

**Binary Lesson 7**  
**Supernets**  
**/22, /23, and /24**

The background of the slide features a pattern of stylized, overlapping leaves in various shades of orange and yellow, creating a warm, autumnal atmosphere. The leaves are rendered in a flat, graphic style with visible veins.

# **Class C**

## **/24**

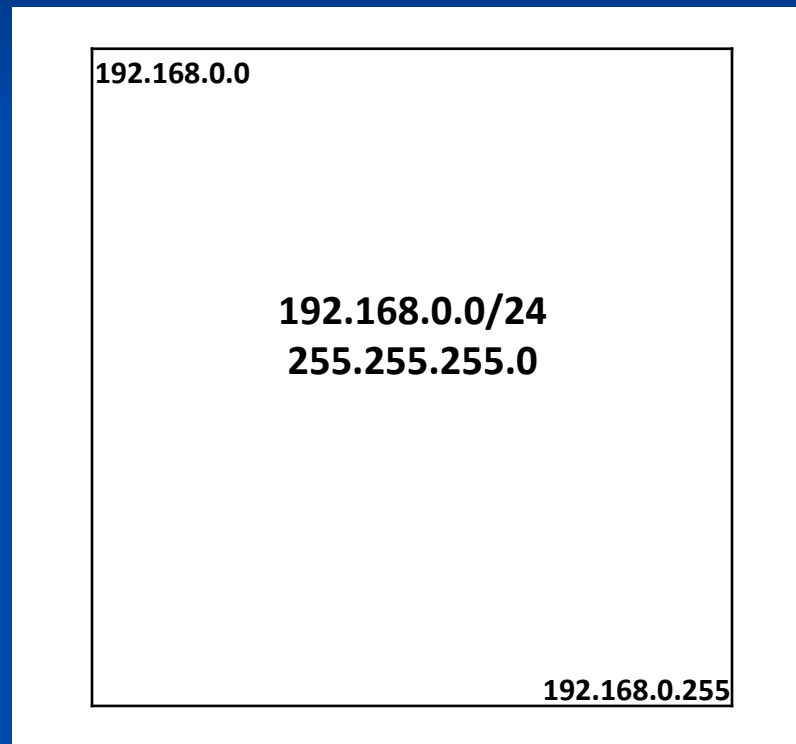
# Class C

- Class C address: 192.168.1.10 /24
- The *subnet mask* is 255.255.255.0
- The network address is 192.168.1.0
- The broadcast address is 192.168.1.255
- In Binary:

IP:	11000000	10101000	00000001	00001010
Subnt Msk:	11111111	11111111	11111111	00000000
Network:	11000000	10101000	00000001	00000000
Broadcast:	11000000	10101000	00000001	11111111

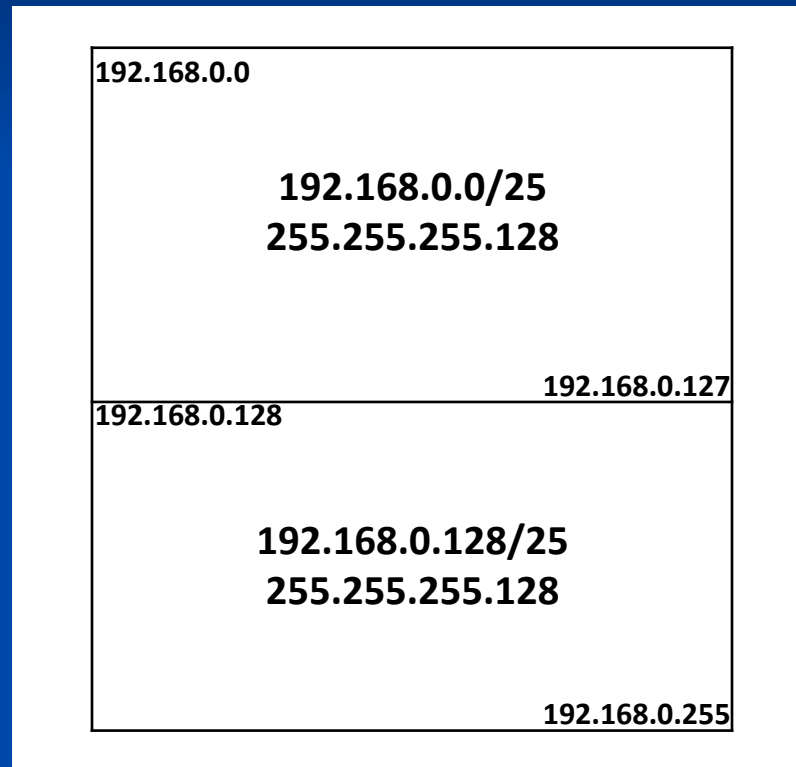
# A Class C Network (/24)

**Sub Mask: 11111111 11111111 11111111 00000000**



# Subnetting to /25

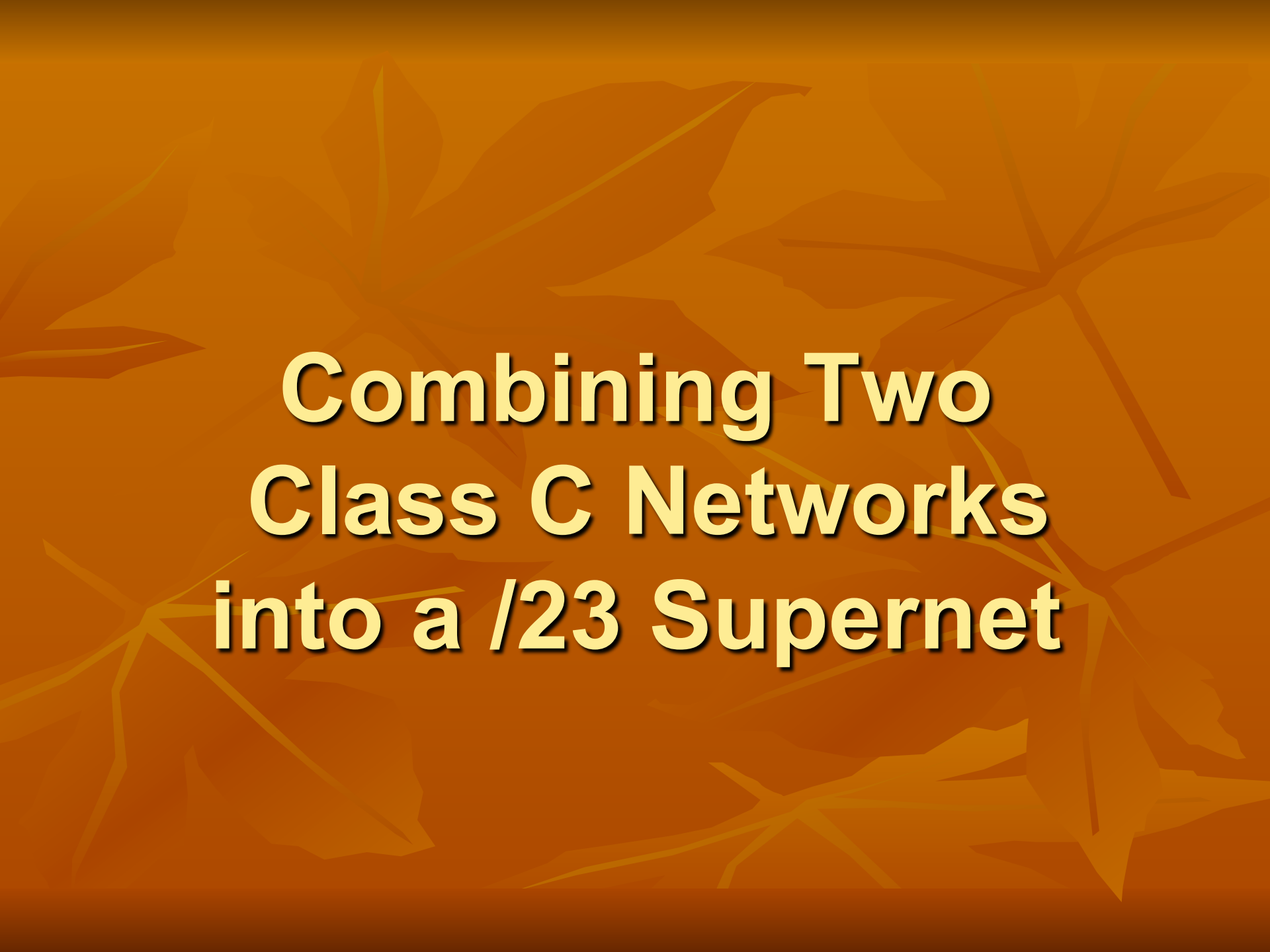
**Sub Mask: 11111111 11111111 11111111 10000000**



# Subnetting to /26

**Sub Mask: 11111111 11111111 11111111 11000000**

<b>192.168.0.0</b>	<b>192.168.0.64</b>
<b>192.168.0.0/26</b> <b>255.255.255.192</b>	<b>192.168.0.64/26</b> <b>255.255.255.192</b>
<b>192.168.0.63</b>	<b>192.168.0.127</b>
<b>192.168.0.128</b>	<b>192.168.0.192</b>
<b>192.168.0.128/26</b> <b>255.255.255.192</b>	<b>192.168.0.192/26</b> <b>255.255.255.192</b>
<b>192.168.0.191</b>	<b>192.168.0.255</b>



**Combining Two  
Class C Networks  
into a /23 Supernet**

# Two Class C Networks

192.168.0.0

192.168.0.0/24  
255.255.255.0

192.168.0.255

192.168.1.0

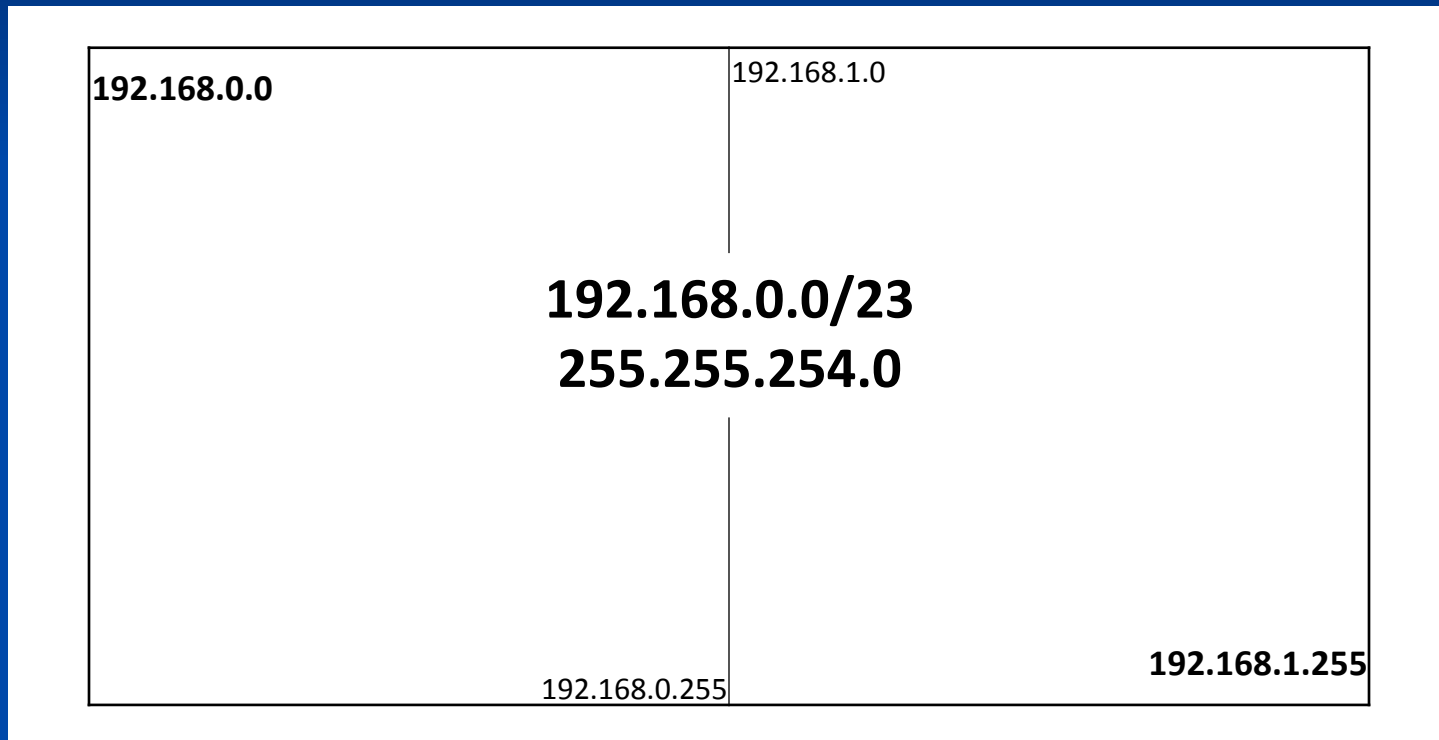
192.168.1.0/24  
255.255.255.0

192.168.1.255



# Supernetting to /23

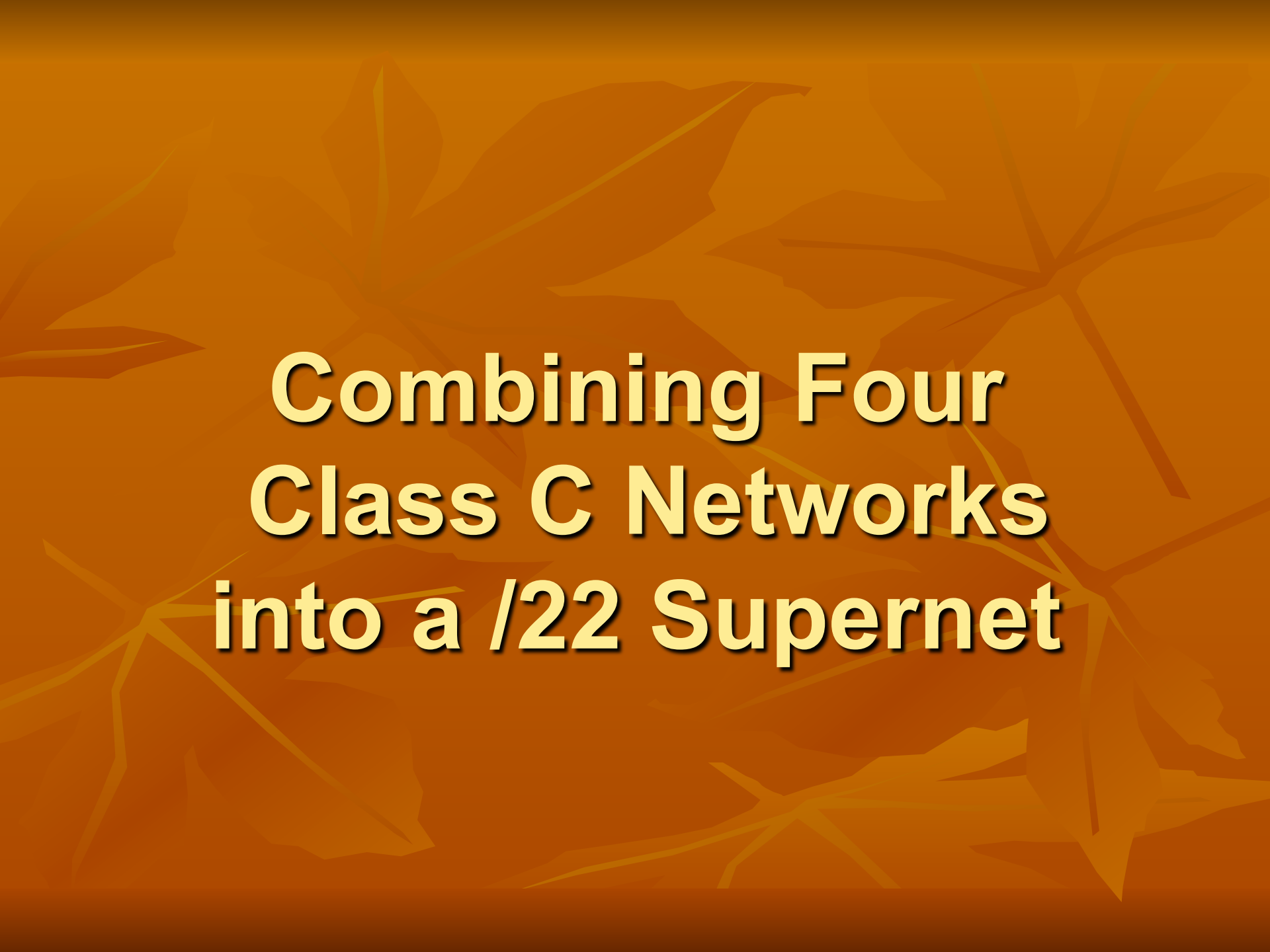
Sub Mask: 11111111 11111111 11111110 00000000



# Supernetted /23 Network

- Node address: 192.168.1.10 /23
- The *subnet mask* is 255.255.254.0
- The network address is 192.168.0.0
- The broadcast address is 192.168.1.255
- In Binary:

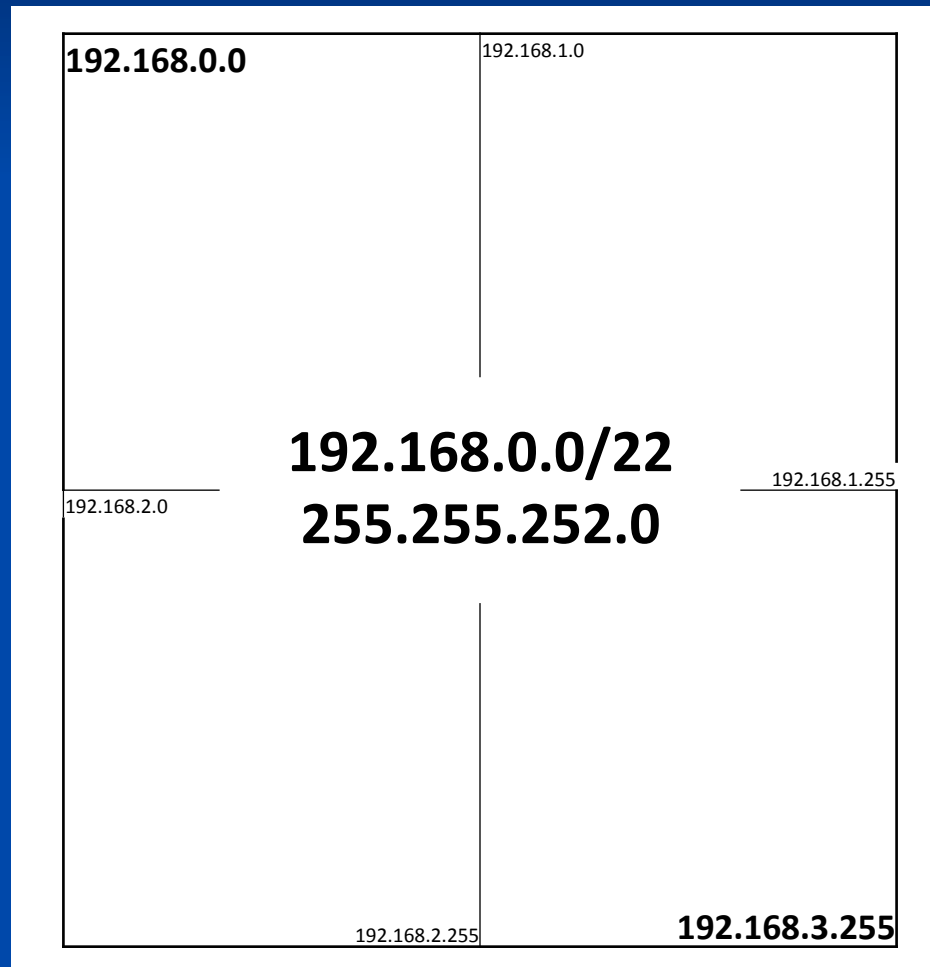
IP:	11000000	10101000	00000001	00001010
Subnt Msk:	11111111	11111111	11111110	00000000
Network:	11000000	10101000	00000000	00000000
Broadcast:	11000000	10101000	00000001	11111111



**Combining Four  
Class C Networks  
into a /22 Supernet**

# Supernetting to /22

Sub Mask: 11111111 11111111 11111100 00000000



# Supernetted /22 Network

- Node address: 192.168.1.10 /22
- The *subnet mask* is 255.255.252.0
- The network address is 192.168.0.0
- The broadcast address is 192.168.3.255
- In Binary:

IP:	11000000	10101000	00000001	00001010
Subnt Msk:	11111111	11111111	11111100	00000000
Network:	11000000	10101000	00000000	00000000
Broadcast:	11000000	10101000	00000011	11111111