

# Answer to the question 1

A. Whoami shows the logged in users

```
File Actions Edit View Help
(kali@kali)-[~]
$ whoami
kali
```

B. Who shows the users

```
(kali@kali)-[~]
$ who
kali    tty7      2022-12-13 05:17 (:0)
kali    pts/1     2022-12-13 21:02
kali    pts/3     2022-12-13 23:10
```

C. w commands shows the same result

```
(kali@kali)-[~]
$ w
04:32:16 up 7:41, 3 users, load average: 0.09, 0.09, 0.09
USER      TTY      FROM          LOGIN@      IDLE        JCPU      PCPU      WHAT
kali      tty7      :0             Tue05       23:15m     6:20      0.71s    xfce4-session
kali      pts/1     -             21:02       0.00s     0.00s     0.08s    sudo su
kali      pts/3     -             23:10       5:03m     1.21s     0.05s    sudo su
```

2. a. cat command shows the contents of a text file

```
(kali@kali)-[~]
$ cat file1.txt
hello all!
```

2(B) less command shows the text file content

```
(kali@kali)-[~]
$ less file1.txt
```

```
hello all!
file1.txt (END)
```

2(C). nano command shows the contents of a text file

```
(kali@kali)-[~]
$ nano file1.txt
```

```
File Actions Edit View Help
GNU nano 7.0 file1.txt
hello all!
```

3(A). ps command shows the process

```
(kali㉿kali)-[~]
$ ps
  PID TTY          TIME CMD
 117499 pts/4        00:00:01 zsh
 120304 pts/4        00:00:00 ps
```

3(B) Top Command shows detailed processes

```
(kali㉿kali)-[~]
$ top
top - 04:43:44 up 7:53, 3 users, load average: 0.04, 0.10, 0.09
Tasks: 203 total, 1 running, 202 sleeping, 0 stopped, 0 zombie
%Cpu(s): 4.6 us, 1.9 sy, 0.0 ni, 93.3 id, 0.2 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 3929.4 total, 231.2 free, 1786.2 used, 1912.0 buff/cache
MiB Swap: 1024.0 total, 834.7 free, 189.3 used. 1810.5 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR S  %CPU  %MEM    TIME+  COMMAND
  559 root        20   0  728244 294252  7544 S   3.6   7.3  10:15.21 nessusd
  592 root        20   0  499192 201480  75660 S   2.3   5.0   6:32.32 Xorg
 1076 kali        20   0  204008  28668 14112 S   1.3   0.7   8:21.29 panel-13-cpugra
117496 kali        20   0  432316 101916  83532 S   1.3   2.5   0:03.37 qterminal
34998 kali        20   0  3423300 449528 165264 S   1.0  11.2   5:03.97 firefox-esr
 1078 kali        20   0  408716  33484  25004 S   0.7   0.8   3:37.25 panel-15-genmon
  967 kali        20   0  217976   1832   1808 S   0.3   0.0   1:18.34 VBoxClient
 1027 kali        20   0  952336  95392  64788 S   0.3   2.4   2:03.29 xfwm4
 1079 kali        20   0  658156  32360  24604 S   0.3   0.8   0:34.85 panel-16-pulsea
34889 root        20   0   13084   9076   7632 S   0.3   0.2   0:02.74 openvpn
39086 kali        20   0  2516056 172752  87492 S   0.3   4.3   0:51.93 Isolated Web Co
120490 kali        20   0   10200   3700   3088 R   0.3   0.1   0:00.05 top
    1 root        20   0   167796  10664   7336 S   0.0   0.3   0:02.10 systemd
    2 root        20   0         0         0         0 S   0.0   0.0   0:00.00 kthreadd
    3 root         0 -20         0         0         0 I   0.0   0.0   0:00.00 rcu_gp
    4 root         0 -20         0         0         0 I   0.0   0.0   0:00.00 rcu_par_gp
    5 root         0 -20         0         0         0 I   0.0   0.0   0:00.00 slab_flushwo
```

3(C) htop command shows detailed view of processes

```
(kali㉿kali)-[~]
$ htop
```

```

File Actions Edit View Help

0[|||||] 9.2% Tasks: 129, 434 thr, 75 kthr; 1 running
1[|||||] 7.5% Load average: 0.08 0.10 0.09
Mem[|||||||||||||||||||||] 1.74G/3.84G Uptime: 07:55:09
Swp[|||||] 126M/1024M

Main I/O
PID USER PRI NI VIRT RES SHR S CPU% MEM% TIME+ Command
120996 kali 20 0 8504 4740 3376 R 5.3 0.1 0:00.52 htop
1015 kali 20 0 160M 9036 6220 S 0.0 0.2 0:05.65 /usr/libexec/at-spi2-reg
1 root 20 0 163M 10648 7320 S 0.0 0.3 0:02.10 /sbin/init splash
313 root 20 0 49640 16352 12904 S 0.0 0.4 0:00.85 /lib/systemd/systemd-jou
337 root 20 0 27116 6216 3532 S 0.0 0.2 0:01.67 /lib/systemd/systemd-ude
357 root 20 0 8260 5472 1768 S 0.0 0.1 0:01.12 /usr/sbin/haveged --Fore
481 messagebus 20 0 10616 5384 3640 S 0.0 0.1 0:09.25 /usr/bin/dbus-daemon --s
485 polkitd 20 0 302M 9440 6912 S 0.0 0.2 0:00.65 /usr/lib/polkit-1/polkit
486 root 20 0 216M 8060 3524 S 0.0 0.2 0:00.13 /usr/sbin/rsyslogd -n -i
487 root 20 0 25360 6992 5832 S 0.0 0.2 0:00.41 /lib/systemd/systemd-log
491 root 20 0 216M 8060 3524 S 0.0 0.2 0:00.05 /usr/sbin/rsyslogd -n -i
492 root 20 0 216M 8060 3524 S 0.0 0.2 0:00.00 /usr/sbin/rsyslogd -n -i
493 root 20 0 6608 2488 2236 S 0.0 0.1 0:00.09 /usr/sbin/cron -f
494 root 20 0 216M 8060 3524 S 0.0 0.2 0:00.05 /usr/sbin/rsyslogd -n -i
497 root 20 0 252M 18628 13508 S 0.0 0.5 0:19.66 /usr/sbin/NetworkManager
499 polkitd 20 0 302M 9440 6912 S 0.0 0.2 0:00.00 /usr/lib/polkit-1/polkit
500 polkitd 20 0 302M 9440 6912 S 0.0 0.2 0:00.11 /usr/lib/polkit-1/polkit
529 root 20 0 309M 9276 7416 S 0.0 0.2 0:00.13 /usr/sbin/ModemManager
537 root 20 0 252M 18628 13508 S 0.0 0.5 0:00.58 /usr/sbin/NetworkManager
538 root 20 0 252M 18628 13508 S 0.0 0.5 0:00.03 /usr/sbin/NetworkManager
542 root 20 0 309M 9276 7416 S 0.0 0.2 0:00.00 /usr/sbin/ModemManager
543 root 20 0 5840 1632 1628 S 0.0 0.0 0:00.00 /opt/nessus/sbin/nessus-
555 root 20 0 309M 9276 7416 S 0.0 0.2 0:00.02 /usr/sbin/ModemManager
559 root 20 0 711M 284M 7428 S 0.7 7.3 10:16.92 nessusd -q
560 root 20 0 301M 6600 5868 S 0.0 0.2 0:00.09 /usr/sbin/lightdm
563 root 20 0 350M 2368 2032 S 0.0 0.1 0:08.56 /usr/sbin/VBoxService

```

1(B). `cat rockyou.txt | grep saad` command shows all the lines that match my nickname saad

```

(root@kali)-[/usr/share/wordlists]
# cat rockyou.txt | grep saad
saadia
saadah
saadiah
saadat
saadet
saadaq
saada
saadsaad
saadiyah
saadiq
saad123
saadmaaz
saadiqah
saadiq1
saadi1

```

1(C). `Sudo su` command let access the super user

```

(kali@kali)-[~]
$ sudo su
(root@kali)-[/home/kali]
#

```

ps shows the running command

```
(root@kali)-[/home/kali]
# ps
  PID TTY          TIME CMD
 122611 pts/6        00:00:00 sudo
 122612 pts/6        00:00:00 su
 122613 pts/6        00:00:00 zsh
 122831 pts/6        00:00:00 ps
```

Kill 122611 terminated the session and killed the shell

```
(root@kali)-[/home/kali]
# kill 122611

Session terminated, killing shell...

(root@kali)-[/home/kali]
# ... killed.
zsh: terminated  sudo su
```

Killing zsh process did not work and did not get killed.

```
(kali@kali)-[~]
$ sudo su
(root@kali)-[/home/kali]
# ps
  PID TTY          TIME CMD
 123458 pts/6        00:00:00 sudo
 123459 pts/6        00:00:00 su
 123460 pts/6        00:00:00 zsh
 123477 pts/6        00:00:00 ps

(root@kali)-[/home/kali]
# kill 123460

(root@kali)-[/home/kali]
# ps
  PID TTY          TIME CMD
 123458 pts/6        00:00:00 sudo
 123459 pts/6        00:00:00 su
 123460 pts/6        00:00:00 zsh
 123619 pts/6        00:00:00 ps
```

## Answer to the question no 2

The >> direction append the line in a new line.



```

(root@kali)-[/home/kali]
# cat file1.txt
hello all!

(root@kali)-[/home/kali]
# echo "this is the first exam" >> file1.txt

(root@kali)-[/home/kali]
# cat file1.txt
hello all!
this is the first exam

```

The > direction replace the lines with the new line

```

(root@kali)-[/home/kali]
# cat file1.txt
hello all!
this is the first exam

(root@kali)-[/home/kali]
# echo "this is the second line" > file1.txt

(root@kali)-[/home/kali]
# cat file1.txt
this is the second line

```

## Answer to the question no. 4

File permission 127 means the user has only execute permission, group has write permission and others have read, write and execute permission. The first digit represents the user permissions. The second digit represents the group permission and the third digit represents other's permission. The digit is generated by a rule.

Read - 4

Write- 2

Execute -1

The summation of the 3 permissions for each type of user is given to represent the permission.

```

(root@kali)-[/home/kali]
# ls -l
total 150776
-rw-r--r-- 1 root root 13288 Dec 7 22:22 bjit.txt
-rw-r--r-- 1 root root 13 Dec 7 05:38 coding.sh
drwxr-xr-x 2 kali kali 4096 Dec 1 07:19 Desktop
drwxr-xr-x 2 kali kali 4096 Dec 1 07:19 Documents
drwxr-xr-x 2 kali kali 4096 Dec 13 23:24 Downloads
-rw-r--r-- 1 root root 24 Dec 14 04:59 file1.txt
-rw-r--r-- 1 root root 13 Dec 7 21:22 home

```

The files permission is for user read-write, for group and others only write. Now we will change it to 127 that means for user only execute, for group only write and for others all read write and execute.

The following commands will change the permission of the file for user - execute, for group- only write and for others - read, write and execute.

```
(root@kali)-[/home/kali]
# chmod u+x file1.txt

(root@kali)-[/home/kali]
# chmod u-w file1.txt

—x—r-- 1 root root      24 Dec 14 04:59 file1.txt

(root@kali)-[/home/kali]
# chmod g+w file1.txt

(root@kali)-[/home/kali]
# chmod o+wx file1.txt

—x-w-rwx 1 root root      24 Dec 14 04:59 file1.txt
```

### Answer to the question number 3.

The following commands will create a directory named Exam and go to the Exam directory

```
(root@kali)-[/home/kali]
# mkdir Exam

(root@kali)-[/home/kali]
# cd Exam
```

The following script is the script for finding the lower value

```
File  Actions  Edit  View  Help
GNU nano 7.0
#!/bin/bash
echo "input value for a"
read a
echo "input value for b"
read b
if [ $a -lt $b ]
then
echo "$a" is lower"
else
echo "$b" is lower"
fi
```

The result of the script is given in the following screen shot

```
(root@kali)-[/home/kali/Exam]  
# nano testscript.sh
```

```
(root@kali)-[/home/kali/Exam]  
# ./testscript.sh  
input value for a  
5  
input value for b  
3  
3 is lower
```

```
(root@kali)-[/home/kali/Exam]  
# ./testscript.sh  
input value for a  
3  
input value for b  
7  
3 is lower
```