ASSIGNMENT-8

AIM:-Write the description and syntax of basic networking commands

1.ping:- Ping is a computer network administration software utility used to test the reachability of a host on an Internet Protocol (IP) network. It is available for virtually all operating systems that have networking capability, including most embedded network administration software.

Ping measures the round-trip time for messages sent from the originating host to a destination computer that are echoed back to the source.

```
Usage: ping [-t] [-a] [-n count] [-l size] [-f] [-i TTL] [-v TOS]
           [-r count] [-s count] [[-j host-list] | [-k host-list]]
           [-w timeout] [-R] [-S srcaddr] [-c compartment] [-p]
           [-4] [-6] target_name

Options:
    -t             Ping the specified host until stopped.
                   To see statistics and continue - type Control-Break;
                   To stop - type Control-C.
    -a             Resolve addresses to hostnames.
    -n count       Number of echo requests to send.
    -l size        Send buffer size.
    -f             Set Don't Fragment flag in packet (IPv4-only).
    -i TTL         Time To Live.
    -v TOS         Type Of Service (IPv4-only. This setting has been deprecated
                   and has no effect on the type of service field in the IP
                   Header).
    -r count       Record route for count hops (IPv4-only).
    -s count       Timestamp for count hops (IPv4-only).
    -j host-list   Loose source route along host-list (IPv4-only).
    -k host-list   Strict source route along host-list (IPv4-only).
    -w timeout     Timeout in milliseconds to wait for each reply.
    -R             Use routing header to test reverse route also (IPv6-only).
                   Per RFC 5095 the use of this routing header has been
                   deprecated. Some systems may drop echo requests if
                   this header is used.
    -S srcaddr     Source address to use.
    -c compartment Routing compartment identifier.
    -p             Ping a Hyper-V Network Virtualization provider address.
    -4             Force using IPv4.
    -6             Force using IPv6.
```

```
C:\Users\hp>ping 192.168.10.2

Pinging 192.168.10.2 with 32 bytes of data:
Reply from 192.168.10.2: bytes=32 time=2ms TTL=128
Reply from 192.168.10.2: bytes=32 time=3ms TTL=128
Reply from 192.168.10.2: bytes=32 time=2ms TTL=128
Reply from 192.168.10.2: bytes=32 time=2ms TTL=128

Ping statistics for 192.168.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 3ms, Average = 2ms
```

2.Traceroute:- Tracert is a command which can show you the path a packet of information takes from your computer to one you specify. It will list all the routers it passes through until it reaches its destination, or fails to and is discarded. In addition to this, it will tell you how long each 'hop' from router to router takes.

```
C:\Users\hp>tracert

Usage: tracert [-d] [-h maximum_hops] [-j host-list] [-w timeout]
               [-R] [-S srcaddr] [-4] [-6] target_name

Options:
    -d                 Do not resolve addresses to hostnames.
    -h maximum_hops    Maximum number of hops to search for target.
    -j host-list       Loose source route along host-list (IPv4-only).
    -w timeout         Wait timeout milliseconds for each reply.
    -R                 Trace round-trip path (IPv6-only).
    -S srcaddr         Source address to use (IPv6-only).
    -4                 Force using IPv4.
    -6                 Force using IPv6.
```

```
C:\Users\hp>tracert -d 192.168.10.2

Tracing route to 192.168.10.2 over a maximum of 30 hops

  1     2 ms     3 ms     1 ms  192.168.10.2

Trace complete.
```

3.ipconfig/ifconfig:-ipconfig (standing for "Internet Protocol configuration") is a console application program of some computer operating systems that displays all current TCP/IP network configuration values and refreshes Dynamic Host Configuration Protocol (DHCP) and Domain Name System (DNS) settings.

Syntax:-

IPCONFIG /all:-Display full configuration information.
IPCONFIG /release [adapter]:- Release the IP address for the specified adapter.
IPCONFIG /renew [adapter]:- Renew the IP address for the specified adapter.
IPCONFIG /flushdns:- Purge the DNS Resolver cache.
IPCONFIG /registerdns:- Refresh all DHCP leases and re-register DNS names.
IPCONFIG /displaydns:- Display the contents of the DNS Resolver Cache.
IPCONFIG /showclassid adapter:- Display all the DHCP class IDs allowed for adapter.
IPCONFIG /setclassid adapter [classid]:- Modify the dhcp class id.

```
C:\Users\hp>ipconfig

Windows IP Configuration


Ethernet adapter Ethernet:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 1:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 2:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Wi-Fi:

   Connection-specific DNS Suffix  . : modyunversity.ac.in
   Link-local IPv6 Address . . . . . : fe80::95c8:3972:45c9:b5ce%6
   IPv4 Address. . . . . . . . . . . : 10.20.57.11
   Subnet Mask . . . . . . . . . . . : 255.255.240.0
   Default Gateway . . . . . . . . . : 10.20.48.1
```

4.nslookup:-Displays information from Domain Name System (DNS) name servers.
NOTE :If you write the command as above it shows as default your pc's server name firstly.

```
C:\Users\hp>nslookup
Default Server:  UnKnown
Address:  fec0:0:0:ffff::1
```

5.pathping:- A better version of tracert and it is used to locate spots that have network latency and network loss.

```
C:\Users\hp>pathping

Usage: pathping [-g host-list] [-h maximum_hops] [-i address] [-n]
                [-p period] [-q num_queries] [-w timeout]
                [-4] [-6] target_name

Options:
    -g host-list     Loose source route along host-list.
    -h maximum_hops  Maximum number of hops to search for target.
    -i address       Use the specified source address.
    -n               Do not resolve addresses to hostnames.
    -p period        Wait period milliseconds between pings.
    -q num_queries   Number of queries per hop.
    -w timeout       Wait timeout milliseconds for each reply.
    -4               Force using IPv4.
    -6               Force using IPv6.
```