172.25.0.0/23

172.25.0.0/24 ---- 172.25.0.255/24 #Host 200

172.25.1.0/25 ---- 172.25.1.127/25 #Host 100

172.25.1.128/27 ---- 172.25.1.159/27 #Host 30

172.25.1.160/28 ---- 172.25.1.175/28 #Host 14

**Router 13**

Router>enable

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface FastEthernet0/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface FastEthernet0/0

Router(config-if)#ip address 172.25.0.1 255.255.0.0

Router(config-if)#ip address 172.25.0.1 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit

Router(config)#interface FastEthernet0/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface FastEthernet1/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface FastEthernet0/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface FastEthernet1/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface FastEthernet0/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface FastEthernet1/0

Router(config-if)#ip address 172.25.1.194 255.255.255.0

Router(config-if)#ip address 172.25.1.194 255.255.255.252

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up

Router(config-if)#exit

Router(config)#interface FastEthernet0/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface FastEthernet1/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#ip address 172.25.1.178 255.255.255.0

% 172.25.1.0 overlaps with FastEthernet1/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface FastEthernet1/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface FastEthernet0/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface FastEthernet1/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#ip address 172.25.1.178 255.255.255.252

Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial2/0, changed state to down

Router(config-if)#

Router(config-if)#exit

Router(config)#interface Serial3/0

Router(config-if)#ip address 172.25.1.185 255.255.255.0

% 172.25.1.0 overlaps with FastEthernet1/0

Router(config-if)#ip address 172.25.1.185 255.255.255.252

Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial3/0, changed state to down

Router(config-if)#

Router(config-if)#exit

Router(config)#interface FastEthernet1/0

Router(config-if)#

%LINK-5-CHANGED: Interface Serial2/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up

%LINK-5-CHANGED: Interface Serial3/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up

Router(config-if)#exit

Router(config)#router rip

Router(config-router)#version 2

Router(config-router)#no auto

Router(config-router)#no auto-summary

Router(config-router)#network 172.25.0.0

Router(config-router)#network 172.25.1.184

Router(config-router)#network 172.25.1.176

Router(config-router)#network 172.25.1.192

Router(config-router)#exit

Router(config)#exit

Router#

%SYS-5-CONFIG\_I: Configured from console by console

Router#copy run start

Destination filename [startup-config]?

Building configuration...

[OK]

Router#show ip route

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP

D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area

N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2

E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP

i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area

\* - candidate default, U - per-user static route, o - ODR

P - periodic downloaded static route

Gateway of last resort is not set

172.25.0.0/16 is variably subnetted, 9 subnets, 5 masks

C 172.25.0.0/24 is directly connected, FastEthernet0/0

R 172.25.1.0/25 [120/1] via 172.25.1.186, 00:00:21, Serial3/0

R 172.25.1.128/27 [120/1] via 172.25.1.177, 00:00:05, Serial2/0

R 172.25.1.160/28 [120/1] via 172.25.1.193, 00:00:05, FastEthernet1/0

C 172.25.1.176/30 is directly connected, Serial2/0

R 172.25.1.180/30 [120/1] via 172.25.1.177, 00:00:05, Serial2/0

[120/1] via 172.25.1.193, 00:00:05, FastEthernet1/0

C 172.25.1.184/30 is directly connected, Serial3/0

R 172.25.1.188/30 [120/1] via 172.25.1.193, 00:00:05, FastEthernet1/0

[120/1] via 172.25.1.186, 00:00:21, Serial3/0

C 172.25.1.192/30 is directly connected, FastEthernet1/0

Router#

Router#

**Router 2**

Router>enable

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface FastEthernet0/0

Router(config-if)#ip address 172.25.1.1 255.255.0.0

Router(config-if)#ip address 172.25.1.1 255.255.255.128

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#ip address 172.25.1.186 255.255.255.128

Router(config-if)#ip address 172.25.1.186 255.255.255.252

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface Serial2/0, changed state to up

Router(config-if)#exit

Router(config)#interface Serial3/0

Router(config-if)#

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

ip address 172.25.1.190 255.255.255.128

% 172.25.1.128 overlaps with Serial2/0

Router(config-if)#ip address 172.25.1.190 255.255.255.252

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface Serial3/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up

Router(config-if)#exit

Router(config)#router rip

Router(config-router)#version 2

Router(config-router)#no auto

Router(config-router)#no auto-summary

Router(config-router)#network 172.25.1.0

Router(config-router)#network 172.25.1.188

Router(config-router)#network 172.25.1.184

Router(config-router)#exit

Router(config)#exit

Router#

%SYS-5-CONFIG\_I: Configured from console by console

Router#copy run start

Destination filename [startup-config]?

Building configuration...

[OK]

Router#show ip route

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP

D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area

N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2

E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP

i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area

\* - candidate default, U - per-user static route, o - ODR

P - periodic downloaded static route

Gateway of last resort is not set

172.25.0.0/16 is variably subnetted, 9 subnets, 5 masks

R 172.25.0.0/24 [120/1] via 172.25.1.185, 00:00:26, Serial2/0

C 172.25.1.0/25 is directly connected, FastEthernet0/0

R 172.25.1.128/27 [120/2] via 172.25.1.189, 00:00:24, Serial3/0

[120/2] via 172.25.1.185, 00:00:26, Serial2/0

R 172.25.1.160/28 [120/1] via 172.25.1.189, 00:00:24, Serial3/0

R 172.25.1.176/30 [120/1] via 172.25.1.185, 00:00:26, Serial2/0

R 172.25.1.180/30 [120/1] via 172.25.1.189, 00:00:24, Serial3/0

C 172.25.1.184/30 is directly connected, Serial2/0

C 172.25.1.188/30 is directly connected, Serial3/0

R 172.25.1.192/30 [120/1] via 172.25.1.189, 00:00:24, Serial3/0

[120/1] via 172.25.1.185, 00:00:26, Serial2/0

Router#

**Router 3**

Router>enable

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface FastEthernet0/0

Router(config-if)#ip address 172.25.1.161 255.255.0.0

Router(config-if)#ip address 172.25.1.161 255.255.255.240

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit

Router(config)#interface FastEthernet1/0

Router(config-if)#ip address 172.25.1.193 255.255.255.240

Router(config-if)#ip address 172.25.1.193 255.255.255.252

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#ip address 172.25.1.182 255.255.255.240

Router(config-if)#ip address 172.25.1.182 255.255.255.252

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface Serial2/0, changed state to up

Router(config-if)#exit

Router(config)#interface Serial3/0

Router(config-if)#

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

ip address 172.25.1.189 255.255.255.240

% 172.25.1.176 overlaps with Serial2/0

Router(config-if)#ip address 172.25.1.189 255.255.255.252

Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial3/0, changed state to down

Router(config-if)#

Router(config-if)#exit

Router(config)#interface FastEthernet0/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface FastEthernet1/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface FastEthernet1/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface Serial3/0

Router(config-if)#

%LINK-5-CHANGED: Interface Serial3/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up

Router(config-if)#exit

Router(config)#router rip

Router(config-router)#version 2

Router(config-router)#no auto

Router(config-router)#no auto-summary

Router(config-router)#network 172.25.1.160

Router(config-router)#network 172.25.1.180

Router(config-router)#network 172.25.1.188

Router(config-router)#network 172.25.1.192

Router(config-router)#exit

Router(config)#exit

Router#

%SYS-5-CONFIG\_I: Configured from console by console

Router#copy run start

Destination filename [startup-config]?

Building configuration...

[OK]

Router#show ip route

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP

D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area

N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2

E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP

i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area

\* - candidate default, U - per-user static route, o - ODR

P - periodic downloaded static route

Gateway of last resort is not set

172.25.0.0/16 is variably subnetted, 9 subnets, 5 masks

R 172.25.0.0/24 [120/1] via 172.25.1.194, 00:00:28, FastEthernet1/0

R 172.25.1.0/25 [120/1] via 172.25.1.190, 00:00:15, Serial3/0

R 172.25.1.128/27 [120/1] via 172.25.1.181, 00:00:27, Serial2/0

C 172.25.1.160/28 is directly connected, FastEthernet0/0

R 172.25.1.176/30 [120/1] via 172.25.1.181, 00:00:27, Serial2/0

[120/1] via 172.25.1.194, 00:00:28, FastEthernet1/0

C 172.25.1.180/30 is directly connected, Serial2/0

R 172.25.1.184/30 [120/1] via 172.25.1.194, 00:00:28, FastEthernet1/0

[120/1] via 172.25.1.190, 00:00:15, Serial3/0

C 172.25.1.188/30 is directly connected, Serial3/0

C 172.25.1.192/30 is directly connected, FastEthernet1/0

Router#

**Router 0**

Router>enable

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface FastEthernet0/0

Router(config-if)#ip address 172.25.1.129 255.255.0.0

Router(config-if)#ip address 172.25.1.129 255.255.255.224

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#ip address 172.25.1.177 255.255.255.224

Router(config-if)#ip address 172.25.1.177 255.255.255.252

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface Serial2/0, changed state to up

Router(config-if)#exit

Router(config)#interface Serial3/0

Router(config-if)#

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

ip address 172.25.1.181 255.255.255.224

% 172.25.1.160 overlaps with Serial2/0

Router(config-if)#ip address 172.25.1.181 255.255.255.252

Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial3/0, changed state to down

Router(config-if)#

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface FastEthernet0/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface FastEthernet1/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface Serial3/0

Router(config-if)#

%LINK-5-CHANGED: Interface Serial3/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up

Router(config-if)#exit

Router(config)#router rip

Router(config-router)#version 2

Router(config-router)#no auto

Router(config-router)#no auto-summary

Router(config-router)#network 172.25.1.128

Router(config-router)#network 172.25.1.176

Router(config-router)#network 172.25.1.180

Router(config-router)#exit

Router(config)#exit

Router#

%SYS-5-CONFIG\_I: Configured from console by console

Router#copy run start

Destination filename [startup-config]?

Building configuration...

[OK]

Router#show ip route

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP

D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area

N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2

E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP

i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area

\* - candidate default, U - per-user static route, o - ODR

P - periodic downloaded static route

Gateway of last resort is not set

172.25.0.0/16 is variably subnetted, 9 subnets, 5 masks

R 172.25.0.0/24 [120/1] via 172.25.1.178, 00:00:23, Serial2/0

R 172.25.1.0/25 [120/2] via 172.25.1.182, 00:00:24, Serial3/0

[120/2] via 172.25.1.178, 00:00:23, Serial2/0

C 172.25.1.128/27 is directly connected, FastEthernet0/0

R 172.25.1.160/28 [120/1] via 172.25.1.182, 00:00:24, Serial3/0

C 172.25.1.176/30 is directly connected, Serial2/0

C 172.25.1.180/30 is directly connected, Serial3/0

R 172.25.1.184/30 [120/1] via 172.25.1.178, 00:00:23, Serial2/0

R 172.25.1.188/30 [120/1] via 172.25.1.182, 00:00:24, Serial3/0

R 172.25.1.192/30 [120/1] via 172.25.1.178, 00:00:23, Serial2/0

[120/1] via 172.25.1.182, 00:00:24, Serial3/0

Router#