Second Homework: C topology
For MATRICOLA ending with 5-6-7
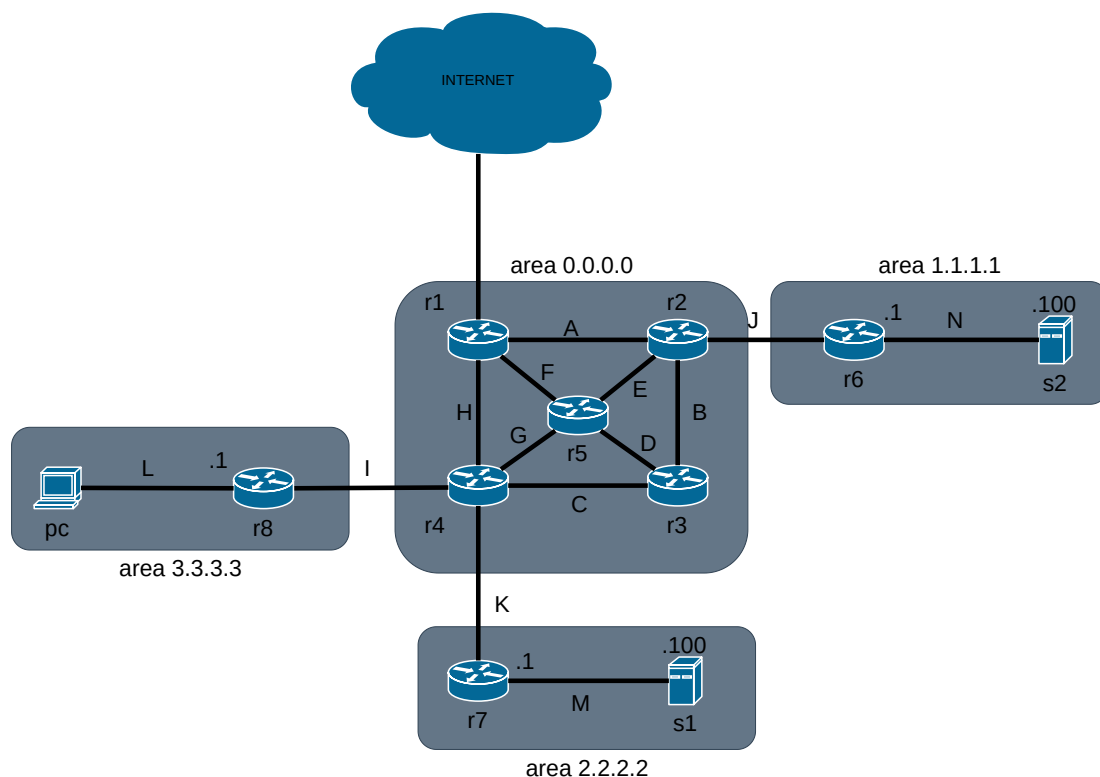
Collision domain	Subnet
A	1.0.1.2/31
B	1.0.1.4/31
C	1.0.1.6/31
D	1.0.1.8/31
E	1.0.1.10/31
F	1.0.1.12/31
G	1.0.1.14/31
H	1.0.1.16/31
I	1.0.1.18/31
J	1.0.1.20/31
K	1.0.1.22/31
L	10.0.0.0/24
M	10.0.1.0/24
N	10.0.2.0/24

Given the topology in figure, reproduce it in netkit. You must use the VM names and addresses specified in the figure above.

For /31 subnets, the addresses are assigned with the following rule: the lower router number takes the even address, e.g. r1 takes 1.0.1.2 with respect to r2.

The maximum points are 6+1 and are assigned as follows:

- +0.5 points: host on N and M configured via /etc/network/interfaces

- +0.5 points: host on L configured via DHCP with r8 as DHCP server

- +1 point: OSPF **only** on routers in order to have dynamic routing. Respect the areas given in figure. Set up default gateways on routers to route trough r1 for default. Respect the areas given in figure. Use ospf costs to force the path from pc to s2 trough pc - r8 - r4 -r3 - r5 -r1 -r2 - r6 - s2.

- +1 point: configure SSH remote port forwarding (inside startup scripts) in order to redirect the port 90 of pc1 to the port 8000 of s1 (test it with netcat). The remote needs to be started from pc (as done in class).

- +1 point: Configure s2 as DNS server for all the hosts. The domain is *homework.org*. Every host, except pc and r8, should have an A record of the form *hostname.homework.org*.

- +1 point: configure s1 as DNS server. The domain is *sub.homework.org* and is delegated from s2 to s1. The host in this domain is only r8, which will have an A record of the form *r12.sub.homework.org*.

- +1 point: configure a stateful firewall on r8: every connection initialized by pc should be accepted, while the contrary must be dropped.

Extra points:

- +1 point: Block all traffic to/from s1 except the DNS traffic.

Restart for all the daemons is required.