

سوال اول:

```
root@ubuntu-18-04-template-DND:~# mkdir q1
root@ubuntu-18-04-template-DND:~# touch test1.txt
root@ubuntu-18-04-template-DND:~# touch test2.txt
```

```
root@ubuntu-18-04-template-DND:~# chmod 774 q1
root@ubuntu-18-04-template-DND:~# chmod 774 test1.txt
root@ubuntu-18-04-template-DND:~# chmod 774 test2.txt
root@ubuntu-18-04-template-DND:~# ls -l -i
total 156
  359 -rwxr-xr-x 1 root root 136444 Jan  3 07:05 install_kernel.sh
  228 -rw-r--r-- 1 root root    20 Jan  3 07:03 jin...
  496 -rw-r--r-- 1 root root     3 Jan  3 07:04 language_setting_v2ray_trojan.md
518882 drwxr-xr-x 3 root root   4096 Jan  3 20:52 oskab
771117 drwxrwxr-- 2 root root   4096 Jan  3 20:53 q1
  765 -rwxrwxr-- 1 root root     0 Jan  3 20:53 test1.txt
 1409 -rwxrwxr-- 1 root root     0 Jan  3 20:53 test2.txt
518878 drwxr-xr-x 2 root root   4096 Jan  3 07:06 wireguard
root@ubuntu-18-04-template-DND:~# █
```

## سوال دوم:

```
root@ubuntu-18-04-template-DND:/etc# cut -d ':' -f 1,3,7 passwd --output-delimiter=' '
root 0 /bin/bash
daemon 1 /usr/sbin/nologin
bin 2 /usr/sbin/nologin
sys 3 /usr/sbin/nologin
sync 4 /bin/sync
games 5 /usr/sbin/nologin
man 6 /usr/sbin/nologin
lp 7 /usr/sbin/nologin
mail 8 /usr/sbin/nologin
news 9 /usr/sbin/nologin
uucp 10 /usr/sbin/nologin
proxy 13 /usr/sbin/nologin
www-data 33 /usr/sbin/nologin
backup 34 /usr/sbin/nologin
list 38 /usr/sbin/nologin
irc 39 /usr/sbin/nologin
gnats 41 /usr/sbin/nologin
nobody 65534 /usr/sbin/nologin
systemd-network 100 /usr/sbin/nologin
systemd-resolve 101 /usr/sbin/nologin
syslog 102 /usr/sbin/nologin
messagebus 103 /usr/sbin/nologin
_apt 104 /usr/sbin/nologin
uidd 105 /usr/sbin/nologin
sshd 106 /usr/sbin/nologin
ubuntu 1000 /bin/bash
root@ubuntu-18-04-template-DND:/etc# cut -d ':' -f 1,3,7 passwd --output-delimiter=' ' | wc -c
694
root@ubuntu-18-04-template-DND:/etc# █
```

سوال سوم:

```
root@ubuntu-18-04-template-DND:/etc# last -1
root      pts/0      194.225.232.163  Tue Jan  3 20:51    still logged in

wtmp begins Tue May 29 05:35:59 2018
root@ubuntu-18-04-template-DND:/etc# last -1 | cut -d ' ' -f 1
cut: you must specify a list of bytes, characters, or fields
Try 'cut --help' for more information.
root@ubuntu-18-04-template-DND:/etc# last -1 | cut -d ' ' -f 1
root
```

## سوال چهارم:

```
root@ubuntu-18-04-template-DND:/etc# cat passwd | grep nologin | head -3
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
root@ubuntu-18-04-template-DND:/etc#
```

```
root@ubuntu-18-04-template-DND:/etc# cat passwd | cut -d ':' -d 1-2 | grep "x"
cut: the delimiter must be a single character
Try 'cut --help' for more information.
root@ubuntu-18-04-template-DND:/etc# cat passwd | cut -d ':' -f 1-2 | grep "x"
root:x
daemon:x
bin:x
sys:x
sync:x
games:x
man:x
lp:x
mail:x
news:x
uucp:x
proxy:x
www-data:x
backup:x
list:x
irc:x
gnats:x
nobody:x
systemd-network:x
systemd-resolve:x
syslog:x
messagebus:x
_apt:x
uidd:x
sshd:x
ubuntu:x
naserizade_98522085:x
root@ubuntu-18-04-template-DND:/etc# cat passwd | cut -d ':' -f 1-2 | grep "x" | head -3
root:x
daemon:x
bin:x
root@ubuntu-18-04-template-DND:/etc# cat passwd | cut -d ':' -f 1-2 | grep "x" | head -3 | cut -d ':' -f 1 --output-delimiter=' '
root
daemon
bin
root@ubuntu-18-04-template-DND:/etc#
```

سوال پنجم:



```
root@ubuntu-18-04-template-DND:/# at now +2min
warning: commands will be executed using /bin/sh
at> hostname > OS.txt
at> <EOT>
job 5 at Tue Jan  3 21:23:00 2023
root@ubuntu-18-04-template-DND:/# at now +2min
warning: commands will be executed using /bin/sh
at> uname -r >> OS.txt
at> <EOT>
job 6 at Tue Jan  3 21:23:00 2023
root@ubuntu-18-04-template-DND:/# uname
Linux
root@ubuntu-18-04-template-DND:/# at now +2min
warning: commands will be executed using /bin/sh
at> uname >> OS.txt
```

```
#!/bin/bash

read -p "Enter number:" num1

for i in $(seq 1 $num1)
do
for j in $(seq 1 $i)
do
echo -n $i;
done;
echo " ";
done;
```

```
root@ubuntu-18-04-template-DND:/etc# nano q6.sh
root@ubuntu-18-04-template-DND:/etc# ./q6.sh
Enter number:5
1
22
333
4444
55555
root@ubuntu-18-04-template-DND:/etc# ./q6.sh
Enter number:6
1
22
333
4444
55555
666666
root@ubuntu-18-04-template-DND:/etc#
```

سوال هفتم:

```
root@ubuntu-18-04-template-DND:/etc# ls -l | awk '$9 ~ /\.txt/ && $5 > 0 {print $9}'
test1.txt
root@ubuntu-18-04-template-DND:/etc#
```

```
#!/bin/bash
```

```
echo -n "Enter a URL: "
read url
```

```
ip_address=$(dig +short $url)
```

```
echo "IP Address: $ip_address"
```

سوال هشتم:

```
#!/bin/bash
```

```
read -p "Enter your domain: " domain;
```

```
nslookup $domain | awk '$1 ~/Address:/ {print $2}' | head -2;
```

```
root@ubuntu-18-04-template-DND:/# ./q8.sh
Enter your domain: www.google.com
8.8.8.8#53
64.233.177.105
```

سوال نهم:



## به صورت LCFS

```
> ./q9
Input number of process: 6
Enter process number 0 service time: 4
Enter process number 1 service time: 3
Enter process number 2 service time: 6
Enter process number 3 service time: 4
Enter process number 4 service time: 2
Enter process number 5 service time: 1
Running Algorithm:
process number 5: service time: 1 waiting time: 0 total time: 1
process number 4: service time: 2 waiting time: 1 total time: 3
process number 3: service time: 4 waiting time: 3 total time: 7
process number 2: service time: 6 waiting time: 7 total time: 13
process number 1: service time: 3 waiting time: 13 total time: 16
process number 0: service time: 4 waiting time: 16 total time: 20
Average service time: 3.333333 Average waiting time: 6.666667 Average total time: 3.333333
~/Documents/OS > █
```

5s 09:52

```
#!/bin/bash

read -p "Enter your number: " num

reverse=0
while [ $num -gt 0 ]
do
temp=$(( $num % 10 ))
reverse=$(( $reverse * 10 ))
reverse=$(( $reverse + $temp ))
num=$(( $num / 10 ))

done

echo "$reverse"
```

```
root@ubuntu-18-04-template-DND:/# ./q10.sh
Enter your number: 652
256
root@ubuntu-18-04-template-DND:/# ./q10.sh
Enter your number: 324
423
root@ubuntu-18-04-template-DND:/# █
```