IP Subnet Breakdown

Overview:

As part of your assigned readings and material covered in the class lecture you have been provided information about IP subnet breakdowns. For this assignment the students will answer questions related to IP subnet ID determination concepts and perform analysis and calculation for the scenarios provided. Chapter 18 in the textbook provides practice question and answers for this type of procedure. Be sure to review those questions and methods before completing this assignment.

For each of the five questions, fill in the table for the IP subnets given IP address. Also, if the numbers of subnets is greater than eight, show the first seven and the last subnet. Be sure to show your work in the space provided or on separate pages.

Questions are on the next pages.

Questions:

1. IP Address: 192.168.254.37/25

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Octet | 1 | 2 | 3 | 4 |
| Mask |  |  |  |  |
| Magic Number |  |  |  |  |
| Classful Network/Subnet Zero |  |  |  |  |
| First Nonzero Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet  |  |  |  |  |
| Broadcast Subnet |  |  |  |  |
| Invalid—Used by Process |  |  |  |  |

1. IP Address: 172.16.44.139/26

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Octet | 1 | 2 | 3 | 4 |
| Mask |  |  |  |  |
| Magic Number |  |  |  |  |
| Classful Network/Subnet Zero |  |  |  |  |
| First Nonzero Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet (continue if needed) |  |  |  |  |
| Broadcast Subnet |  |  |  |  |
| Invalid—Used by Process |  |  |  |  |

1. IP Address: 10.68.33.202/27

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Octet | 1 | 2 | 3 | 4 |
| Mask |  |  |  |  |
| Magic Number |  |  |  |  |
| Classful Network/Subnet Zero |  |  |  |  |
| First Nonzero Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Broadcast Subnet |  |  |  |  |
| Invalid—Used by Process |  |  |  |  |

1. IP Address: 192.168.52.77/28

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Octet | 1 | 2 | 3 | 4 |
| Mask |  |  |  |  |
| Magic Number |  |  |  |  |
| Classful Network/Subnet Zero |  |  |  |  |
| First Nonzero Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet  |  |  |  |  |
| Broadcast Subnet |  |  |  |  |
| Invalid—Used by Process |  |  |  |  |

1. IP Address: 172.16.55.93/23

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Octet | 1 | 2 | 3 | 4 |
| Mask |  |  |  |  |
| Magic Number |  |  |  |  |
| Classful Network/Subnet Zero |  |  |  |  |
| First Nonzero Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet |  |  |  |  |
| Next Subnet  |  |  |  |  |
| Broadcast Subnet |  |  |  |  |
| Invalid—Used by Process |  |  |  |  |