Internet Engineering
Assignment #1: IP Addressing

1. Obtain broadcast address and network address for a network which contains following addresses:
    a. 192.168.1.5
    b. 192.168.1.5/20
    c. 12.45.100.60/12
    d. 127.0.0.1
    e. 127.0.0.1/24
    f. 200.222.148.25/17
2. Obtain number of addresses in **a block** for following addresses:
    a. 194.225.238.227/24
    b. 100.10.1.0
    c. 10.152.48.192/13
    d. 146.200.18.18/20
    e. 222.111.22.11

3. Suppose a company with starting address 16.111.47.0/24. This company needs 12 subnets with following specifications:
    a. 8 subnet each contains 8 addresses
    b. 2 subnet each contains 32 addresses
    c. 2 subnet each contains 64 addresses

    Obtain addresses for each subnet.

4. An ISP has an address block which start with 177.17.0.0/16. The ISP divides this addresses between 4 groups of clients with following specifications:
    a. 1st group has 128 clients that each client need 32 addresses.
    b. 2nd group has 128 clients that each client need 64 addresses.
    c. 3th group has 8 clients that each client need 1024 addresses.
    d. 4th group has 256 clients that each client need 128 addresses.

    Design the subnets and calculate how many IP address will be unused.