Using Netkit, implement the network depicted in the figure and described below (you can use the following items as a checklist).

- Do not use static routes. No routers announce 0.0.0.0/0, either in BGP or in RIP (no AS is customer/provider of any other AS).
- Routers as100r1, as100r2, and as100r4 each have a loopback interface lo:1, with the specified IP address.
- Routing within AS100 is implemented by using OSPF (all interfaces belong to area 0.0.0.0).
  - Loopback interfaces are distributed into OSPF.
  - Interface costs are assigned as indicated.
- as100r1, as100r2, and as100r4 are set up to redistribute eBGP in OSPF.
- BGP is configured with the following policies:
  - All peering LANs, as well as the gray subnets, are announced in BGP.
  - Border routers establish iBGP peerings, using loopback interfaces where available (remember to use update-source).
- AS20 routers are configured to prefer link C for outgoing traffic from AS20.

**Goals:**
- Every destination (IP address) must be reachable from any point in the network.
- Routing paths, especially between AS10 and AS20, must be consistent with BGP policies and OSPF costs.

**USEFUL COMMANDS TO REDISTRIBUTE eBGP**

```bash
redistribute bgp route-map myRM
route-map myRM permit 10
match ip next-hop
prefix-list myPL
ip prefix-list myPL permit next-hop 1/32
ip prefix-list myPL permit next-hop 2/32
```
Using Netkit, implement the network depicted in the figure and described below (you can use the following items as a checklist).

☐ Do not use static routes. No routers announce 0.0.0.0/0, either in BGP or in OSPF (no AS is customer/provider of any other AS).
☐ Routers as2r1 and as2r3 each have a loopback interface lo:1, with the specified IP address.
☐ Routing within AS2 is implemented by using RIP.
  ☐ Loopback interfaces are distributed into RIP.
  ☐ as2r1 and as2r3 are set up to redistribute eBGP in RIP.
☐ Routing within AS1 is implemented by using OSPF (all interfaces belong to area 0.0.0.0).
☐ Interface costs are assigned as indicated.
☐ BGP is configured with the following policies:
  ☐ All peering LANs, as well as the gray subnets, are announced in BGP.
  ☐ Border routers establish iBGP peerings, using loopback interfaces where available (remember to use update-source).
  ☐ AS1 routers are configured to prefer link D for outgoing traffic from AS1.

**Goals:**
- Every destination (IP address) must be reachable from any point in the network.
- Routing paths, especially between AS1 and AS3, must be consistent with BGP policies and OSPF costs.
Using Netkit, implement the network depicted in the figure and described below (you can use the following items as a checklist).

- Do not use static routes. No routers announce 0.0.0.0/0, either in BGP or in RIP (no AS is customer/provider of any other AS).
- Routers as1r1 and as1r2 each have a loopback interface lo:1, with the specified IP address.
- Routing within AS1 is implemented by using OSPF (all interfaces belong to area 0.0.0.0).
  - Loopback interfaces are distributed into OSPF.
  - Interface costs are assigned as indicated.
- as1r1 and as1r2 are set up to redistribute eBGP in OSPF.
- BGP is configured with the following policies:
  - All peering LANs, as well as the gray subnets, are announced in BGP.
  - Border routers establish iBGP peerings, using loopback interfaces where available (remember to use update-source).
  - AS200 routers are configured to prefer link C for outgoing traffic from AS200.

**Goals:**
- Every destination (IP address) must be reachable from any point in the network.
- Routing paths, especially between AS100 and AS200, must be consistent with BGP policies and OSPF costs.

**USEFUL COMMANDS TO REDISTRIBUTE eBGP**

```bash
redistribute bgp route-map myRM
route-map myRM permit 10
match ip next-hop prefix-list myPL
ip prefix-list myPL permit nextHop1/32
ip prefix-list myPL permit nextHop2/32
```
Using Netkit, implement the network depicted in the figure and described below (you can use the following items as a checklist).

- Do not use static routes. No routers announce 0.0.0.0/0, either in BGP or in RIP (no AS is customer/provider of any other AS).
- Routers as40r1 and as40r3 each have a loopback interface lo:1, with the specified IP address.
- Routing within AS10 is implemented by using RIP.
- Routing within AS40 is implemented by using OSPF (all interfaces belong to area 0.0.0.0).
- Loopback interfaces are distributed into OSPF.
- Interface costs are assigned as indicated.
- as40r1 and as40r3 are set up to redistribute eBGP in OSPF.
- BGP is configured with the following policies:
  - All peering LANs, as well as the gray subnets, are announced in BGP.
  - Border routers establish iBGP peerings, using loopback interfaces where available (remember to use update-source).
  - AS10 routers are configured to prefer link E for outgoing traffic from AS10.

Goals:
- Every destination (IP address) must be reachable from any point in the network.
- Routing paths, especially between AS20 and AS30, must be consistent with BGP policies and OSPF costs.