To get the internal ip address we use the command ifconfig to show the ip configurations of the linux machine.
We grep for broadcast and print out the second column using awk to show only the internal ip address.

```
1  #!/bin/bash
2
3  #Display internal IP address.
4
5  echo 'Your internal IP address is:'
6  ifconfig | grep broadcast | awk '{print $2}'
```

Result: Each time the user runs the script, the user will be presented with the internal ip address

```
┌──(kali㉿kali)-[~/linuxproj]
└─$ bash linuxproj.sh
Your internal IP address is:
192.168.230.130
```

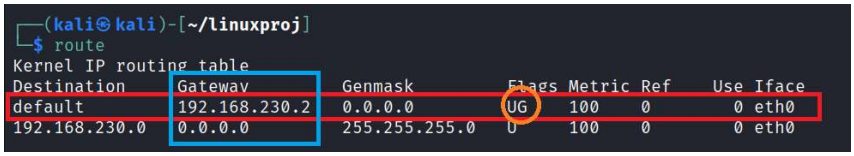
We use curl command; Client URL (cURL, pronounced “curl”) is **a command line tool that enables data exchange between a device and a server through a terminal**. Using this command line interface (CLI), a user specifies a server URL (the location where they want to send a request) and the data they want to send to that server URL.
In this case the url is ifconfig.co
This site provides the external ip address.

```
8  #Display external IP address.
9  echo 'Your external IP address is:'
10 myip= curl ifconfig.co
```

Result: Each time the user runs the script, the user will be presented with the external ip address.

```
Your external IP address is:
175.156.80.216
```

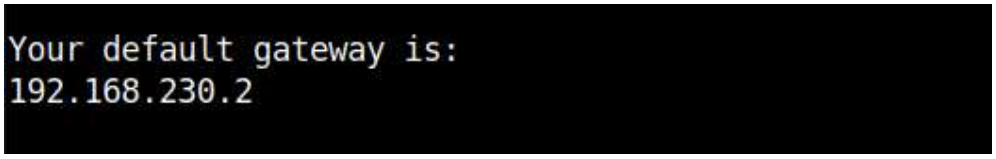
To get the default gateway ip address, we use the command route to display the Kernel IP routing table which also provides the information of the default gateway.



We grep **UG** to only get the line containing the default gateway's ip address and print out the second column using awk to show only the default gateway ip address.
This is the script:

```
12  #Display default gateway.
13  echo 'Your default gateway is:'
14  route | grep 'UG' | awk '{print $2}'
15  echo''
```

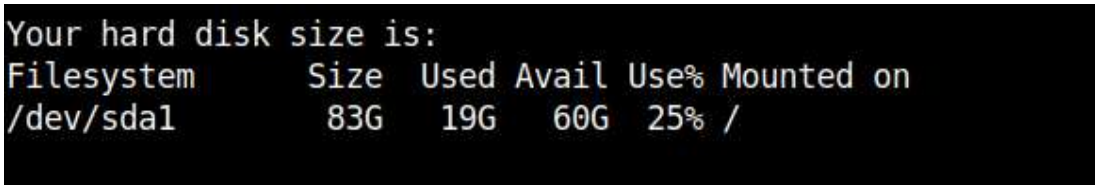
Result: Each time the user runs the script, the user will be presented with the external ip address.



We use the command df -H /dev/sda1 to show the information on the hard disk of the computer we are using.

```
16  #Display hard disk size
17  echo 'Your hard disk size is:'
18  df -H /dev/sda1
19  echo ''
```

Result: Each time the user runs the script, the user will be presented with the information of the hard disk which includes the total hard disk size, used space and also the available/free space on the hard disk.



To get the Top 5 directories we use : du -ah /home | sort -n -r | head -n 5
du - is disk usage, -a is all the information in the /home directory, -h is to make the information human readable.
We then use sort to arrange the information, -n is sort numerically, -r is reverse the result so that the bigger numbers are on the top rather than the bottom.
Lastly use the command head -n 5 to get the results of the top 5 directories.

```
20  #Display top 5 directories and their size.
21  echo 'Your top 5 directories are:'
22  du -ah /home | sort -n -r | head -n 5
23  echo''
```

Result: Each time the user runs the script, the user will be presented with the information of the top 5 directories.

```
Your top 5 directories are:
800K    /home/kali/.mozilla/firefox/wrt02rye.default-esr/storage/permanent/chrome/idb/3870112724rsegmnoittet-es.files
800K    /home/kali/.cache/mozilla/firefox/wrt02rye.default-esr/cache2/entries/D2EB0C7D6998870A1BA3405A1E44E91E81BBB4D9
792K    /home/kali/.mozilla/firefox/wrt02rye.default-esr/storage/permanent/chrome/idb/3870112724rsegmnoittet-es.files/1
788K    /home/kali/.local/share/Trash/files
564K    /home/kali/.cache/mozilla/firefox/wrt02rye.default-esr/safebrowsing/google4/goog-badbinurl-proto.vlpset
```

To display the CPU usage and get it to refresh every 10 seconds.
We use top -d 10.
The top utility is a commonly used tool for displaying system-performance information and -d to change the duration it refreshes. Typically it refreshes every 3 seconds but by doing -d 10 it refreshes every 10 seconds.

```
24  #Display total CPU usage.
25  echo 'Total CPU usage:'
26  top -d 10
27
```

Result: Each time the user runs the script, the user will be presented with the CPU usage information and also the information will be refreshed every 10 seconds.