Assignment 1
The objective of this assignment is to exercise using some useful network tools and commands for determining the network states and troubleshooting. The tools are:

**nslookup:**
A tool for DNS resolving (address, MX and NS records).

**ping**
A tool for checking the network connectivity.

**traceroute (in linux) or tracert (in windows)**
A tool for tracing a path in the TCP/IP network by using ICMP massages

**netstat**
A tool that displays active TCP connections, TCP and IP statistics of a host.

**tcpdump (in linux) or windump (in windows)**
A packet capturing tool that captures and analysis the network packets.

Read the manuals of the above commands and tools and consider an active Internet domain name (e.g. google.com) then
1. Resolve the IP address of web server, mail server and NS server of the considered domain by using **nslookup** command.
2. Measure the RTT (Round Trip Time) between your host and the web server of the domain by using **ping** command.
3. Discover all the routers in the path between your host and the web server of the domain by using **traceroute/tracert** command.
4. Type in your browser www.**domain.com** and determine the source port number of the established TCP connections by using **netstat** tool and also capture all the packets exchanged between you host and www.**domain.com** by **tcpdump/windump** tools.

You must report the results of the above exercises.