

Q1-

```
Terminal File Edit View Search Terminal Help
pazhand_400521171@400521171:~$ cat /etc/group | cut -d ':' -f 1 > fninal-q1.txt
pazhand_400521171@400521171:~$ cat final-q1.txt
cat: final-q1.txt: No such file or directory
pazhand_400521171@400521171:~$ cat fninal-q1.txt
root
daemon
bin
sys
adm
tty
disk
lp
mail
news
uucp
man
proxy
kmem
dialout
fax
voice
cdrom
floppy
tape
sudo
audio
dip
www-data
backup
operator
list
irc
src
gnats
shadow
utmp
video
sasl
plugdev
staff
games
users
nogroup
systemd-journal
systemd-timesync
```

```
syslog
netdev
messagebus
uuidd
ssl-cert
lpadmin
lightdm
nopasswdlogin
ssh
whoopsie
mlocate
avahi-autoipd
avahi
bluetooth
scanner
colord
pulse
pulse-access
rtkit
saned
pazhand_400521171
smbshare
guest-6zsrh5
demo
demo1
test1
pazhand_400521171@400521171:~$ chmod g+wx fninal-q1.txt
pazhand_400521171@400521171:~$
```

Q2-

```
id_400521171@400521171:~$
GNU nano 2.5.3 File: final-q2.sh

#!/bin/bash

read -p "Enter the number: " num
if ! [[ $num =~ ^[0-9]{4}$ ]]
then
    echo "number must be 4 digits"
else
    sum=0
    mult=1

    while [ $num -gt 0 ]
    do
        temp=$(( $num % 10 ))
        mult=$(( mult * temp ))
        sum=$(( sum + temp ))
        let num=$(( num / 10 ))
    done
    result=$(( sum / 4 ))
    result=$(( result * mult ))
    echo "$result"
fi
```

```
Terminal File Edit View Search Terminal Help
pazhand_400521171@400521171:~$ nano final-q2.sh
pazhand_400521171@400521171:~$ bash final-q2.sh
Enter the number: 123
number must be 4 digits
pazhand_400521171@400521171:~$ bash final-q2.sh
Enter the number: 12345
number must be 4 digits
pazhand_400521171@400521171:~$ bash final-q2.sh
Enter the number: 1234
26
pazhand_400521171@400521171:~$ bash final-q2.sh
Enter the number: 2222
18
pazhand_400521171@400521171:~$
```

Q4-

```
nd_400521171@400521171:~  
pazhand_400521171@400521171:~$ Get-Process  
Get-Process: command not found  
pazhand_400521171@400521171:~$ ps -eo pid,%cpu --sort=-%cpu | head -n 6 | tail -n 5  
1930  4.0  
808  1.1  
3057  0.1  
1  0.0  
2  0.0  
pazhand_400521171@400521171:~$ ps -eo pid,%cpu --sort=-%cpu | head -n 6 | tail -n 5 > CPU.txt  
pazhand_400521171@400521171:~$ at now +2 min  
warning: commands will be executed using /bin/sh  
at> ps -eo pid,%cpu --sort=-%cpu | head -n 6 | tail -n 5 > CPU.txt  
at> <EOT>  
job 6 at Sat Jun  8 15:01:00 2024  
pazhand_400521171@400521171:~$
```

Q5-

```
nd_400521171@400521171:~  
pazhand_400521171@400521171:~$ find /etc -type f -name '[a-k]*.txt'  
find: '/etc/polkit-1/localauthority': Permission denied  
find: '/etc/chatscripts': Permission denied  
find: '/etc/ppp/peers': Permission denied  
find: '/etc/ssl/private': Permission denied  
/etc/brltty/Input/tn/all.txt  
/etc/brltty/Input/ec/all.txt  
/etc/brltty/Input/vr/all.txt  
/etc/brltty/Input/lb/all.txt  
/etc/brltty/Input/vs/all.txt  
/etc/brltty/Input/mn/all.txt  
/etc/brltty/Input/tt/all.txt  
/etc/brltty/Input/ba/all.txt  
/etc/brltty/Input/eu/all.txt  
/etc/brltty/Input/lt/all.txt  
/etc/brltty/Input/vd/all.txt  
/etc/brltty/Input/mb/all.txt  
/etc/brltty/Input/bd/all.txt  
find: '/etc/cups/ssl': Permission denied  
pazhand_400521171@400521171:~$ sudo find /etc -type f -name '[a-k]*.txt'  
[sudo] password for pazhand_400521171:  
/etc/brltty/Input/tn/all.txt  
/etc/brltty/Input/ec/all.txt  
/etc/brltty/Input/vr/all.txt  
/etc/brltty/Input/lb/all.txt  
/etc/brltty/Input/vs/all.txt  
/etc/brltty/Input/mn/all.txt  
/etc/brltty/Input/tt/all.txt  
/etc/brltty/Input/ba/all.txt  
/etc/brltty/Input/eu/all.txt  
/etc/brltty/Input/lt/all.txt  
/etc/brltty/Input/vd/all.txt  
/etc/brltty/Input/mb/all.txt  
/etc/brltty/Input/bd/all.txt  
pazhand_400521171@400521171:~$
```

Q6-

```
root
daemon
bin
sys
sync
games
man
lp
mail
news
uucp
proxy
www-data
backup
list
irc
gnats
nobody
systemd-timesync
systemd-network
systemd-resolve
systemd-bus-proxy
syslog
_apt
messagebus
uidd
lightdm
whoopsie
avahi-autoipd
avahi
dnsmasq
colord
speech-dispatcher
hplip
kernoops
pulse
rtkit
saned
usbmux
pazhand_400521171
guest-6Zsrh5
test1
pazhand_400521171@400521171:~$ grep -oE '^[^:]+ ' /etc/passwd | awk '{print $1}' | wc -c
340
pazhand_400521171@400521171:~$
```

Q7-

```
Terminal File Edit View Search Terminal Help
GNU nano 2.5.3 File: final-q7.sh

#!/bin/bash

interface = "eth0"
ip_add=$(ip addr show "$interface" | grep -oP '(?<=inet\s)\d+(\.\d+){3}')
mac=$(ip link show "$interface" | awk '/ether/ {print $2}')
echo "$interface : $ip_add"
echo "$interface : $mac"
```