

 Sepehr Solouki #9627693

Question 1

Output the names of the applications which depend on perl in a file named "perldeps" and then mail the file to the root user.

```
In [55]: !rpm -q --whatrequires perl \
| awk -F - ' /- / {for(i=1;i<(NF-1);i++)printf("%s-", $i); printf("%c\n", 8)}}' \
> perldeps \
&& cat perldeps | mail -s PerlDeps root
```

Null message body; hope that's ok

```
In [56]: !cat perldeps
```

```
In [57]: !sudo mail # my mail service is broken right now
```

No mail for root

Question 2

Print the number of open ports and the name of the application using each one of them.

```
In [59]: !nmap localhost | awk -v var=999 '/^[0-9]+/ {split($1,a,"/"); printf("%s %s\n", a[1], $3)}'
```

```
25 smtp
80 http
443 https
4002 mlchat-proxy
4003 pxc-splr-ft
4005 pxc-pin
5000 upnp
5001 complex-link
5050 mmcc
5432 postgresql
8001 vcom-tunnel
8002 teradataoradbms
8081 blackice-icecap
8888 sun-answerbook
```

Question 3

Write a script which gets an IP as input and mails "system is down" to the root user if the regarding system was "down".

```
#!/bin/sh
read IP
OUT=$(eval "nmap $IP | awk '/Host seems down/ {print 1}')"
if [ $OUT == '1' ]
then
    echo yes
else
    echo no
fi
```

```
In [99]: !echo "3.3.1.1" | ./isdown.sh
```

yes

```
In [3]: !echo "45.149.79.70" | ./isdown.sh
```

no

Question 4

How to have `/tmp` directory empty every friday at 22:00?

```
In [14]: !echo "0 22 * * Fri rm -rf /tmp/*" | crontab
```

```
In [1]: !crontab -l
```

```
0 22 * * Fri rm -rf /tmp/*
```

Question 5

Print your network device's MAC Address

```
In [37]: !ifconfig eth0 | awk '/ether/ {print $2}'
```

```
8a:8a:ce:77:87:17
```

Question 6

Set two simultaneous ip addresses on your network device.

```
ifconfig eth0 192.168.60.1 && \
ifconfig eth0:0 192.168.60.2
```

note: My SSH connection to the remote CentOS machine dropped as I executed the command; so I had to show the output using VNC console and then reboot the machine.

```
In [2]: from IPython.display import Image
        Image("vnc.png")
```

```
Out[2]: sesota ~# ping 192.168.60.1
PING 192.168.60.1 (192.168.60.1) 56(84) bytes of data.
64 bytes from 192.168.60.1: icmp_seq=1 ttl=64 time=0.319 ms
64 bytes from 192.168.60.1: icmp_seq=2 ttl=64 time=0.121 ms
64 bytes from 192.168.60.1: icmp_seq=3 ttl=64 time=0.153 ms
^C
--- 192.168.60.1 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 5ms
rtt min/avg/max/mdev = 0.121/0.197/0.319/0.088 ms
sesota ~# ping 192.168.60.2
PING 192.168.60.2 (192.168.60.2) 56(84) bytes of data.
64 bytes from 192.168.60.2: icmp_seq=1 ttl=64 time=1.44 ms
64 bytes from 192.168.60.2: icmp_seq=2 ttl=64 time=0.133 ms
64 bytes from 192.168.60.2: icmp_seq=3 ttl=64 time=0.124 ms
^C
--- 192.168.60.2 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 5ms
rtt min/avg/max/mdev = 0.124/0.564/1.435/0.615 ms
sesota ~# ifconfig eth0
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.60.1 netmask 255.255.255.0 broadcast 192.168.60.255
    inet6 fe80::7949:387d:dc42:7114 prefixlen 64 scopeid 0x28<link>
    ether 8a:8a:ce:77:87:17 txqueuelen 1000 (Ethernet)
    RX packets 1746768 bytes 435623393 (415.4 MiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 1247922 bytes 600128059 (579.9 MiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

sesota ~# ifconfig eth0:0
eth0:0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.60.2 netmask 255.255.255.0 broadcast 192.168.60.255
    ether 8a:8a:ce:77:87:17 txqueuelen 1000 (Ethernet)
```