Written Lab 4: Subnetting

Key Networking Terms:

1. Subnet mask- The 32-bit number that represents the network and host portions of an IP address.
2. Block Size- Similar to the weight a place value holds; helps to determine divisions between subnets.
3. Classless Inter-Domain Routing (CIDR)- This is a method (also a notation) that allows more network classes than just A, B, and C by using host bits as network bits in the subnet mask. (looks like /24, /27, /13)

Procedures:

4.1 Question 7: What is the mask of a class B network that needs 29 subnets?

255.255.248.0 is the most optimal subnet mask, which is a /21 in CIDR.

4.1 Question 10: What is the subnet for host ID 10.16.3.65/23?

NID: 10.16.2.0/23

FH: 10.16.2.1

LH: 10.16.3.254

SM: 255.255.254.0

Broadcast: 10.16.3.255/23

4.2 Question 1: Chart of class B subnetting with subnet mask and hosts

|  |  |  |
| --- | --- | --- |
| Classful Address | Subnet Mask | Actual hosts/subnet |
| /16 | 255.255.0.0 | 65534 |
| /17 | 255.255.128.0 | 32766 |
| /18 | 255.255.192.0 | 16382 |
| /19 | 255.255.224.0 | 8190 |
| /20 | 255.255.240.0 | 4094 |
| /21 | 255.255.248.0 | 2046 |
| /22 | 255.255.252.0 | 1022 |
| /23 | 255.255.254.0 | 510 |
| /24 | 255.255.255.0 | 254 |
| /25 | 255.255.255.128 | 126 |
| /26 | 255.255.255.192 | 62 |
| /27 | 255.255.255.224 | 30 |
| /28 | 255.255.255.240 | 14 |
| /29 | 255.255.255.248 | 6 |
| /30 | 255.255.255.252 | 2 |

Conclusions and Discussion:

The readings in this chapter reinforced/solidified some of the information I previously have learned. A few semesters ago, I got to learn subnetting for another class, but we only really did Class C; so this has been a review and also a learning experience. Gladly, I’ve always really liked subnetting, it has just made sense [so far] and tends to follow a pattern. I have noticed the book seems to write a few things differently, like how we always write everything out in class, but the book short hands a few things. I guess this makes sense since professions tend to have their own shorthand version of information.

Overall, this chapter was pretty easy for me to follow and understand. I am looking forward to the midterm.

Feedback:

