**CS610P Assignment #2 Spring 2024**

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**Solution:**

**Answer 1:**

* **Minimum Bits and Subnet Mask**

To support up to 50 devices we required:

Bits required for host portion = 6 bits

New subnet mask = 255.255.255.192 (/26)

**Table:**

|  |  |
| --- | --- |
| **Number of bits needed for Host ID** | 6 |
| **New subnet mask for each subnetwork** | 255.255.255.192/26 |

**Answer 2:**

* **Subnets for Office A and Office B**

|  |  |  |
| --- | --- | --- |
|  | **Office A** | **Office B** |
| **Network Address:** | 192.168.1.0/26 | 192.168.1.64/26 |
| **Broadcast Address:** | 192.168.1.63 | 192.168.1.127 |
| **Usable IP Range:** | 192.168.1.1 to 192.168.1.62 | 192.168.1.65 to 192.168.1.126 |
| **Broadcast Address:** | 192.168.1.63 | 192.168.1.127 |

This setup ensures each subnet can support up to 50 devices.