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C:\Users\nabin>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 1:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 10:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Wireless LAN adapter Wi-Fi:

    Connection-specific DNS Suffix  . : worldlink.com.np
    IPv6 Address. . . . . : 2400:1a00:b1e0:c023::2
    IPv6 Address. . . . . : 2400:1a00:b1e0:c023:48a7:6c81:1db2:3181
    Temporary IPv6 Address. . . . . : 2400:1a00:b1e0:c023:851f:bbd6:882:b295
    Link-local IPv6 Address . . . . . : fe80::750e:7933:b7ae:a8e6%17
    IPv4 Address. . . . . : 192.168.1.85
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : fe80::1%17
                                192.168.1.254

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IP Address

IPv6 Address. : 2400:1a00:b1e0:c023::2

IPv6 Address : 2400:1a00:b1e0:c023:48a7:6c81:1db2:3181

Temporary IPv6 Address....: 2400:1a00:b1e0:c023:851f:bbd6:882:b295

Link-local IPv6 Address : fe80::750e:7933:b7ae:a8e6%17

IPv4 Address. : 192.168.1.85

Network Address: 192.168.1.0

Subnetmask: 255.255.255.0

Given the subnetmask and network address how many nodes can network support?

Determine the total number of bits in the host portion: The subnet mask will indicate how many bits are used for the network portion and how many are left for the host portion.

Calculate the total number of host addresses: The number of host addresses is

$2^{\text{number of host bits}} - 2$. The subtraction of 2 accounts for the network address and the broadcast address, which cannot be assigned to hosts.

Examples

1. Subnet Mask: 255.255.255.0 (CIDR /24)

- Network portion: 24 bits
- Host portion: $32 - 24 = 8$ bits
- Number of host addresses: $2^8 - 2 = 256 - 2 = 254$
- **Supports 254 hosts**