Experiment 2

Aim:

Implementation of basic Ethernet using Cisco Packet Tracer to understand and make IP, TCP and UDP Header Analysis

Objectives:

1. An overview on headers (i.e. Ethernet, IP, TCP & UDP), ICMP. FTP and TFTP.
2. Configuration of an Ethernet using the network devices in Cisco Packet Tracer.
3. Simulating the Ethernet by transmitting ICMP. FTP and TFTP messages between two end devices.
4. Understanding and analysing different fields of IP, TCP and UDP headers after simulation.

Exercises:

1. Given the value available in “fragment offset” field of IP header is 100. what is the number of bytes ahead of this fragment?
2. An IP packet has arrived with the first 8 bits as 01000010. What is the version and the header length?
3. A TCP header in hexadecimal format is given as

   below. 05320017 00000001 00000000 500207ff

   00000000

   a. What is the source port number?
   b. What is the destination port number?
   c. What is the length of the header?
   d. What is the window size?
4. Given a UDP header in hexadecimal format 06 32 00 0D 00 1C E2 17**.** Find the following:
   a. Source port number.
   b. Destination port number.
   c. Length of user datagram.
   d. Length of the data.