

Computer Science 118, Homework 4

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Problem 1

a)

Destination	Next Hop
B	B
C	E
D	D
E	E
F	E

b)

Destination	Next Hop
A	A
C	C
D	A
E	A
F	C

c)

Destination	Next Hop
A	F
B	B
D	F
E	F
F	F

d)

Destination	Next Hop
A	A
B	A
C	E
E	E
F	E

e)

Destination	Next Hop
A	A
B	A
C	F
D	D
F	F

f)

Destination	Next Hop
A	E
B	C
C	C
D	E
E	E

Problem 2

a)

Destination	Next Hop	Distance
B	B	5
C	B	33
D	D	6
E	D	21
F	D	30

b)

Destination	Next Hop	Distance
A	A	5
C	C	28
D	A	11
E	A	26
F	C	32

c)

Destination	Next Hop	Distance
A	B	33
B	B	28
D	F	28
E	F	13
F	F	4

d)

Destination	Next Hop	Distance
A	A	6
B	A	11
C	E	28
E	E	15
F	E	24

e)

Destination	Next Hop	Distance
A	D	21
B	D	26
C	F	13
D	D	15
F	F	9

f)

Destination	Next Hop	Distance
A	E	30
B	C	32
C	C	4
D	E	24
E	E	9

Problem 3

For the Link State Packet of node A, the nodes forward the packet as follows.

$$A \rightarrow \{B, D\}$$

$$B \rightarrow \{C, D\}$$

$$C \rightarrow \{E, F\}$$

$$D \rightarrow \{B, E\}$$

$$E \rightarrow \{C, F\}$$

$$F \rightarrow \{\}$$

For the Link State Packet of node E, the nodes forward the packet as follows.

$$A \rightarrow \{B\}$$

$$B \rightarrow \{A\}$$

$$C \rightarrow \{B, F\}$$

$$D \rightarrow \{A, B\}$$

$$E \rightarrow \{C, D, F\}$$

$$F \rightarrow \{C\}$$