Practical task on IP addressing and subnetting

1. For each IP address 120.156.21.95/12, 172.18.54.141/19, 192.167.43.58/27:
   1.1. Determine the network class (A, B, C);
   1.2. Determine which category the address belongs to (private, public);
   1.3. Complete Table 1 instead of example. (Table 1 shows an example for 184.35.72.95/20)

Table 1

	1st octet	2nd octet	3rd octet	4th octet
Host Address (decimal)	184	35	72	95
Mask (decimal)	255	255	240	0
Network Address (decimal)	184	35	64	0
First available host address (decimal)	184	35	64	1
Last available host address (decimal)	184	35	79	254
Broadcast address (decimal)	184	35	79	255
Host Address (binary)	10111000	00100011	01001000	01011111
Mask (binary)	11111111	11111111	11110000	00000000
Network Address (binary)	10111000	00100011	01000000	00000000
First available host address (binary)	10111000	00100011	01000000	00000001
Last available host address (binary)	10111000	00100011	01001111	11111110
Broadcast address (binary)	10111000	00100011	01001111	11111111
Available number of addresses for hosts	32-20=12, $2^{12} - 2 = 4094$			

2. For the network shown in Figure 1, the address 172.16.0.0/20 is assigned. The figure shows the number of hosts in each of the networks. The networks between the routers are consist of two hosts (the addresses of the router interfaces). You must:
   2.1. Divide the network into subnets based on the number of hosts in each of the subnets and using a fixed length subnet mask (FLSM).
   2.2. Calculate how many addresses are left unused in each of the subnets.
   2.3. Optional extra task: perform steps 2.1 to 2.2 using a variable length subnet mask (VLSM)

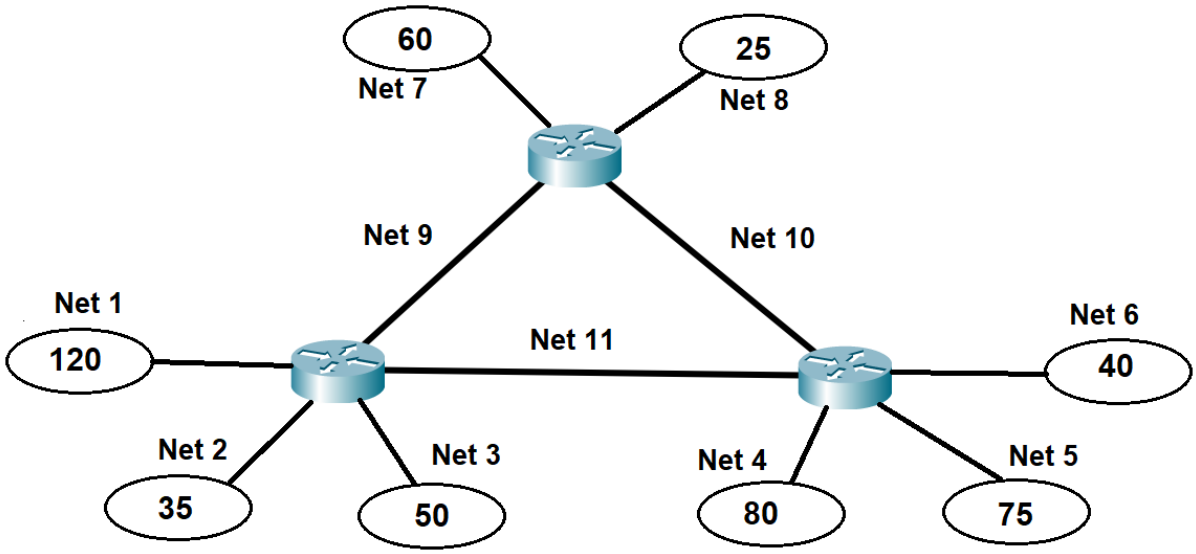

Fig.1