**Q1)Classify the IPv4 address to its type (network, host, multicast, or broadcast address).**

|  |  |  |
| --- | --- | --- |
| **IP** | **Subnet Mask** | **Type** |
| **10.1.1.1** | **255.255.255.252** | **host** |
| **192.168.33.63** | **255.255.255.192** |  |
| **239.192.1.100** | **255.252.0.0** |  |
| **172.25.12.52** | **255.255.255.0** |  |
| **10.255.0.0** | **255.0.0.0** |  |
| **172.16.128.48** | **255.255.255.240** |  |
| **209.165.202.159** | **255.255.255.224** |  |
| **172.16.0.255** | **255.255.0.0** |  |
| **224.10.1.11** | **255.255.255.0** |  |

**Q2)Complete the table:**

|  |  |  |  |
| --- | --- | --- | --- |
| Address /Prefix | Network/Host  N,n = Network  H,h = Host | Subnet Mask | Network Address |
| 192.168.10.10/24 | N.N.N.H | 255.255.255.0 | 192.168.10.0 |
| 10.101.99.17/23 | N.N.nnnnnnnh.H | 255.255.254.0 | 10.101.98.0 |
| 172.16.117.77/20 |  |  |  |
| 10.1.8.200/26 |  |  |  |

**Q3)For each the following address , give the 1st host address , last host address ,network address and**

**broadcast address**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Address /Prefix | 1st host | Last host | network | broadcast |
| 172.16.117.77/20 |  |  |  |  |
| 10.1.8.200/26 |  |  |  |  |
| 10.226.133.219/9 |  |  |  |  |
| 21.100.22.61/30 |  |  |  |  |

**Q4) For each one of the following IPs, determine the class, subnet mask, network IP, & broadcast address.**

1. 192.168.20.12
2. 172.16.20.47
3. 10.68.20.4