Problem 11

You are asked to plan a network address space big enough address space for at least 2000 hosts:

A. How many class C address spaces do you need? Hints: A 32-bit Class C address has the following format: 1 1 0 21-bit Network 8-bit Host

B. If you start your address space at 144.228.243.0, what is the range of your entire allocated address space?

C. What will be the CIDR formatted address(es) entered in the routing table for your network?

Solution

A. We need $\lceil{\frac{2000}{256 - 2}}\rceil = 8$ class C addresses.

B. Range is from 144.228.243.0 to 144.228.250.0

C.

CIDR	Address	Binary
144.228.243.0/24	144.228.243.0	X.X.0011.X
144.228.244.0/22	144.228.244.0	X.X.0100.X
	144.228.245.0	X.X.0101.X
	144.228.246.0	X.X.0110.X
	144.228.247.0	X.X.0111.X
144.228.248.0/23	144.228.248.0	X.X.1000.X
	144.228.249.0	X.X.1001.X
144.228.250.0/24	144.228.250.0	X.X.1010.X

YouTube Link

https://youtu.be/dR-14WIPtkY