

System & Network Administration Assignment 1

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Instructions:

Read the question carefully before answering. Show complete rough work.

Task:

You are given the Class-C network 192.168.50.0. Divide this network properly into 16 equal subnetworks (Broadway 16 subnetworks).

For each resulting subnet, provide the following details in a table format:

1. Subnet Number
2. Network ID
3. Broadcast Address
4. First Usable Host
5. Last Usable Host
6. Total Usable Hosts

• Class C Network :- 192.168.50.0 /24
• Required Subnets :- 16

- $2^4 = 16$ so 4 bits. to be borrowed from host portion.
 $\Rightarrow n=4$

- Now $24+4=28$.
 $\Rightarrow 192.168.50.0 /28$

- \Rightarrow New subnet Mask :-
 $= 255.255.255.11110000 /28$
 $= 255.255.255.240 /28$

- Total usable host = $16 - 2 = \underline{14}$ For all Subnets.

Subnet Num.	Network ID	First Host	Last Host	Broadcast Address
1	192.168.50.0	192.168.50.1	192.168.50.14	192.168.50.15
2	192.168.50.16	192.168.50.17	192.168.50.30	192.168.50.31
3	192.168.50.32	192.168.50.33	192.168.50.46	192.168.50.47
4	192.168.50.48	192.168.50.49	192.168.50.62	192.168.50.63
5	192.168.50.64	192.168.50.65	192.168.50.78	192.168.50.79
6	192.168.50.80	192.168.50.81	192.168.50.94	192.168.50.95
7	192.168.50.96	192.168.50.97	192.168.50.110	192.168.50.111
8	192.168.50.112	192.168.50.113	192.168.50.126	192.168.50.127
9	192.168.50.128	192.168.50.129	192.168.50.142	192.168.50.143
10	192.168.50.144	192.168.50.145	192.168.50.158	192.168.50.159
11	192.168.50.160	192.168.50.161	192.168.50.174	192.168.50.175
12	192.168.50.176	192.168.50.177	192.168.50.190	192.168.50.191
13	192.168.50.192	192.168.50.193	192.168.50.206	192.168.50.207
14	192.168.50.208	192.168.50.209	192.168.50.222	192.168.50.223
15	192.168.50.224	192.168.50.225	192.168.50.238	192.168.50.239
16	192.168.50.240	192.168.50.241	192.168.50.254	192.168.50.255