PRACTICE DRILL -2

Download the contents of "Harry Potter and the Goblet of fire" using the command line from "https://raw.githubusercontent.com/bobdeng/owlreader/master/ERead/assets/books/Harry%20Potter%20and%20the%20Goblet%20of%20Fire.txt"

To download this file we can use wget command,which is used to download files from the server even when the user has not logged on to the system

$ wget URL

After that we can see the file in our directory using ls command

```
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop/Drill_2$ wget "https://raw.githubusercontent.com/
bobdeng/owlreader/master/ERead/assets/books/Harry%20Potter%20and%20the%20Goblet%20of%20Fire.txt"
--2022-11-02 21:49:35--  https://raw.githubusercontent.com/bobdeng/owlreader/master/ERead/assets/b
ooks/Harry%20Potter%20and%20the%20Goblet%20of%20Fire.txt
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 2606:50c0:8000::154, 2606:50c0:
8001::154, 2606:50c0:8002::154, ...
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|2606:50c0:8000::154|:443... co
nnected.
HTTP request sent, awaiting response... 200 OK
Length: 1140643 (1.1M) [text/plain]
Saving to: 'Harry Potter and the Goblet of Fire.txt'

Harry Potter and t 100%[===============>]   1.09M   945KB/s    in 1.2s

2022-11-02 21:49:37 (945 KB/s) - 'Harry Potter and the Goblet of Fire.txt' saved [1140643/1140643]

sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop/Drill_2$ ls
'Harry Potter and the Goblet of Fire.txt'
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop/Drill_2$
```

Print the first three lines in the book

to display first n lines of the file we can use the head command

$ head -lines filename

```
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop/Drill_2$ head -3 'Harry Potter and the Goblet of
Fire.txt'
Harry Potter and the Goblet of Fire
    By J.K. Rowling

sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop/Drill_2$
```

\

Print the last 10 lines in the book

we can use the tail command

$ tail -3 filename

```
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop/Drill_2$ tail -10 'Harry Potter and the Goblet of
 Fire.txt'
    and Goyle, who were still lying on the floor, covered in hex marks.
    Uncle Vernon was waiting beyond the barrier. Mrs. Weasley was close by him. She hugged Harry v
ery tightly when she saw him and whispered in his ear, "I think Dumbledore will let you come to us
 later in the summer. Keep in touch, Harry."
    "See you. Harry," said Ron, clapping him on the back.
    "'Bye, Harry!" said Hermione, and she did something she had never done before, and kissed him
on the cheek.
    "Harry - thanks," George muttered, while Fred nodded fervently at his side.
    Harry winked at them, turned to Uncle Vernon, and followed him silently from the station.
    There was no point worrying yet, he told himself, as he got into the back of the Dursleys' car
.

    As Hagrid had said, what would come, would come ... and he would have to meet it when it did.
您下载的文件来自http://txt.nokiacn.net糯米社区为你制作
【糯米社区-TXT论坛】-立志要做最新最全的txt文本格式电子书下载论坛!sachin@sachin-Lenovo-ideapasssss
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop/Drill_2$
```

How many times do the following words occur in the book?

    Harry,Ron,Hermione,Dumbledore

 to count the occurence of a word we can use the grep commad

Print lines from 100 through 200 in the book

```
$ sed -n 'startLine,endLined' myFile.txt
```

The -n tells sed do not print lines scanned.
the 123,234 define the range of lines you are interested in
the p is the command to print the line.

How many unique words are present in the book?

We can count the unique word using command sort

```
$ sort -u your_file | wc -l
```

```
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop/Drill_2$
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop/Drill_2$ sort -u "Harry Potter and
the Goblet of Fire.txt" | wc -l
6753
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop/Drill_2$ █
```

Processes, ports

1-List your browser's process ids (pid) and parent process ids(ppid)

```
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop$ pidof chrome
40830 40679 39116 39107 39054 38853 38278 30150 28149 22324 19980 19589 17920
17873 17855 16130 15820 14514 14504 14463 14448 14438 14418 14389 14374 1371
1 13332 13313 13036 10924 10889 10857 10822 10796 10675 10647 10603 10334 994
6 8375 8346 7053 7019 6644 6632 6609 6597 6596 6578 6556 6527 6506 6223 6062
6036 4684 4646 4354 4298 3403 3371 3340 3327 3193 2977 2855 2836 2803 2781 27
62 2726 2715 2712 2691 2687 2686 2670
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop$ ps -o ppid=
  31547
  36645
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop$ █
```

2-Stop the browser application from the command line

```
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop$ ps -A
  PID TTY          TIME CMD
    1 ?        00:00:13 systemd
    2 ?        00:00:00 kthreadd
    3 ?        00:00:00 rcu_gp
    4 ?        00:00:00 rcu_par_gp
    5 ?        00:00:00 netns
    7 ?        00:00:00 kworker/0:0H-events_highpri
    9 ?        00:00:07 kworker/0:1H-events_highpri
   10 ?        00:00:00 mm_percpu_wq
   11 ?        00:00:00 rcu_tasks_rude_
   12 ?        00:00:00 rcu_tasks_trace
   13 ?        00:01:59 ksoftirqd/0
   14 ?        00:01:28 rcu_sched
```

```
 41823 ?        00:00:20 firefox
```

```
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop$ kill 41823
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop$ █
```

3-List the top 3 processes by CPU usage.

$ ps -eo pid,ppid,cmd,%mem,%cpu --sort=-%cpu | head

```
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop$ ps -eo pid,ppid,cmd,%mem,%cpu --sort=-%cpu | head
   PID    PPID CMD                        %MEM %CPU
  1749    1486 /usr/bin/gnome-shell        2.4 11.0
  1541    1539 /usr/lib/xorg/Xorg vt2 -dis 2.3  9.8
  2670    1749 /opt/google/chrome/chrome - 4.8  6.8
  2712    2686 /opt/google/chrome/chrome - 2.4  6.1
 39116    2691 /opt/google/chrome/chrome - 1.5  4.0
 19129   19113 /usr/lib/libreoffice/progra 5.3  3.9
 23813    1749 gnome-control-center blueto  0.8  3.7
 40830    2691 /opt/google/chrome/chrome - 1.4  2.8
  6506    2691 /opt/google/chrome/chrome - 3.9  2.7
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop$ █
```

4-List the top 3 processes by memory usage.

Inplcae of %cpu we write %mem

```
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop$  ps -eo pid,ppid,cmd,%mem,%cpu --sort=-%mem | head
    PID    PPID CMD                          %MEM %CPU
  19129   19113 /usr/lib/libreoffice/progra   5.3  3.9
   2670    1749 /opt/google/chrome/chrome -   4.8  6.7
   6506    2691 /opt/google/chrome/chrome -   3.9  2.7
   3340    2691 /opt/google/chrome/chrome -   3.0  2.0
  13313    2691 /opt/google/chrome/chrome -   2.5  1.0
   2712    2686 /opt/google/chrome/chrome -   2.4  6.1
   1749    1486 /usr/bin/gnome-shell          2.4 11.0
   1541    1539 /usr/lib/xorg/Xorg vt2 -dis   2.3  9.8
   4298    2691 /opt/google/chrome/chrome -   2.3  1.0
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop$
```

5-Display all active connections and the corresponding TCP / UDP ports.

$ netstat -lt - To list only the listening tcp ports

$ netstat -lu - To list only the listening udp ports.

```
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop$ netstat -lt
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp        0      0 localhost:domain        0.0.0.0:*               LISTEN
tcp        0      0 0.0.0.0:7070            0.0.0.0:*               LISTEN
tcp        0      0 localhost:ipp           0.0.0.0:*               LISTEN
tcp6       0      0 ip6-localhost:ipp       [::]:*                  LISTEN
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop$ netstat -lu
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
udp        0      0 localhost:domain        0.0.0.0:*
udp        0      0 0.0.0.0:57704           0.0.0.0:*
udp        0      0 0.0.0.0:631             0.0.0.0:*
udp        0      0 0.0.0.0:50001           0.0.0.0:*
udp        0      0 224.0.0.251:mdns        0.0.0.0:*
udp        0      0 224.0.0.251:mdns        0.0.0.0:*
udp        0      0 0.0.0.0:mdns            0.0.0.0:*
udp6       0      0 [::]:mdns               [::]:*
udp6       0      0 [::]:46601              [::]:*
sachin@sachin-Lenovo-ideapad-300-15ISK:~/Desktop$
```

6-Find the pid of the process that is listening on port 5432

since no process was listening to port 5432 , so we checked the port 5353

and chrome processes was listening to this port

we checked it using netstat command

```
root@sachin-Lenovo-ideapad-300-15ISK:/# netstat -ltnup | grep ':5432'
root@sachin-Lenovo-ideapad-300-15ISK:/# netstat -ltnup | grep ':5353'
udp        0      0 224.0.0.251:5353        0.0.0.0:*                  2670/chrome --enabl
udp        0      0 224.0.0.251:5353        0.0.0.0:*                  2715/chrome --type=
udp        0      0 0.0.0.0:5353            0.0.0.0:*                  851/avahi-daemon: r
udp6       0      0 :::5353                 :::*                       851/avahi-daemon: r
root@sachin-Lenovo-ideapad-300-15ISK:/#
```

7-Start a Python HTTP server on port 8000

to start the python server we must have python in our system

so first we install it.then start the server

> $ python3 -m http.server 8000

```
root@sachin-Lenovo-ideapad-300-15ISK:/# python3 -m http.server 8000
Serving HTTP on 0.0.0.0 port 8000 (http://0.0.0.0:8000/) ...
```

8-Open another tab. Stop the process you started in the previous step

First we find the pid of the process which was running on port 8000

then using kill command terminates the process

```
root@sachin-Lenovo-ideapad-300-15ISK:/home/sachin/Desktop# netstat -ltnup | grep
':8000'
tcp        0      0 0.0.0.0:8000            0.0.0.0:*               LISTEN
47971/python3
root@sachin-Lenovo-ideapad-300-15ISK:/home/sachin/Desktop# kill 47971
root@sachin-Lenovo-ideapad-300-15ISK:/home/sachin/Desktop#
```

```
root@sachin-Lenovo-ideapad-300-15ISK:/# python3 -m http.server 8000
Serving HTTP on 0.0.0.0 port 8000 (http://0.0.0.0:8000/) ...


Terminated
root@sachin-Lenovo-ideapad-300-15ISK:/#
root@sachin-Lenovo-ideapad-300-15ISK:/#
root@sachin-Lenovo-ideapad-300-15ISK:/#
```

9-Start a Python HTTP server on port 90

```
root@sachin-Lenovo-ideapad-300-15ISK:/home/sachin/Desktop# python3 -m http.serve
r 8000
Serving HTTP on 0.0.0.0 port 8000 (http://0.0.0.0:8000/) ...
```

Misc

1-What's your local IP address?

132.154.38.21

First we have to install curl tool

$ snap install curl

then use the command

$ curl ifconfig.me

```
root@sachin-Lenovo-ideapad-300-15ISK:/# snap install curl
curl 7.85.0 from Wouter van Bommel (woutervb) installed
root@sachin-Lenovo-ideapad-300-15ISK:/# curl ifconfig.me
132.154.38.21root@sachin-Lenovo-ideapad-300-15ISK:/#
```

2-Find the IP address of google.com

$dig website

```
root@sachin-Lenovo-ideapad-300-15ISK:/#
root@sachin-Lenovo-ideapad-300-15ISK:/# dig google.com

; <<>> DiG 9.18.1-1ubuntu1.1-Ubuntu <<>> google.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 16419
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;google.com.                    IN      A

;; ANSWER SECTION:
google.com.            21       IN      A       142.250.206.142

;; Query time: 0 msec
;; SERVER: 127.0.0.53#53(127.0.0.53) (UDP)
;; WHEN: Thu Nov 03 01:13:31 IST 2022
;; MSG SIZE  rcvd: 55

root@sachin-Lenovo-ideapad-300-15ISK:/#
```

the ip is availabe in ANSWER SECTION - 142.250.206.142

3-How to check if Internet is working using CLI?

We can ping to any website and see the transmission of packets that means our machine is connected to internet

$ ping google.com

```
root@sachin-Lenovo-ideapad-300-15ISK:/# ping google.com
PING google.com(del11s07-in-x0e.1e100.net (2404:6800:4002:812::200e)) 56 data bytes
64 bytes from del11s07-in-x0e.1e100.net (2404:6800:4002:812::200e): icmp_seq=1 ttl=117 time=75.1 ms
64 bytes from del11s07-in-x0e.1e100.net (2404:6800:4002:812::200e): icmp_seq=2 ttl=117 time=528 ms
64 bytes from del11s07-in-x0e.1e100.net (2404:6800:4002:812::200e): icmp_seq=3 ttl=117 time=76.3 ms
64 bytes from del11s07-in-x0e.1e100.net (2404:6800:4002:812::200e): icmp_seq=4 ttl=117 time=116 ms
64 bytes from del11s07-in-x0e.1e100.net (2404:6800:4002:812::200e): icmp_seq=5 ttl=117 time=70.9 ms
64 bytes from del11s07-in-x0e.1e100.net (2404:6800:4002:812::200e): icmp_seq=6 ttl=117 time=69.3 ms
64 bytes from del11s07-in-x0e.1e100.net (2404:6800:4002:812::200e): icmp_seq=7 ttl=117 time=515 ms
```

4-Where is the node command located? What about code?

Node can be found in the bin folder

/usr/local/bin/node

```
root@sachin-Lenovo-ideapad-300-15ISK:/usr/local/bin# ls
corepack  n  node  npm  npx
root@sachin-Lenovo-ideapad-300-15ISK:/usr/local/bin#
```

Managing software

First we switch to super user mode by

$ sudo su

then install using

$ apt install appName

$ apt install vim

$apt install nginx

```
root@sachin-Lenovo-ideapad-300-15ISK:/home/sachin/Desktop/Drill_2# apt install nginx
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libluajit-5.1-2 libluajit-5.1-common libmbedcrypto7 libmbedtls14 libmbedx509-1
  libobs0 obs-plugins
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  libnginx-mod-http-geoip2 libnginx-mod-http-image-filter
  libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream
  libnginx-mod-stream-geoip2 nginx-common nginx-core
Suggested packages:
  fcgiwrap nginx-doc
The following NEW packages will be installed:
  libnginx-mod-http-geoip2 libnginx-mod-http-image-filter
  libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream
  libnginx-mod-stream-geoip2 nginx nginx-common nginx-core
0 upgraded, 9 newly installed, 0 to remove and 153 not upgraded.
Need to get 696 kB of archives.
After this operation, 2,395 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 nginx-common all 1.18.0-6ubuntu14.2 [40.0 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libnginx-mod-http-geoip2 amd64 1.18.0-6ubuntu14.2 [11.8 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libnginx-mod-http-image-filter amd64 1.18.0-6ubuntu14.2 [15.4 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libnginx-mod-http-xslt-filter amd64 1.18.0-6ubuntu14.2 [13.7 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libnginx-mod-mail amd64 1.18.0-6ubuntu14.2 [45.6 kB]
Get:6 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libnginx-mod-stream amd64 1.18.0-6ubuntu14.2 [72.7 kB]
Get:7 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libnginx-mod-stream-geoip2 amd64 1.18.0-6ubuntu14.2 [10.1 kB]
Get:8 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 nginx-core amd64 1.18.0-6ubuntu14.2 [482 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 nginx amd64 1.18.0-6ubuntu14.2 [3,876 B]
Fetched 696 kB in 3s (221 kB/s)
Preconfiguring packages ...
Selecting previously unselected package nginx-common.
(Reading database ... 227777 files and directories currently installed.)
Preparing to unpack .../0-nginx-common_1.18.0-6ubuntu14.2_all.deb ...
Unpacking nginx-common (1.18.0-6ubuntu14.2) ...
```

Uninstall `nginx`

sudo apt-get remove nginx

using this command we can uninstall the app

```
root@sachin-Lenovo-ideapad-300-15ISK:/home/sachin/Desktop/Drill_2# sudo apt-get remove nginx
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libluajit-5.1-2 libluajit-5.1-common libmbedcrypto7 libmbedtls14
  libmbedx509-1 libobs0 obs-plugins
Use 'sudo apt autoremove' to remove them.
The following packages will be REMOVED:
  nginx
0 upgraded, 0 newly installed, 1 to remove and 153 not upgraded.
After this operation, 50.2 kB disk space will be freed.
Do you want to continue? [Y/n]
```