* + Network, Packets and Protocols:
    - Host and router:
      * The application program (internet browser) is the host.
      * Router are machine to relay or forward information from one communication to other. Not all host directly connect to one router, so few hosts connect to router, which is connected to other routers.
    - Packet:
      * Sequence of bytes are constructed by program.
      * In networking, these sequence of bytes are called packet.
    - Protocol:
      * Protocol is the agreement about the packet exchanged by communicating program. Protocol may tell how packets are structured, how big they are.
      * HTTP (HyperText Transfer Protocol) solves the problem of transferring hypertext object between server.
      * To implement a useful network, we need multiple different protocols to solve the problems. TCP/IP is a protocol suite which is collection of solution.
      * As figure 1.1 : From the data in application, it is sent to host on UDP or TCP by Socket. From Host, it send data to router through IP and router send to the receiver’s host.
      * TCP/IP :
        + Bottom layer deal with forwarding packet toward their destination. IP provides a datagram service: each IP packet contain the address of its destination and is delivered independently.
        + Above layer (transport layer) : TCP and UDP have both addressing function, to get a packet to a particular application program, TCP and UDP use addresses, are called port number. End to end protocol to carry data from application to other application.
        + TCP is reliable byte-stream while UDP is not.
  + About Addresses:
    - IP and port number. IP are binary number (32 bit for IPv4 and 128 bit for IPv6)
    - Each address refers to the connection between a host and network interface
    - A port number is 16 bit unsigned binary number.
    - NAT (Network address translation) : allow small group of hosts effectively share a single IP address.
  + About Name:
    - DNS (Domain Name System) : is a distributed database that maps domain name to IP
  + Client and Server:
    - In client and server architecture, the client don’t need to remember the server’s ip after the connection is established.
  + What is the Socket?
    - A socket allows an application plug into the network and communicate with other application that are plugged into same network.
    - Stream socket: using TCP is the reliable stream service
    - Datagram socket: using UDP is not reliable but can send individual message up to about 65,500 bytes.
    - One application can use multiple socket and vice versa, one socket can have multiple application. One socket connect to either TCP port or UDP port