

California State University, Monterey Bay

Week 7 - Homework 10

Clarence Mitchell

CST311

Introduction to Computer Networks

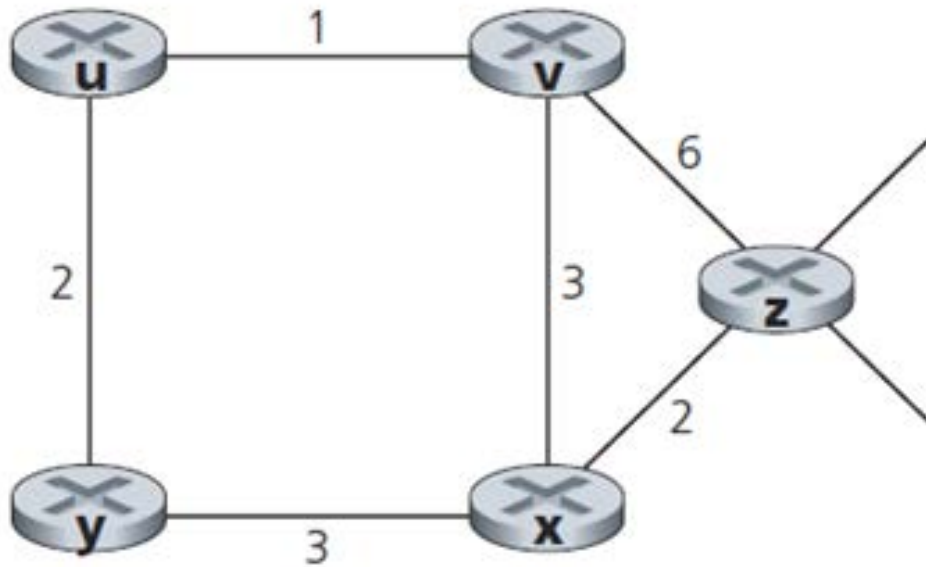
SUMMER 2015

Instructor: Dr. Anand Seetharam

Problem

This problem is taken from 'Computer Networking: A Top-Down Approach', 6/E by Kurose and Ross.

Consider the network shown below, and assume that each node initially knows the costs to each of its neighbors. Consider the distance-vector algorithm and show the distance table entries at node z.



Notes: Since we are only considering node z entries, only node tables are shown.

Step 1 Initialization.

Z only knows about its neighbors.

		Cost to				
From		u	v	x	y	z
	v	∞	∞	∞	∞	∞
	x	∞	∞	∞	∞	∞
	z	∞	6	2	∞	0

Step 2 Exchange, update and notify.

Z gets information from neighbors (v & x). Note that z now knows a shorter route to v through x.

		Cost to				
From		u	v	x	y	z
	v	1	0	3	∞	6
	x	∞	3	0	3	2
	z	7	5	2	5	0

Step 3 Exchange, update and notify again.

Both v and x have updates from neighbors. Note that z now knows a shorter route to u through x and v.

		Cost to				
From		u	v	x	y	z
	v	1	0	3	3	5
	x	4	3	0	3	2
	z	6	5	2	5	0

Step 4 Final.

At this point no update messages are sent

		Cost to				
From		u	v	x	y	z
	v	1	0	3	3	5
	x	4	3	0	3	2
	z	6	5	2	5	0