Question 1:

Question 2:

Question 3:

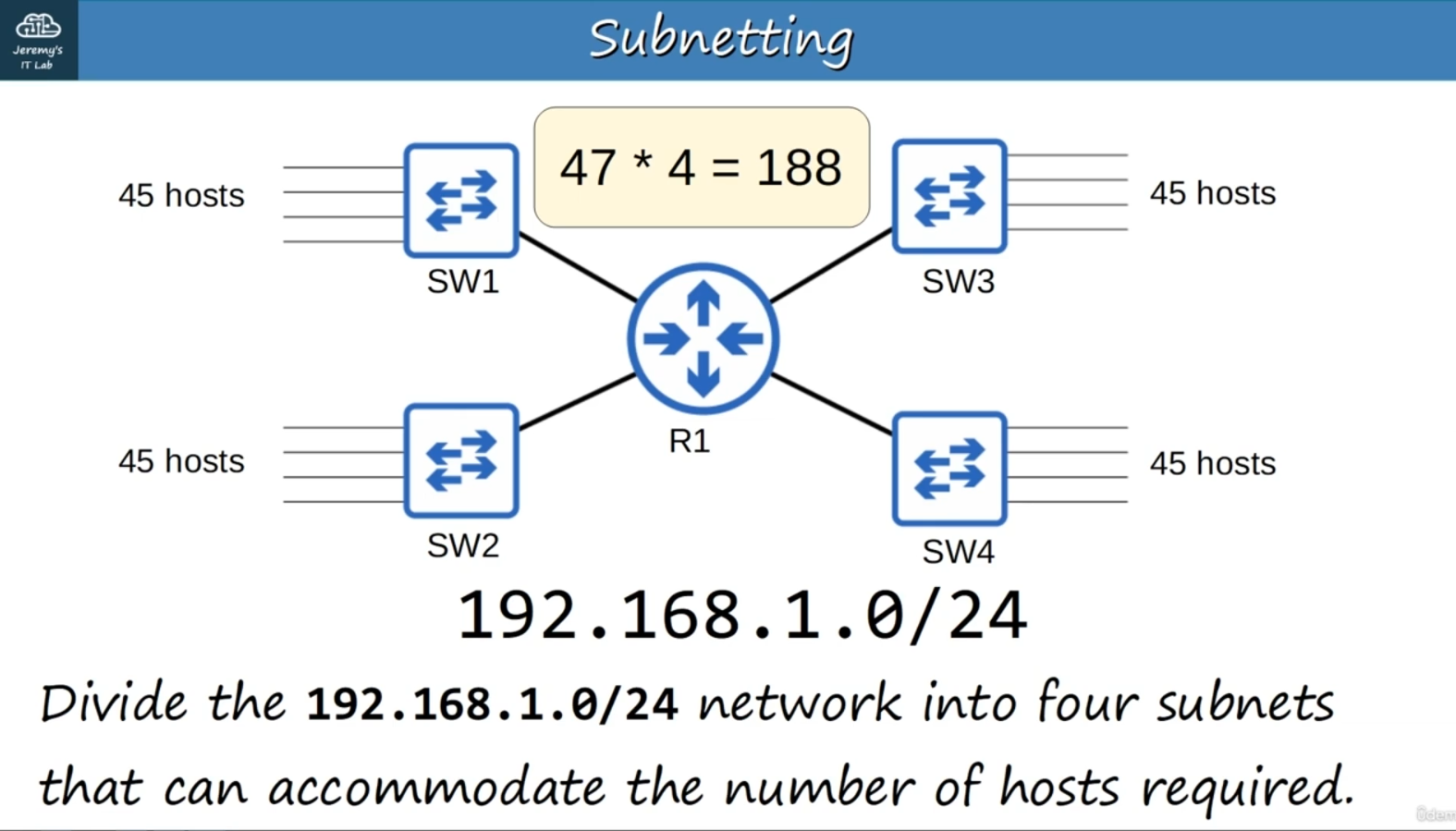


Notes:

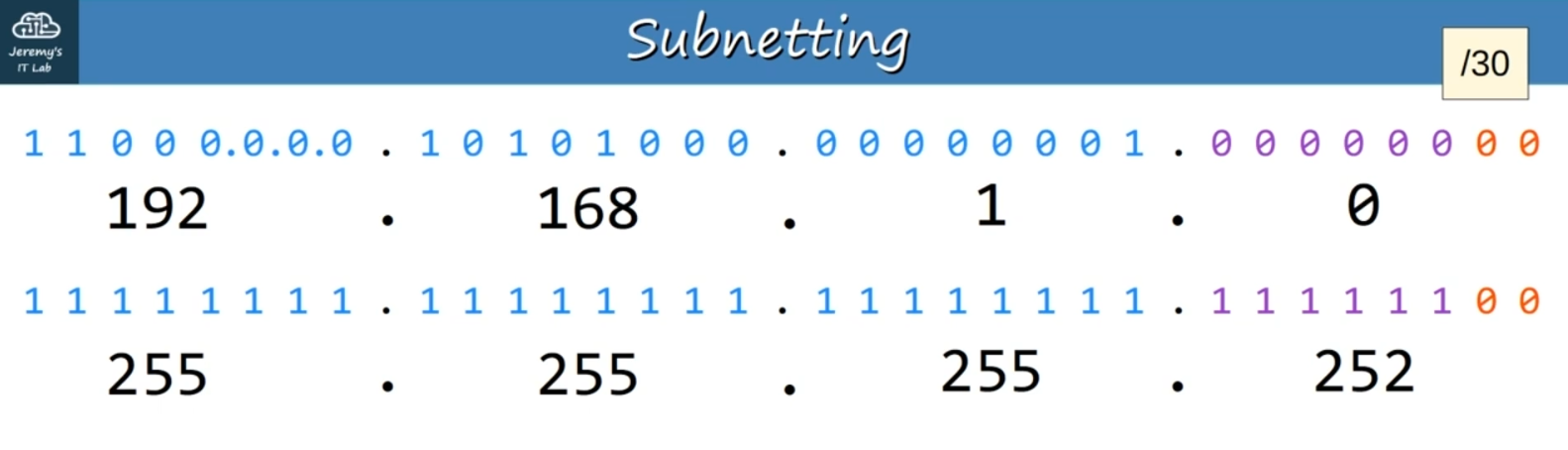
https://www.pubconcierge.com/blog/subnetting-101-free-ipv4-cheat-sheet/

A table with numbers and numbers

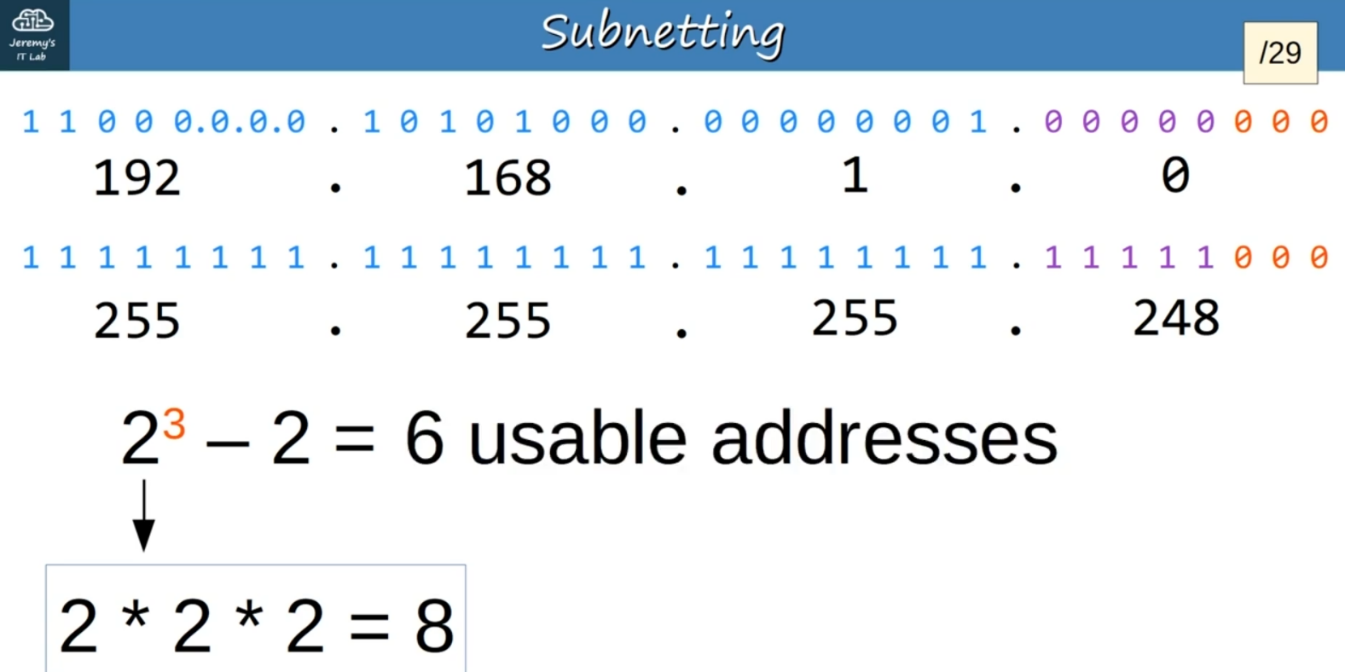
Description automatically generated



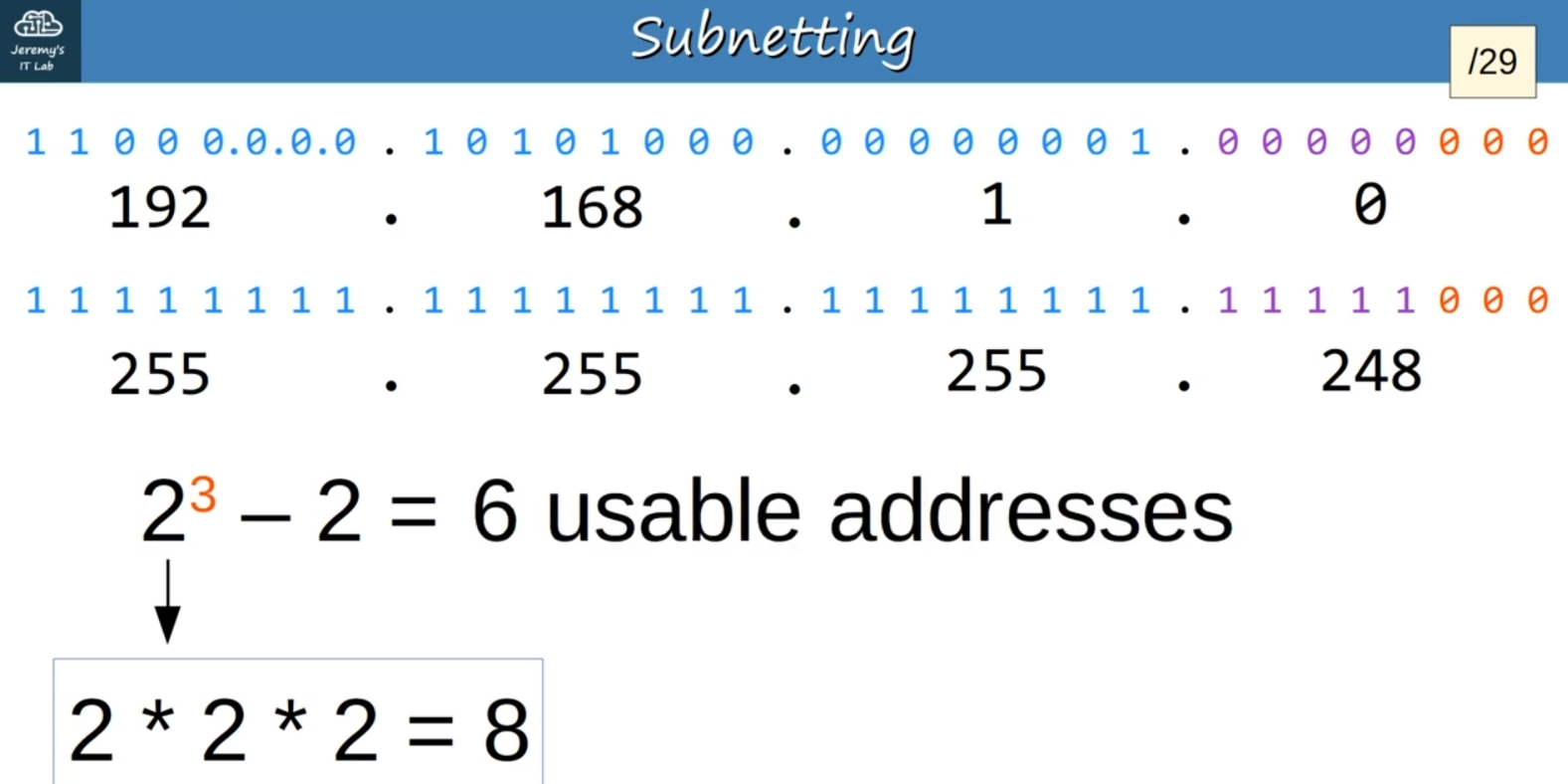
These are not point to point so we start at /30



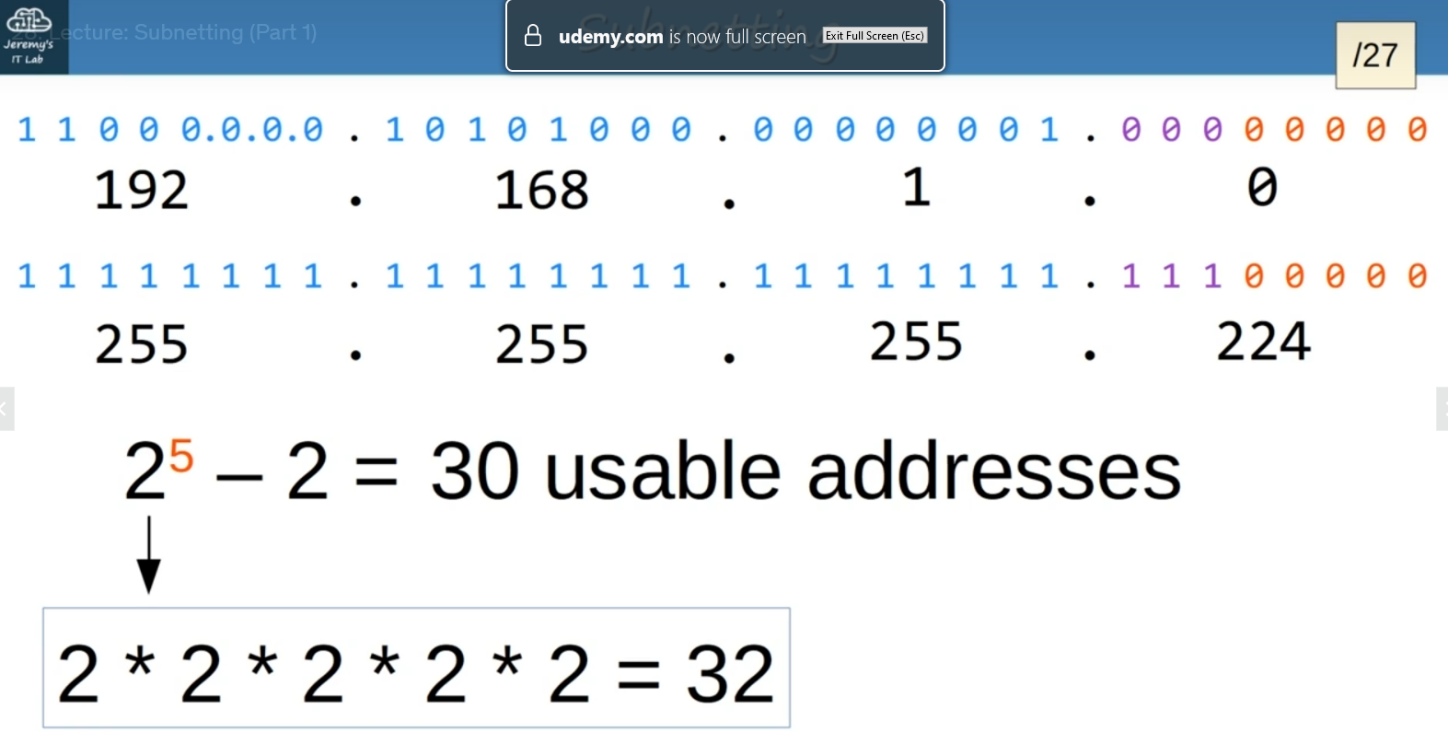
/29 is also too small for the number of hosts for each network



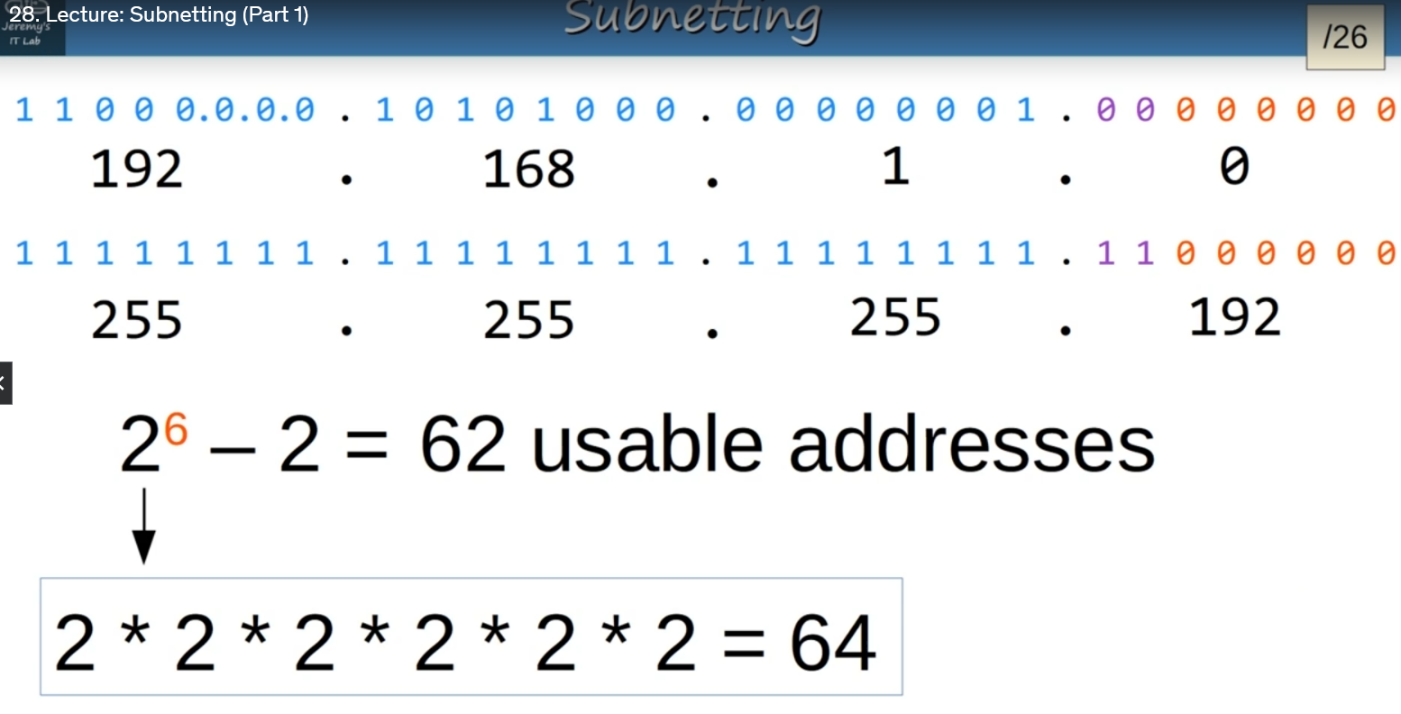
/28 is also too small:



/27 is also too small

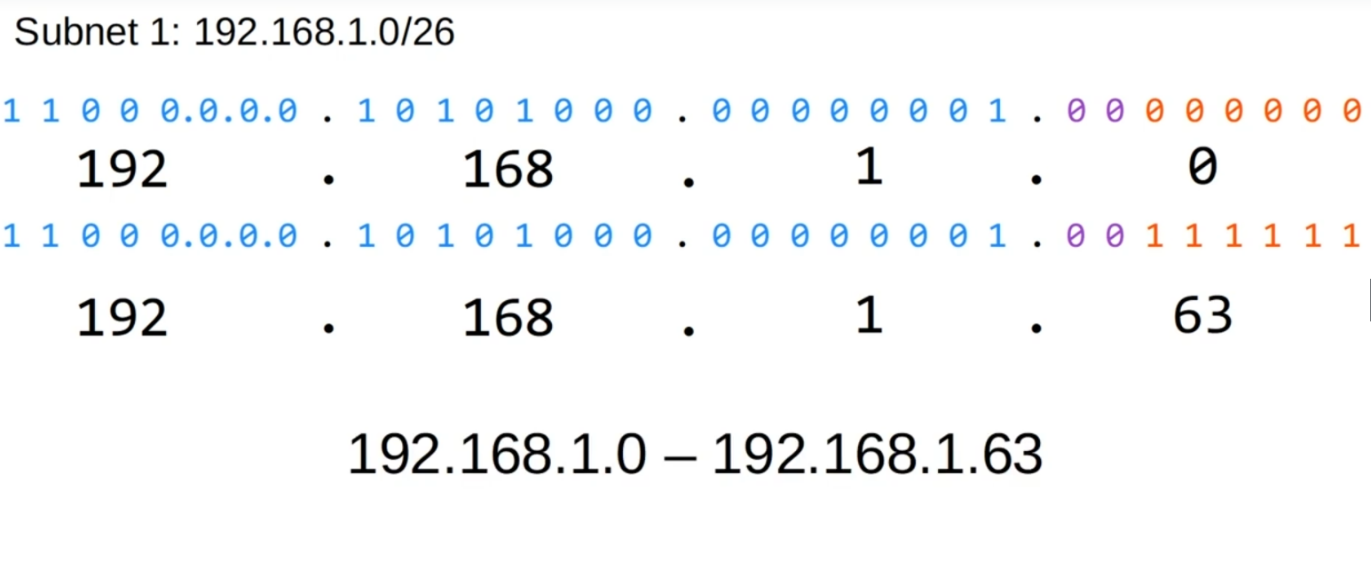


/26 is the smallest we can go:



Purple is what we borrowed from the network portion:

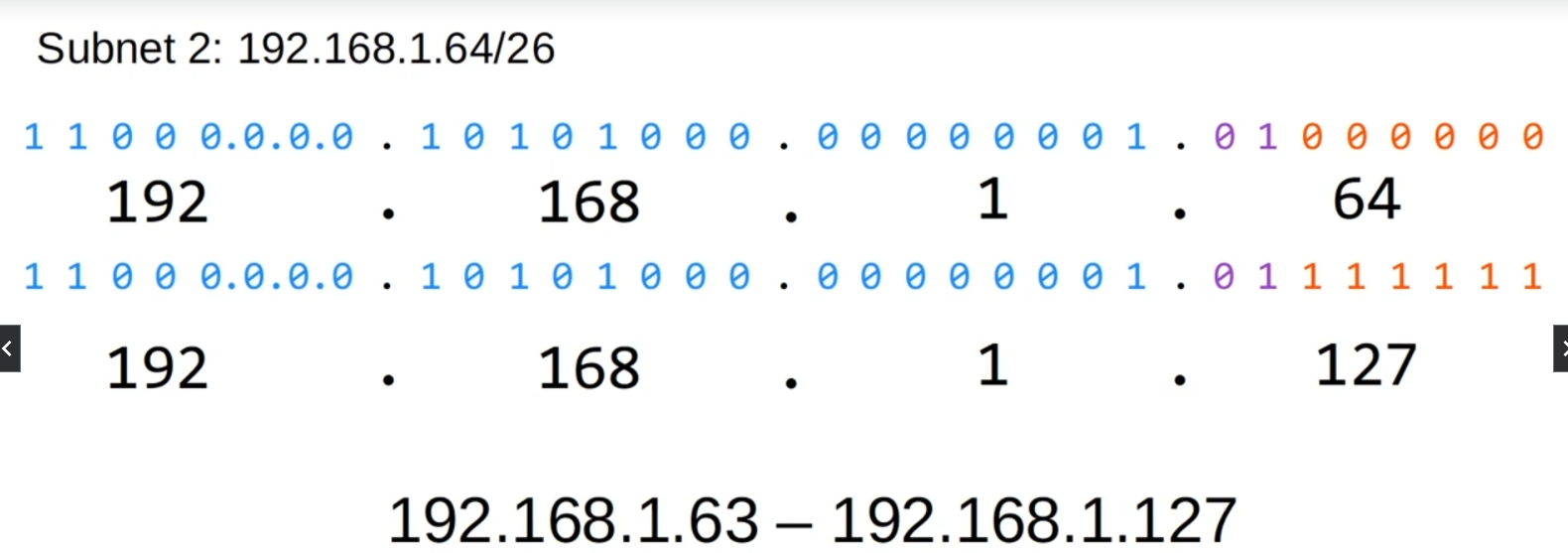
The broadcast address is the last address in the range and it is when all the host bits are set to 1:



Subnet 2 will be one higher than the broadcast of the last subnet

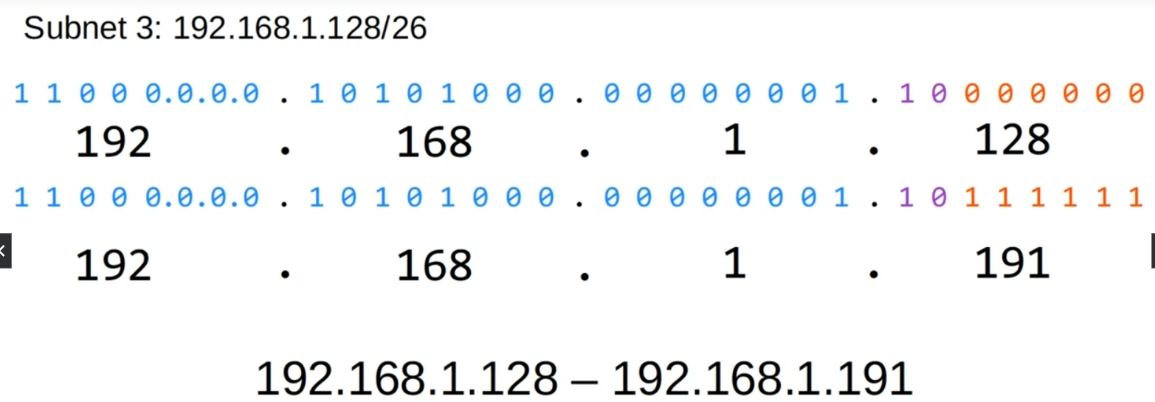


Change all the host bits to 1 to get the broadcast address:



Add 1 to the broadcast to get the next subnet:

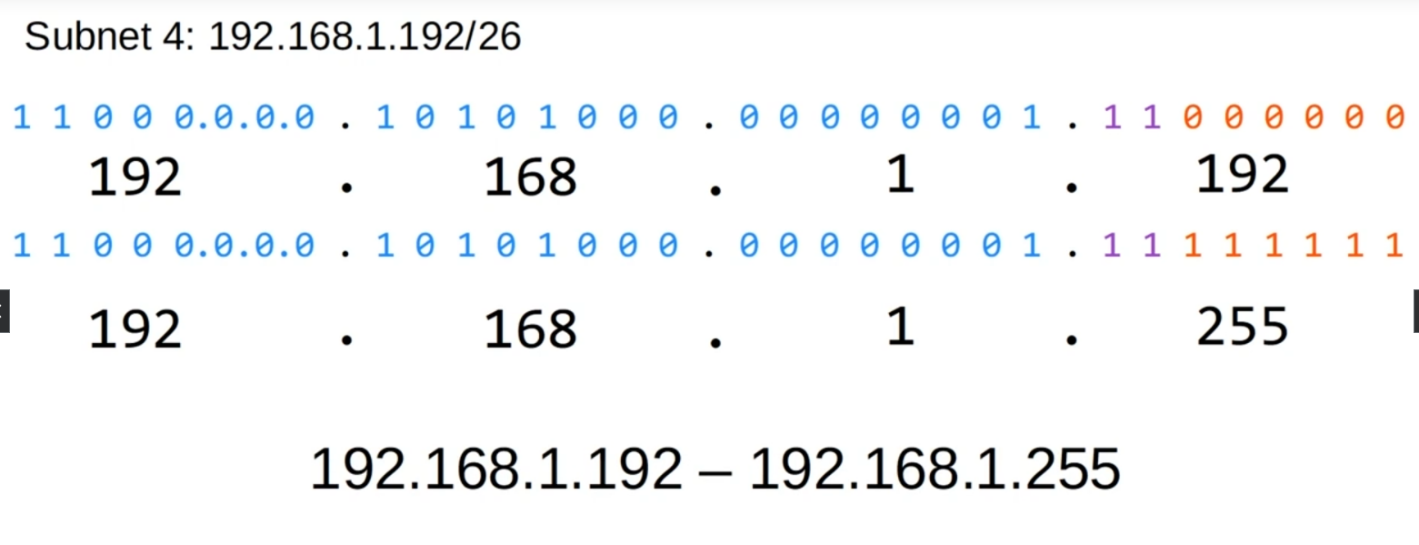
Change all the host bits to 1:



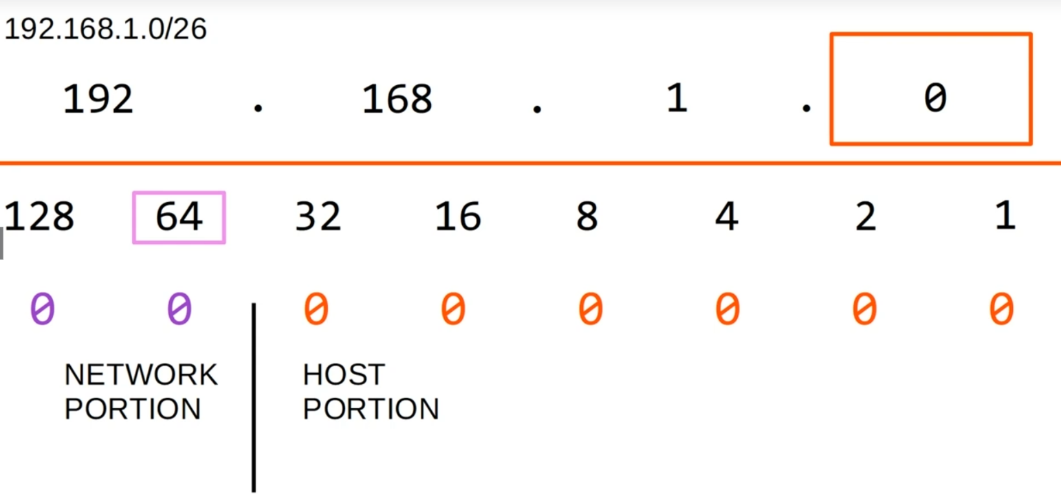
To find the next subnet all the borrowed bits are changed to 1

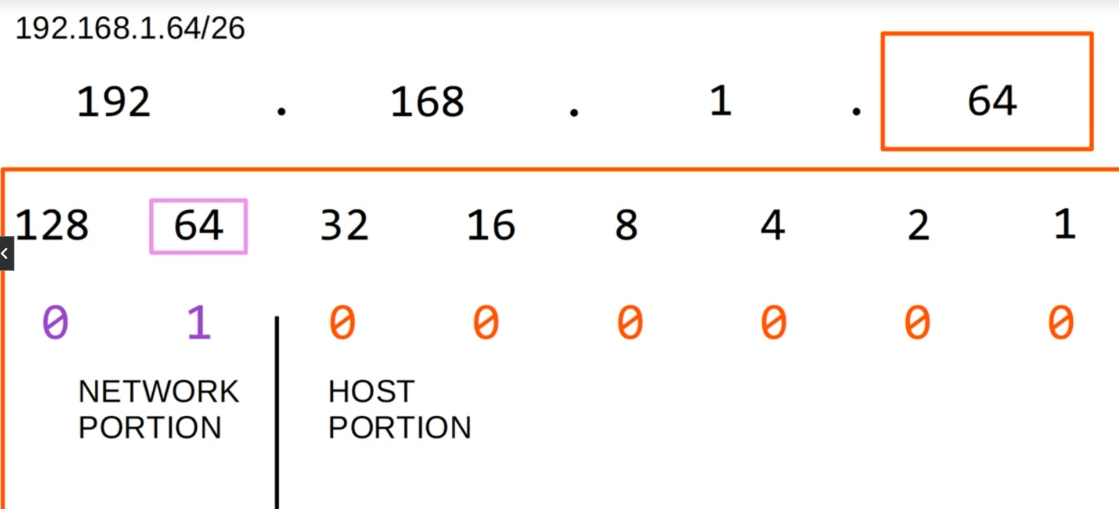


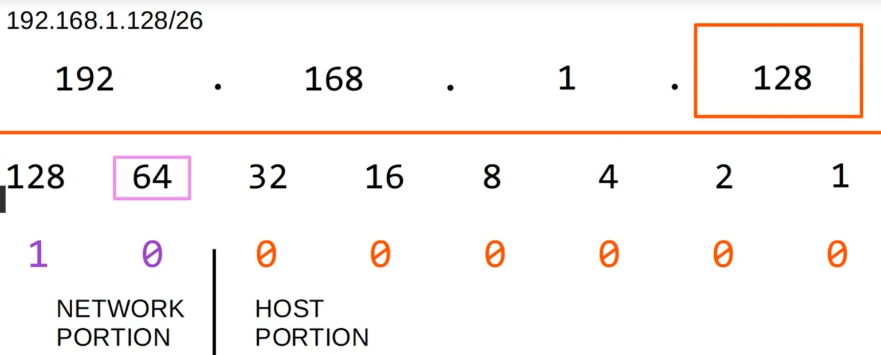
Change all the host bits to 1 now:



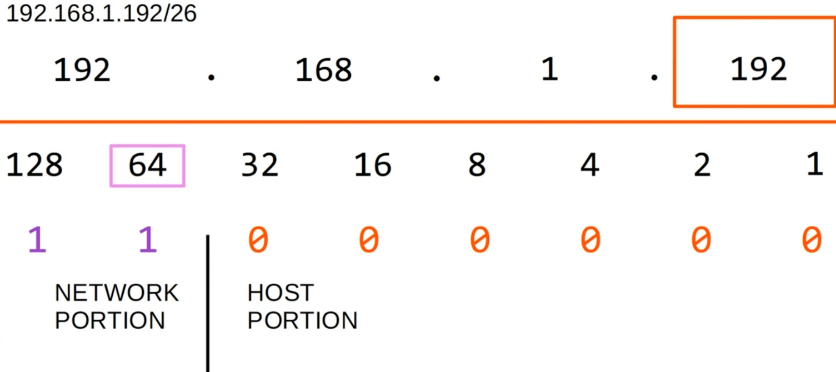
Let’s take a closer look at what is happening:



adding 64

Adding 64

Adding 64 again



Final