P3

Step N’ D(z),P(z) D(y),P(y) D(v),P(v) D(w),P(w) D(t),P(t) D(u),P(u)

1. x 8,x 6,x 3,x 6,x inf inf
2. x,v 8,x 6,x 3,x 6,x 7,v 6,v
3. x,v,y 8,x 6,x 3,x 6,x 7,v 6,v
4. x,v,y,w 8,x 6,x 3,x 6,x 7,v 6,v
5. x,v,y,w,u 8,x 6,x 3,x 6,x 7,v 6,v
6. x,v,y,w,u,t 8,x 6,x 3,x 6,x 7,v 6,v
7. x,v,y,w,u,t,z 8,x 6,x 3,x 6,x 7,v 6,v

P5

x y z v u

Z 2 inf 0 6 inf

V inf inf inf inf inf

X inf inf inf inf inf

x y z v u

Z 2 5 0 5 6

V 3 inf 6 0 1

X 0 3 2 3 inf

x y z v u

Z 2 5 0 5 6

V 3 3 5 0 1

X 0 3 2 3 4

x y z v u

Z 2 5 0 5 6

V 3 3 5 0 1

X 0 3 2 3 4

P7

1. Dx(w)=2 Dx(y)=4 D(u)=7
2. C(x,w)=10
3. C(x,w)=1

P9

No, the decrease of cost can’t cause a loop.

If adding a link between two nodes, it’s like decreasing the cost of two nodes from infinite to a certain value.

P12

If an AS number occurs in an router’s AS PATH which is contained in the same AS, then there is a loop in BGP.