CECS 474 Computer Network Interoperability
IP Addressing Assignment

1. Find the following values for the given IP addresses:
    - Subnet mask (in decimal dotted values)
    - Range (Network ID and Broadcast ID)
    - Valid Hosts
    - Number of subnets

15.10.100.10/17

205.125.125.133/19

150.50.25.50/22

197.34.109.250/26

172.26.5.254/23

221.245.36.36/28

136.169.168.167/29

2. Using the given FLSM network provide subnetting to meet the IP requirements. For each case provide number of networks, subnet mask in CIDR form, and list all possible network IDs and Broadcast IDs

    a. Req = 63 hosts, using a C-class address network 192.168.168.0/24

    b. Req = 5 hosts, using a C-class address network 190.33.0.0/16

    c. Req = 500 hosts, using a B-class address network 172.16.0.0/16

    d. Req = 5000 hosts, using a B-class address network 199.1.0.0/16

    e. Req = 30000 hosts, using a B-class address network 130.18.0.0/16

    f. Req = 280000 hosts, using a A-class address network 10.0.0.0/8

3. Using VLSM provide subnetting to meet the requirements in each LAN for the following WAN. For each LAN provide network ID, Broadcast IDs, subnet mask in CIDR form, and the usable or routable range of IPs. Hint: You should begin your work by counting the total number of IPs required in the entire WAN; remember to also consider the extra 2 non-routable IPs (for network and broadcast) on each LAN and point-to-point links. Then you decide which full class subnet will suffice the requirements. Use one of the following prefixes:
   For Class A → 10.0.0.0/8
   For Class B → 172.30.0.0/16
   For Class C → 192.168.4.0/24