Experiment 1

Aim:

Study on network elements, IP address, Subnet mask and network simulator(s)

Objectives:

1. An overview on network elements (i.e. switch, hub, router, bridge, repeater, access point).
2. An overview on different classes of IP addressing, subnet mask and gateway.
3. Introduction to Cisco Packet Tracer (CPT) tool to configure a network.
4. Making connection between two host PCs (end devices) and analysing the communication using ping command.

Exercises:

1. Differentiate layer 2 and layer 3 switches.
2. Compare and contrast IPv4 and IPv6 addresses. What are the default subnet mask for class A, class B and class C IP address?
3. Which of the classes does the following IP address belong to?
   a. 10.10.10.1
   b. 172.16.4.3
   c. 192.168.1.20
4. What are the key features of Cisco Packet Tracer?
5. Explain the two workspaces and two modes of operation in Packet Tracer.