

# **CYSE-270- Linux System For Cybersecurity**

## **Assignment –10**

### **Networking Basics - Subnetting (100 points)**

Understanding subnetting takes time and practice. Using the methods covered during the class, fill in the following tables for **Network, broadcast, first IP, Last IP and Max. Hosts in the network.**

The column for IP address should be in Decimal format for each, except number of hosts. (Refer to the examples in the slide for week 10-Networking Basics)

#### **Task-A: (50 Points)**

| Category                    | IP Address     | Binary Format                       |
|-----------------------------|----------------|-------------------------------------|
| Address                     | 192.168.100.4  | 11000000.10101000.01100100.00000100 |
| Netmask                     | 28             | 11111111.11111111.11111111.11110000 |
| Network address             | 192.168.100.0  | 11000000.10101000.01100100.00000000 |
| Broadcast address           | 192.168.100.15 | 11000000.10101000.01100100.00001111 |
| First IP                    | 192.198.100.1  | 11000000.10101000.01100100.00000001 |
| Last IP                     | 192.198.100.14 | 11000000.10101000.01100100.00001110 |
| Maximum host in the network | 16             |                                     |

#### **Task-B: (50 points)**

| Category          | IP Address | Binary Format                       |
|-------------------|------------|-------------------------------------|
| Address           | 170.1.0.0  | 10101010.00000001.00000000.00000000 |
| Netmask           | 26         | 11111111.11111111.11111111.11000000 |
| Network address   | 170.1.0.0  | 10101010.00000001.00000000.00000000 |
| Broadcast address | 170.1.0.63 | 10101010.00000001.00000000.00111111 |
| First IP          | 170.1.0.1  | 10101010.00000001.00000000.00000001 |
| Last IP           | 170.1.0.1  | 10101010.00000001.00000000.00111110 |

|                             |    |  |
|-----------------------------|----|--|
| Maximum host in the network | 64 |  |
|-----------------------------|----|--|

### **Extra Credit (10 points)**

Write a bash script to print out 0~10 in shell scripts by using for loop and while loop, respectively? Please submit the screenshot for the script and its output, both.