

2.993: Principles of Internet Computing

Homework #6 Solutions

1. (Peterson & Davie, Ex. 4.2)

Part	Switch	Input port	Input VCI	Output port	Output VCI
a	1	2	0	1	0
	2	3	0	0	0
	3	0	0	3	0
b	1	3	0	1	1
	2	3	1	1	1
	4	1	1	1	0
c	2	2	0	0	1
	3	0	1	2	0
d	1	0	0	1	2
	2	3	2	0	2
	3	0	2	3	1
e	4	2	0	3	0
	2	1	0	0	3
	3	0	3	1	0
f	4	0	0	3	1
	2	1	1	3	0
	1	1	0	2	0

2. (Peterson & Davie, Ex. 4.3)

Node	Destination	Next hop	Node	Destination	Next hop
A	B	C	D	A	E
	C	C		B	E
	D	D		C	E
	E	C		E	E
	F	C		F	E
B	A	E	E	A	C
	C	E		B	B
	D	E		C	C
	E	E		D	D
	F	E		F	C
C	A	A	F	A	C
	B	E		B	C
	D	E		C	C
	E	E		D	C
	F	F		E	C

3. (Peterson & Davie, Ex. 4.4)

D	Confirmed	Tentative
1	(D,0,-)	
2	(D,0,-)	(A,8,A)
		(E,2,E)
3	(D,0,-)	(A,8,A)
	(E,2,E)	(B,4,E)
		(C,3,E)
4	(D,0,-)	(A,6,E)
	(E,2,E)	(B,4,E)
	(C,3,E)	(F,9,E)
5	(D,0,-)	(A,6,E)
	(E,2,E)	(F,9,E)
	(C,3,E)	
	(B,4,E)	
6	(A,6,E)	
7	(F,9,E)	

4. (Peterson & Davie, Ex. 4.5)

Information at node	A	B	C	D	E	F
A	0		3	8		
B		0			2	
C	3		0		1	6
D	8			0	2	
E		2	1	2	0	
F			6			0

A	0		3	8	4	9
B		0	3	4	2	
C	3	3	0	3	1	6
D	8	4	3	0	2	
E	4	2	1	2	0	7
F	9		6		7	0

A	0	6	3	6	4	9
B	6	0	3	4	2	9
C	3	3	0	3	1	6
D	6	4	3	0	2	9
E	4	2	1	2	0	7
F	9	9	6	9	7	0