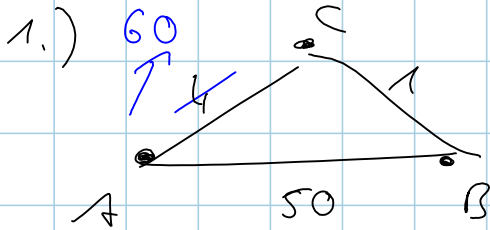


Exercise Set 7



D^A	vic	
	B	C
B	50	5
C	51	4 60

D^B	vic	
	A	C
A	50	5
C	54	1

D^C	vic	
	A	B
A	4 60	6
B	9	1

→ Count-to-Infinity problem

D^B	A	C
A	50	∞

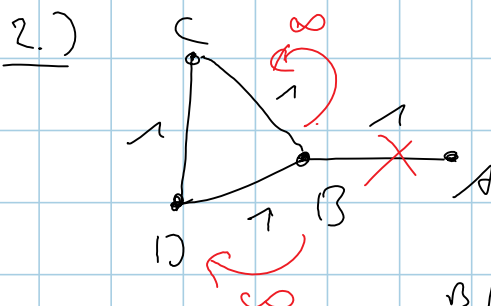
D^C	A	B
A	60	6

D^B	A	C
A	50	∞

D^C	A	B
A	60	51

D^B	A	C
A	50	52

D^C	A	B
A	60	51



B | A C D

D^C | A B

D^1

$$D^3 \begin{array}{c|ccc} & A & C & D \\ \hline A & \infty & 3 & 3 \end{array}$$

$$D^2 \begin{array}{c|cc} & B & D \\ \hline A & 2 & 3 \end{array}$$

$$D^1 \begin{array}{c|cc} & B & C \\ \hline A & 2 & 3 \end{array}$$

$$D^3 \begin{array}{c|ccc} & A & C & D \\ \hline A & \infty & 3 & 3 \end{array}$$

$$D^2 \begin{array}{c|cc} & B & D \\ \hline A & \infty & 3 \end{array}$$

$$D^1 \begin{array}{c|cc} & B & C \\ \hline A & \infty & 3 \end{array}$$

$$D^3 \begin{array}{c|ccc} & A & C & D \\ \hline A & \infty & 4 & 4 \end{array}$$

$$D^2 \begin{array}{c|cc} & B & D \\ \hline A & \infty & \infty \end{array}$$

$$D^1 \begin{array}{c|cc} & B & C \\ \hline A & \infty & 2 \end{array}$$

$$D^3 \begin{array}{c|ccc} & A & C & D \\ \hline A & \infty & \infty & \infty \end{array}$$

$$D^2 \begin{array}{c|cc} & B & D \\ \hline A & 5 & \infty \end{array}$$

$$D^1 \begin{array}{c|cc} & B & C \\ \hline A & 5 & \infty \end{array}$$

$\Rightarrow$ count-to-infinity!

3.)

OSPF (link state)

RIP (Distance Vector)

Scalability

$\Rightarrow$ hierarchical routing
 $\Rightarrow$ OK for large nets

no hierarchical routing
scales worse

Robustness

adjust faster

count-to-infinity

convergence

faster (hierarchical)

slower (not hierarchical)

Route selection

load balancing
when routes with same cost

always the same path

Loop Avoidance

no loops

Creates Loops