

**Q1:** Is 192.168.129.51 inside the address range 192.168.128.1/22 ?

Yes. The address range of 192.168.128.1/22 is from 192.168.128.0 to 192.168.131.255

**Q2.** How many addresses could be assigned to servers/hosts in the subnet 192.168.128.1/22 ?

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**Q3.** You have been assigned the IP block 137.110.222.0/24. Your start-up requires subnets for four separate internal networks, each supporting at least 48 hosts.

**Q3.1:** Propose a subnetting scheme that satisfies these requirements.

Each subnet should support at least 48 usable hosts. That is, each subnet should provide at least  $48+2 = 50$  IP addresses, which cost at least 6 bits for hosting. We originally used 8 bits for hosting. Now we can further divide 8 bits with 6 bits for usable hosts, and 2 bits for subnetting.

**Q3.2:** What is the new subnet mask?

255.255.255.192

**Q3.3:** Clearly identify each subnet's network address, broadcast address, and range of usable IP addresses.

subnet	network address	broadcast address	range
1	137.110.222.0	137.110.222.63	137.110.222.1-137.110.222.62
2	137.110.222.64	137.110.222.127	137.110.222.65-137.110.222.126
3	137.110.222.128	137.110.222.191	137.110.222.129-137.110.222.190
4	137.110.222.192	137.110.222.255	137.110.222.193-137.110.222.254