Homework #10

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Points: 20

For due date, please see Canvas.

Suppose P, Q, and R are network service providers with respective CIDR address allocations C1.0.0.0/8, C2.0.0.0/8, and C3.0.0.0/8.

Each provider's customers initially receive address allocations that are a subset of the provider's.

P has the following customers:

- PA, with allocation C1.A3.0.0/16
- PB, with allocation C1.A4.0.0/20

Q has the following customers:

- QA, with allocation C2.0A.10.0/20
- QB, with allocation C2.0B.10.0/20

R has the following customer:

- RA, with allocation C3.0C.0.0/16

Assume there are no other providers or customers.

a. Give routing tables for P, Q, and R assuming each provider connects to each other.

P:

Destination	Next Hop
C2.0.0.0/8	Q
C3.0.0.0/8	R
C1.A3.0.0/16	PA
C1.A4.0.0/20	PB

Q:

Destination	Next Hop
C1.0.0.0/8	P
C2.0A.10.0/20	QA
C2.0B.10.0/20	QB
C3.0.0.0/8	R

R:

Destination	Next Hop
C1.0.0.0/8	P
C2.0.0.0/8	Q
C3.0C.0.0/16	RA

b. Now assume P is connected to Q and Q is connected to R, but P and R are not directly connected. Give routing tables for P, Q, and R.

P:

Destination	Next Hop
C2.0.0.0/8	Q
C3.0.0.0/8	Q
C1.A3.0.0/16	PA
C1.A4.0.0/20	PB

Q:

Destination	Next Hop
C1.0.0.0/8	P
C2.0A.10.0/20	QA
C2.0B.10.0/20	QB
C3.0.0.0/8	R

R:

Destination	Next Hop
C1.0.0.0/8	Q
C2.0.0.0/8	Q
C3.0C.0.0/16	RA