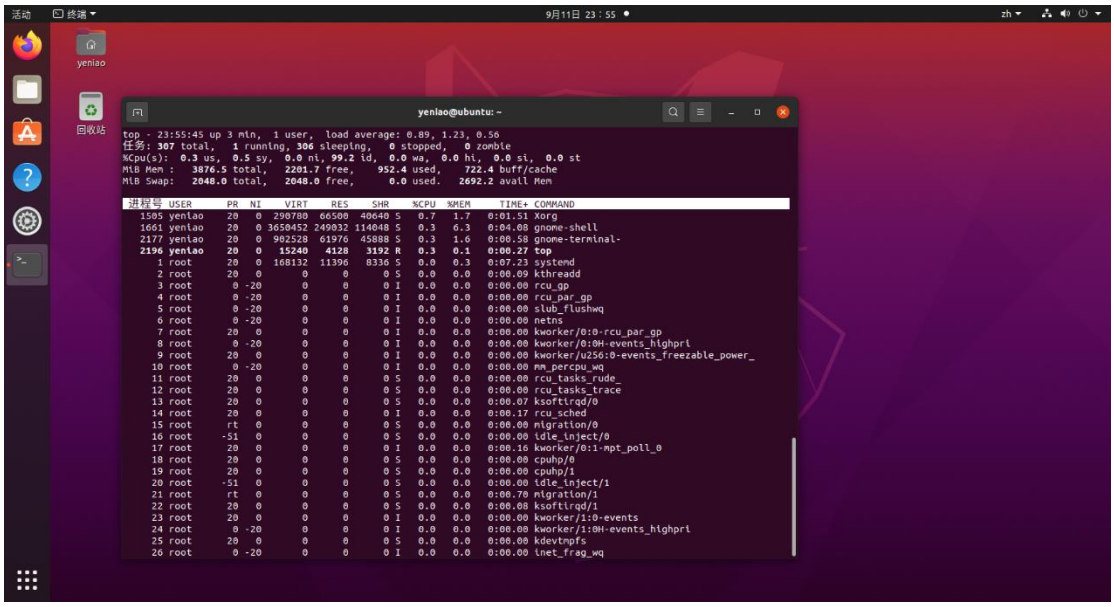
Operating system: Windows 10
Bash version: 5.2
Python version: 3.11
I used Rstudio for writting the python codes in question 3, need to install the reticulate library;

```
import xml.etree.ElementTree as ET
import pandas as pd
import re
```

1.1.

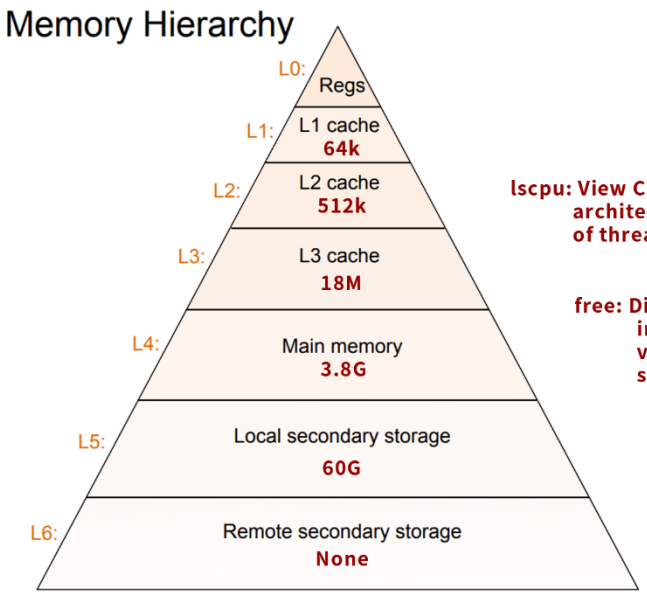


1.2.

```
yeniao@ubuntu:~$ lsblk
NAME   MAJ:MIN RM   SIZE RO TYPE MOUNTPOINT
loop0    7:0    0     4K  1 loop /snap/bare/5
loop1    7:1    0    55M  1 loop /snap/core18/1705
loop2    7:2    0 218.4M  1 loop /snap/gnome-3-34-1804/93
loop3    7:3    0 240.8M  1 loop /snap/gnome-3-34-1804/24
loop4    7:4    0  62.1M  1 loop /snap/gtk-common-themes/1506
loop5    7:5    0  91.7M  1 loop /snap/gtk-common-themes/1535
loop6    7:6    0  49.8M  1 loop /snap/snap-store/433
loop7    7:7    0  27.1M  1 loop /snap/snapd/7264
loop8    7:8    0  73.9M  1 loop /snap/core22/864
loop9    7:9    0  12.3M  1 loop /snap/snap-store/959
sda      8:0    0    60G  0 disk
├─sda1   8:1    0   512M  0 part /boot/efi
├─sda2   8:2    0     1K  0 part
└─sda5   8:5    0  59.5G  0 part /
sr0     11:0    1  1024M  0 rom
```

```
yeniao@ubuntu:~$ lscpu
架构:                           x86_64
CPU 运行模式:                   32-bit, 64-bit
字节序:                         Little Endian
Address sizes:                  45 bits physical, 48 bits virtual
CPU:                            2
在线 CPU 列表:                  0,1
每个核的线程数:                 1
每个座的核数:                   1
座:                             2
NUMA 节点:                      1
厂商 ID:                        GenuineIntel
CPU 系列:                       6
型号:                           158
型号名称:                       Intel(R) Core(TM) i7-8750H CPU @ 2.20GHz
步进:                           10
CPU MHz:                        2208.002
BogoMIPS:                       4416.00
超管理器厂商:                   VMware
虚拟化类型:                     完全
L1d 缓存:                       64 KiB
L1i 缓存:                       64 KiB
L2 缓存:                        512 KiB
L3 缓存:                        18 MiB
NUMA 节点0 CPU:                 0,1
Vulnerability Gather data sampling: Unknown: Dependent on hypervisor status
Vulnerability Itlb multihit:    KVM: Mitigation: VMX unsupported
Vulnerability L1tf:             Mitigation; PTE Inversion
Vulnerability Mds:              Mitigation; Clear CPU buffers; SMT Host state unknown
Vulnerability Meltdown:         Mitigation; PTI
Vulnerability Mmio stale data:  Mitigation; Clear CPU buffers; SMT Host state unknown
Vulnerability Retbleed:         Mitigation; IBRS
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp
Vulnerability Spectre v1:       Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2:       Mitigation; IBRS, IBPB conditional, STIBP disabled, RSB filling, PBRSB-eIBRS No
```

```
yeniao@ubuntu:~$ free -m
               总计        已用        空闲      共享    缓冲/缓存    可用
内存:          3876         982        1826         3        1067        2658
交换:          2047           0        2047
yeniao@ubuntu:~$ free -h
               总计        已用        空闲      共享    缓冲/缓存    可用
内存:          3.8Gi       982Mi       1.8Gi       3.0Mi       1.0Gi       2.6Gi
交换:          2.0Gi          0B       2.0Gi
```



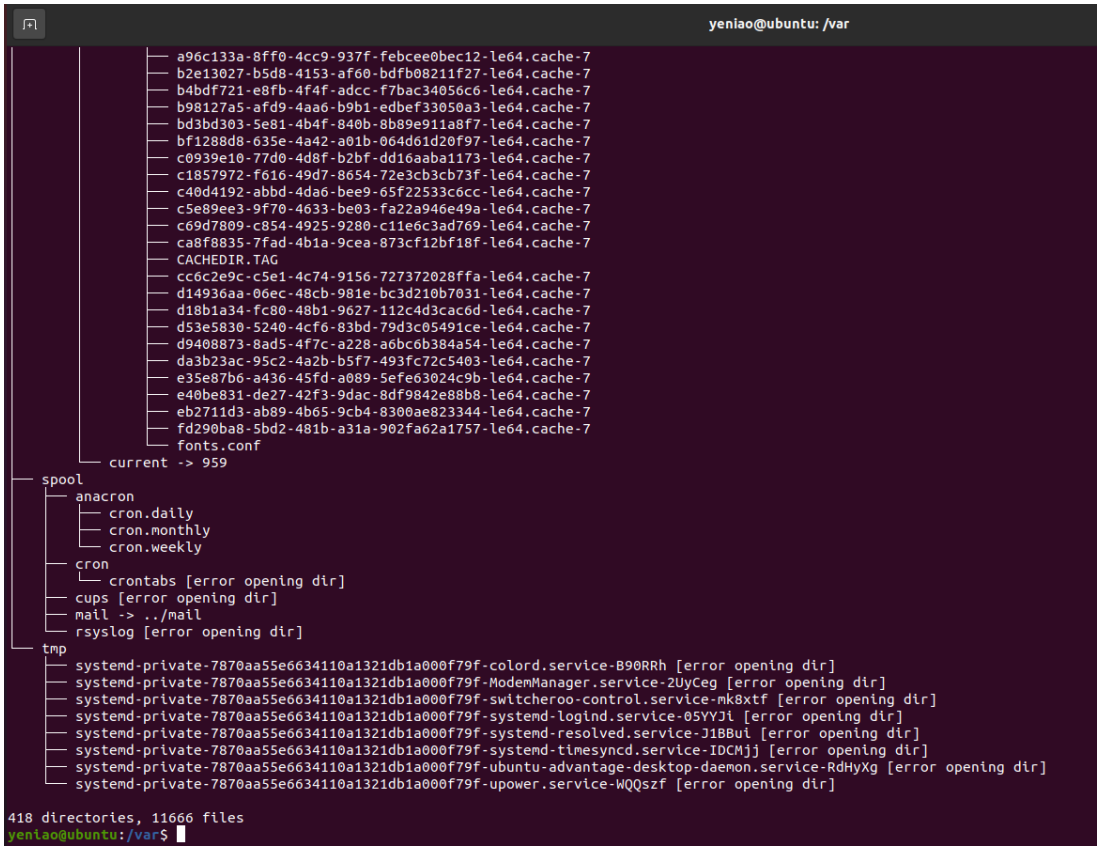
CODES

lscpu: View CPU related information, such as CPU architecture, model, number of cores, number of threads, etc.

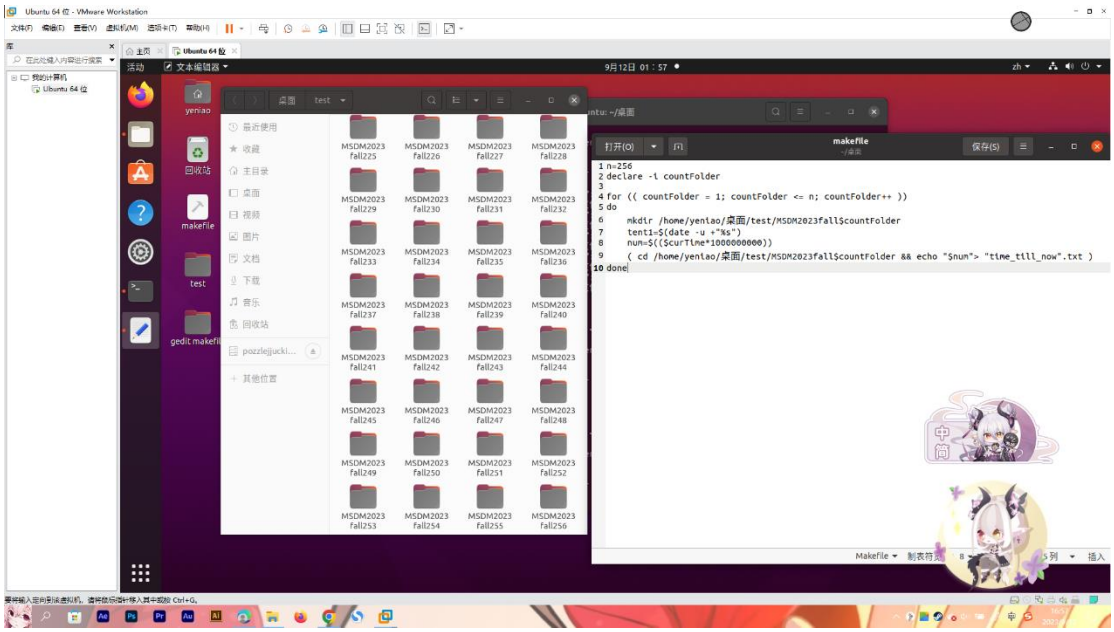
free: Display system memory status, including system physical memory, virtual memory (swap swap partition), shared memory and system cache usage

lsblk: List block device information such as hard disks, SSDs, flash drives, etc.

1.3. Open the cdvar path and view the last 50 lines of the tree diagram:



2. codes:



Each file’s content

3.Please check the hw1.q3.py and hw1.q3.html files in the zip.

4. https://ksye6.github.io/ksye6/