# Network Servers and Infrastructure

## Assignment 4

**Q1: Suppose that a network has an address 195.185.125.0. This network should be divided into 8 subnets. Extract the following task for each of the following subnet**

1. Subnet ID
2. Broadcast ID for each subnet
3. Range of IP addresses for each subnet

After that determines in which subnet this IP address 195.185.125.180 located.

$2^3$

| 000 | 0.0.0.0.0 |
|---|---|
| | 1.1.1.1.1 |
| 001 | 0.0.0.0.0 |
| | 1.1.1.1.1 |
| 010 | 0.0.0.0.0 |
| | 1.1.1.1.1 |
| 011 | 0.0.0.0.0 |
| | 1.1.1.1.1 |
| 100 | 0.0.0.0.0 |
| | 1.1.1.1.1 |
| 101 | 0.0.0.0.0 |
| | 1.1.1.1.1 |
| 110 | 0.0.0.0.0 |
| | 1.1.1.1.1 |
| 111 | 0.0.0.0.0 |
| | 1.1.1.1.1 |

**195.185.125.0 is a class C**

**11000011.10111001.01111101.10110100**

| Network | | | Host |
|---|---|---|---|
| 195 | 185 | 125 | 180 |

| | Subnet ID | Broadcast ID | Range of IP addresses |
|---|---|---|---|
| 11000011.10111001.01111101.00000000-<br>11000011.10111001.01111101.00011111<br><br>195.185.125.0-195.185.125.31 | 195.185.125.0 | 195.185.125.31 | 11000011.10111001.01111101.00000001-<br>11000011.10111001.01111101.00011110<br><br>195.185.125.1-195.185.125.30 |
| 11000011.10111001.01111101.00100000-<br>11000011.10111001.01111101.00111111<br><br>195.185.125.32-195.185.125.63 | 195.185.125.32 | 195.185.125.63 | 11000011.10111001.01111101.00100001-<br>11000011.10111001.01111101.00111110<br><br>195.185.125.31-195.185.125.62 |
| 11000011.10111001.01111101.01000000-<br>11000011.10111001.01111101.01011111<br><br>195.185.125.64-195.185.125.95 | 195.185.125.64 | 195.185.125.95 | 11000011.10111001.01111101.01000001-<br>11000011.10111001.01111101.01011110<br><br>195.185.125.65-195.185.125.94 |
| 11000011.10111001.01111101.01100000-<br>11000011.10111001.01111101.01111111<br><br>195.185.125.96-195.185.125.127 | 195.185.125.96 | 195.185.125.127 | 11000011.10111001.01111101.01100001-<br>11000011.10111001.01111101.01111110<br><br>195.185.125.96-195.185.125.126 |
| 11000011.10111001.01111101.10000000-<br>11000011.10111001.01111101.10011111<br><br>195.185.125.128-195.185.125.159 | 195.185.125.128 | 195.185.125.159 | 11000011.10111001.01111101.10000001-<br>11000011.10111001.01111101.10011110<br><br>195.185.125.129-195.185.125.158 |
| 11000011.10111001.01111101.10100000-<br>11000011.10111001.01111101.10111111<br><br>195.185.125.160-195.185.125.191 | 195.185.125.160 | 195.185.125.191 | 11000011.10111001.01111101.10100001-<br>11000011.10111001.01111101.10111110<br><br>195.185.125.161-195.185.125.190 |
| 11000011.10111001.01111101.11000000-<br>11000011.10111001.01111101.11011111<br><br>195.185.125.192-195.185.125.223 | 195.185.125.192 | 195.185.125.223 | 11000011.10111001.01111101.1100001-<br>11000011.10111001.01111101.11011110<br><br>195.185.125.193-195.185.125.222 |
| 11000011.10111001.01111101.11100000-<br>11000011.10111001.01111101.11111111<br><br>195.185.125.224-195.185.125.255 | 195.185.125.224 | 195.185.125.255 | 11000011.10111001.01111101.11100001-<br>11000011.10111001.01111101.11111110<br><br>195.185.125.225-195.185.125.254 |

# 195.185.125.180 is a class **c** and located at subnet 6
195.185.125.160-195.185.125.191
Binary:

11000011.10111001.01111101.<span style="color:red">11000000-</span>
11000011.10111001.01111101.<span style="color:red">11011111</span>