**ECE 4303 Group Report 2**

**Date:** 2/18/20, Tuesday, week 5

**Due Date**: 3/3/20, Tuesday, week 7 (ask for extension if you need more time)

**Total Points: 67** points

This report elaborates Q1 of Report 1 which states:

Find the IP addresses of a whole laboratory at different time or different dates.

1. (10%) **Exchange or cooperate** with (an)other group(s) if necessary, get the IP addresses of all the labs or at least 3 labs in building 9, like 9-507, 9-503, 9-435, 9-431, 9-409, etc. The first two numbers of IPv4 should be 134.71 since this is Cal Poly.

Tabulate what you find for the 3rd number (each IP v4 address consists of 4 numbers, but the first two at Cal Poly Pomona are 134.71) in each lab room. Do different labs have identical 3rd number?

1. (7%) Get IP addresses for a few other buildings at Cal Poly Pomona like building 17, 8, etc.
2. (7%) A laptop uses mobile IP address. Get the different IP addresses for the same laptop (belonging to one of your group member) that is used in different labs on the same day such as 9-409 and 9-507, and also the same laptop at the same lab but on different days.

Gather if possible the IP address(es) for a second laptop.

Look at supplement PDF file called Cal Poly SubnettingIn2011.pdf

1. (25%) Try to expand / generalize answers of Q1 if necessary (and work together with 1 , 2, or more other groups to divide the work), find all the IP addresses of Subnet 13 (which is Building 9, Labs-2) in that PDF file that shows



Here a total of 7 labs: 329, 401, 409, 435, 503, 507, and 523 show with a total of 121 IP addresses.

1. **(18%) Tabulate** these IP addresses from these 7 labs. Do they have the same third numbers 134.71.x (which means they could be in the same subnet of class C of 254 IP addresses).

Clearly show how many IP addresses are there in each of these 7 labs and also subnet mask.

1. (2%) 401 has only one computer, so conceivably it should have a smaller subnet than 503, 507 and 435.
2. (2%) 409 appears to be the biggest computer lab. Does it have more IP addresses than the other labs like 507?
3. (3%) By some reason, 9-431 does not appear in any of the 18 subnets (maybe it is implied). Find all the IP addresses of 9-431.
4. (10%) Find all the IP addresses of the 3 labs in building 9, Labs-1, that shows 9-139, 205, and 253. (please let me know if some labs are not accessible).
5. (\* 8+%) (extra credit). Check if is possible to use more IP addresses than just those IP addresses used by the desktop computers. In 9-401, desktop instructor’s workstation takes one IP address. The laptop brought by instructor could use a second IP address in 9-401 using or not using the same subnet. The students bringing their laptops to 9-401 could use more IP addresses in or not use the same subnet.

In 9-507, there are 12 (?) desktops using IP addresses in that lab. Do you use any new IP addresses in that lab in the same subnet or different subnet when you bring your laptop? Make observations and try to see if there are (too) many laptops in that lab, will it cause any problem in IP address assignment (or not). Try the same observation in 9-409 etc.

You may need to have multiple groups working on this question as well.