



Figure 1: IP subnetworks of a company

The network manager of a company has to connect 11 subnetworks and an experimental network to a central router. Figure 1 presents the topology of the interconnection:

- Dept. A subnetwork: 121 hosts,
- Dept. B subnetwork: 126 hosts,
- Dept. C subnetwork: 450 hosts,
- 8 subnetworks of associations (14 hosts per association),
- an experimental network 18.196.1.0/26.

At first, we focus on the company network (departments and associations) and exclude the experimental network. Do not forget to take into account one address per subnetwork that needs to be allocated to the router.

Answer the following questions:

Q.1 What is the optimal number of addresses to allocate for all hosts of the company? Optimal means that it is the smallest number sufficient for addressing all hosts.

Q.2 One host at Dept. C will have 18.195.128.1 address. What will be the CIDR prefix and the address range for the whole network of the company?

Q.3 Give the CIDR prefix of all subnetworks and their address ranges (for associations, give only the first three subnetworks).

