Modulo # 11 – Laboratorio # 11.6.6

Problem 1:

Given:	
Host IP Address:	192.168.200.139
Original Subnet Mask	255.255.255.0
New Subnet Mask:	255.255.255.224

Find:	
Number of Subnet Bits	3
Number of Subnets Created	8
Number of Host Bits per Subnet	5
Number of Hosts per Subnet	30
Network Address of this Subnet	192.168.200.128
IPv4 Address of First Host on this Subnet	192.168.200.129
IPv4 Address of Last Host on this Subnet	192.168.200.158
IPv4 Broadcast Address on this Subnet	192.168.200.159

Problem 2:

Given:	
Host IP Address:	10.101.99.228
Original Subnet Mask	255.0.0.0
New Subnet Mask:	255.255.128.0

Find:	
Number of Subnet Bits	9
Number of Subnets Created	512
Number of Host Bits per Subnet	15
Number of Hosts per Subnet	32,766
Network Address of this Subnet	10.101.0.0
IPv4 Address of First Host on this Subnet	10.101.0.1
IPv4 Address of Last Host on this Subnet	10.101.127.254
IPv4 Broadcast Address on this Subnet	10.101.127.255

Problem 3:

Given:	
Host IP Address:	172.22.32.12
Original Subnet Mask	255.255.0.0
New Subnet Mask:	255.255.224.0

Find:	
Number of Subnet Bits	3
Number of Subnets Created	8
Number of Host Bits per Subnet	13
Number of Hosts per Subnet	8,190
Network Address of this Subnet	172.22.32.0
IPv4 Address of First Host on this Subnet	172.22.32.1
IPv4 Address of Last Host on this Subnet	172.22.63.254
IPv4 Broadcast Address on this Subnet	172.22.63.255

Problem 4:

Given:	
Host IP Address:	192.1681.245
Original Subnet Mask	255.255.255.0
New Subnet Mask:	255.255.255.252

Find:	
Number of Subnet Bits	6
Number of Subnets Created	64
Number of Host Bits per Subnet	2
Number of Hosts per Subnet	2
Network Address of this Subnet	192.168.1.244
IPv4 Address of First Host on this Subnet	192.168.1.245
IPv4 Address of Last Host on this Subnet	192.168.1.246
IPv4 Broadcast Address on this Subnet	195.168.1.247

Problem 5:

Given:	
Host IP Address:	128.107.0.55
Original Subnet Mask	255.255.0.0
New Subnet Mask:	255.255.255.0

Find:	
Number of Subnet Bits	8
Number of Subnets Created	256
Number of Host Bits per Subnet	8
Number of Hosts per Subnet	254
Network Address of this Subnet	128.107.0.0
IPv4 Address of First Host on this Subnet	128.107.0.1
IPv4 Address of Last Host on this Subnet	128.107.0.254
IPv4 Broadcast Address on this Subnet	128.107.0.255

Problem 6:

Given:	
Host IP Address:	192.135.250.180
Original Subnet Mask	255.255.255.0
New Subnet Mask:	255.255.255.248

Find:	
Number of Subnet Bits	5
Number of Subnets Created	32
Number of Host Bits per Subnet	3
Number of Hosts per Subnet	6
Network Address of this Subnet	192.135.250.176
IPv4 Address of First Host on this Subnet	192.135.250.177
IPv4 Address of Last Host on this Subnet	192.135.250.182
IPv4 Broadcast Address on this Subnet	192.135.250.183

¿Por qué es tan importante la máscara de subred al analizar una dirección IPv4?

La máscara de subred determina todo sobre la dirección: la red, el número de bits de host, la cantidad de hosts y la dirección de broadcast. Simplemente mirar una dirección IPv4 no te dice nada. Necesitas la máscara de subred para completar toda la información importante.