# IT2600-IP Addressing Homework V3

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Work the problems out by hand no calculators allowed, and submit your answers to canvas.

1. (1 pt) Your ISP sent you the following information. Default Gateway 130.75.69.32/21

What is the proper subnet mask for this IP address (in dotted decimal format)?

255.255.248.0

1. (1 pt) Given the subnet mask 255.255.255.252. How many host addresses are on this network?  
     
   2
2. (1 pt) What is the broadcast address for the network the 170.10.5.5 subnet 255.255.0.0 host is on?  
   170.10.255.255
3. (1 pt) What is the class full subnet mask for the IP address 99.187.60.50?  
     
   255.0.0.0
4. (2 pts) Using the rules we learned in class determine if these IP address configurations are valid for a **Public Internet** host? Make sure you apply all the address rules to determine validity.

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| **IP** | **Subnet** | **Valid** | **If not why?** |
| 230.50.10.5 | 255.255.255.0 | No | This is in Class D which is for Multicast |
| 192.168.1.5 | 255.255.255.0 | No | This is in private space |
| 131.25.92.34 | 255.255.0.0 | Yes |  |
| 200.44.18.33 | 255.256.255.192 | No | Subnet mask is invalid |

1. (4 pts) Given the following information, are the source and destination hosts on the same network? Find the network from both the source and destination address by anding the IP address with the subnet mask then compare network addresses.

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| **Source** | **Destination** | **Subnet Mask** | **Same Network?** |
| 190.15.22.18 | 190.55.22.19 | 255.255.255.0 | No |
| 220.15.90.62 | 220.15.90.65 | 255.255.255.192 | No |
| 99.18.97.1 | 99.18.125.2 | 255.255.224.0 | Yes |
| 150.222.255.1 | 150.222.25.1 | 255.255.0.0 | Yes |