CSC467

Assignment 4

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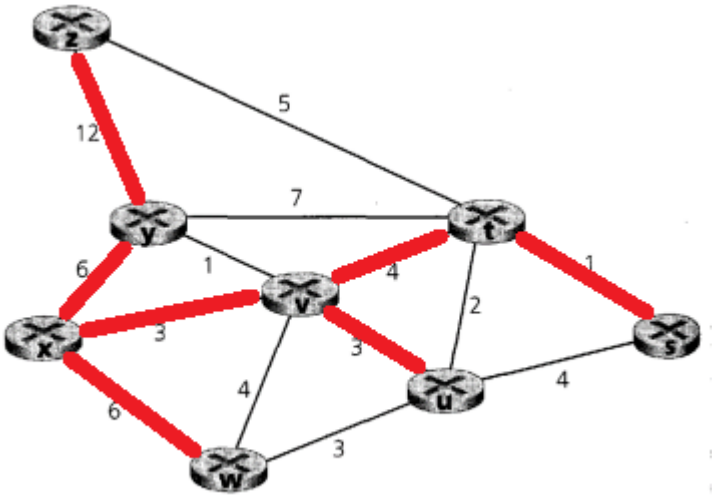
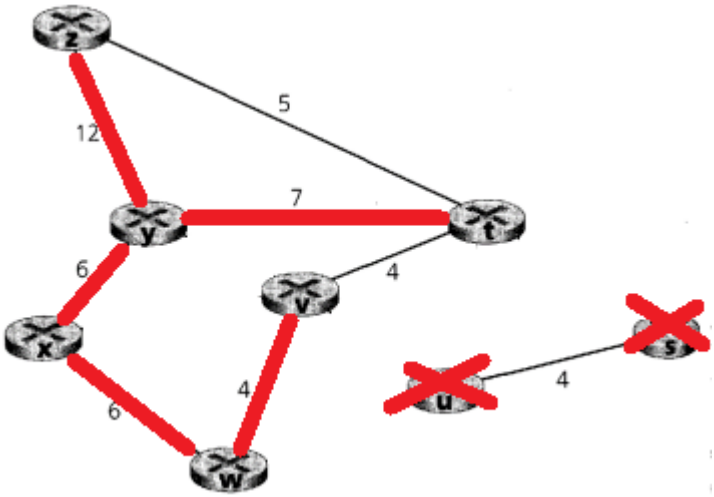
1

a) From X:



Step	N'	S	T	U	V	W	Y	Z
0	X	∞	∞	∞	1,X	1,X	1,X	∞
1	XV	∞	2,V	2,V	-	-	-	∞
2	XVT	3,T	-	-	-	-	-	3,T
3	XVTS	-	-	-	-	-	-	-
4	XVTSW	-	-	-	-	-	-	-
5	XVTSWY	-	-	-	-	-	-	-
6	XVTSWYZ	-	-	-	-	-	-	2,Y

b) From X:



Step	N'	S	T	U	V	W	Y	Z
0	X	∞	∞	∞	∞	1,X	1,X	∞
1	XW	∞	∞	∞	2,W	-	-	∞
2	XWV	∞	2,Y	∞	-	-	-	∞
3	XWVT	∞	-	∞	-	-	-	2,Y
4	XWVTY	∞	-	∞	-	-	-	-
5	XWVTYZ	∞	-	∞	-	-	-	-

c) Same as in part B for a solution from X to anywhere. Unfortunately there is a loop of 5 in the resulting graph in B and so the maximum end-to-end from any node can at maximum possibly be 4ms.

2

a) Let B=10 and p=0.2

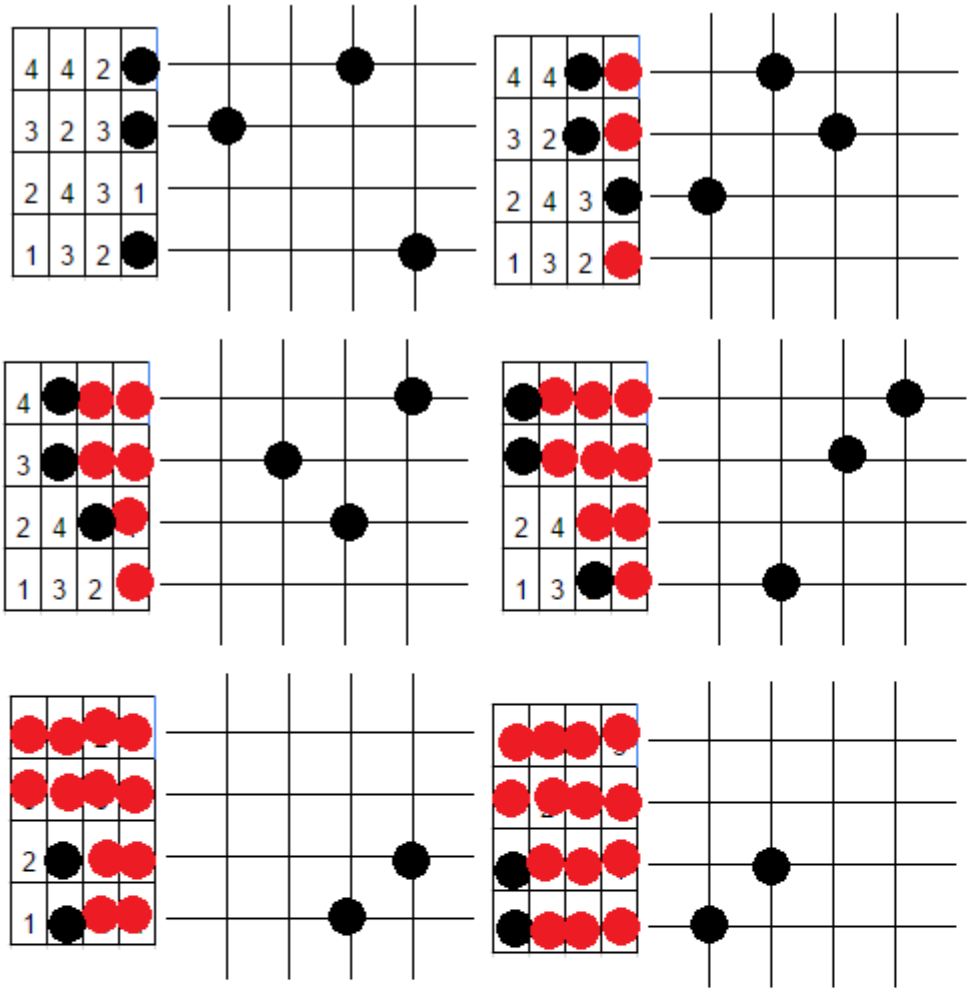
$$P_{loss} < \frac{p(2-p)}{2(1-p)}\left[\frac{p^2}{2(1-p)^2}\right]^B$$

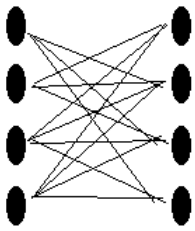
$P_{loss,p=0.2} < \frac{0.2(2-0.2)}{2(1-0.2)}[\frac{0.2^2}{2(1-0.2)^2}]^{10}$

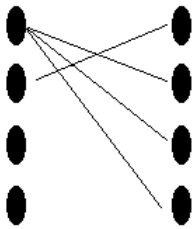
$P_{loss,p=0.2} < 1.99x10^{-16}$

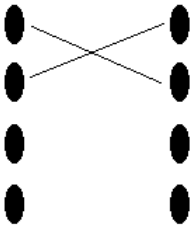
$P_{loss,p=0.6} < \frac{0.6(2-0.6)}{2(1-0.6)}[\frac{0.6^2}{2(1-0.6)^2}]^{10}$

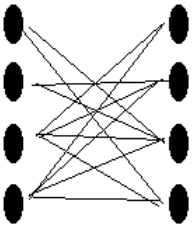
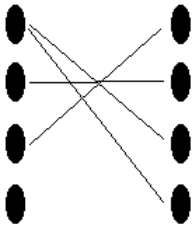
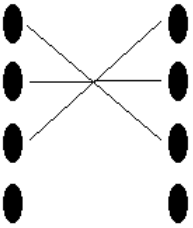
$P_{loss,p=0.6} < 3.405$


4 4 2
3 2 3
2 4 3 1
1 3 2
4 4
3 2
2 4 3
1 3 2
4
3
2 4
1 3 2
2 4
1 3
2
1







REQUEST **GRANT** **ACCEPT**

b)