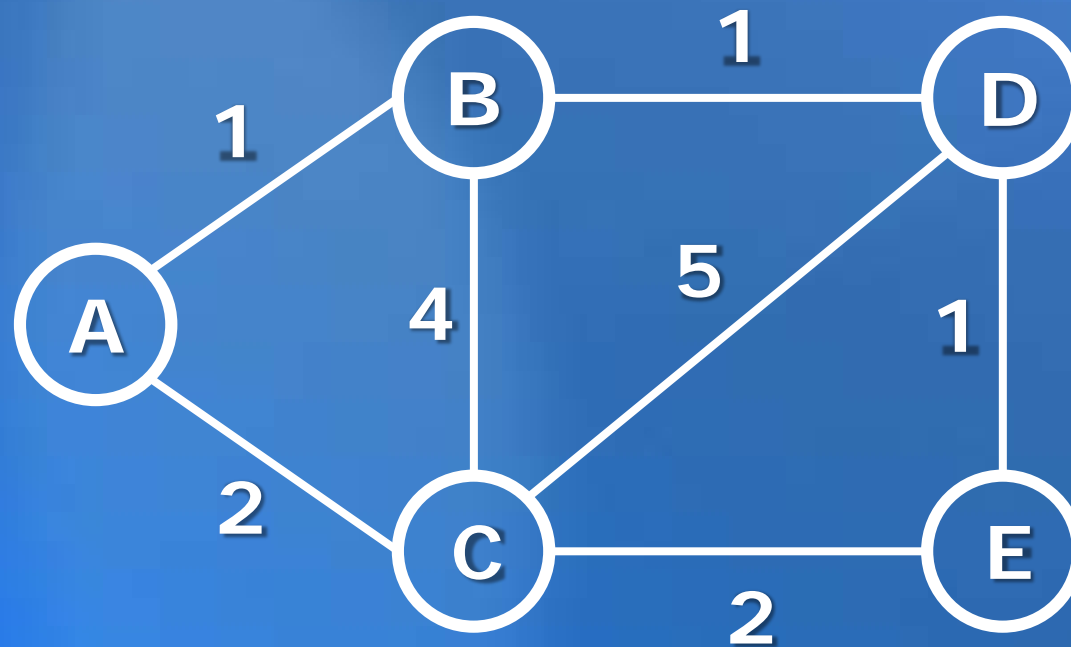


Routing: Distance Vector Algorithm

Routing Table

S = Source
D = Destination

S/D	Link	Cost
A/A	-	0
A/B	B	1
A/C	C	2
A/D	B	2
A/E	B	3



Distance Vector Algorithm

Initialization:

Each node only knows it can reach itself with cost 0.

Advertisement:

Each node advertises its cost to reach other nodes (dest) to its neighbors.

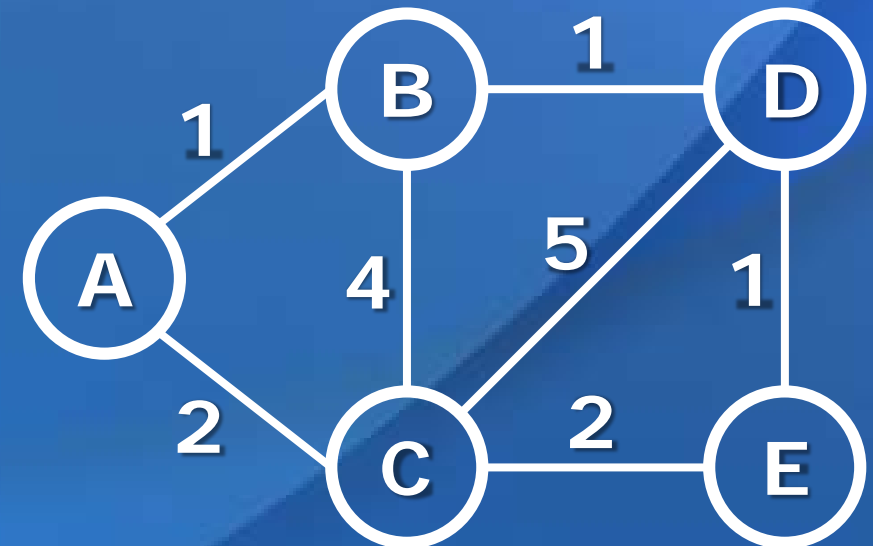
Integration:

For each (dest, cost) entry in a neighbor's advertisement, each node computes the cost to reach dest through its neighbor as

$\text{cost} = \text{link_cost to neighbor} + \text{advertised cost}$

If cost is less than the current cost to dest in the routing table, update the cost and routing table to send packets to dest through this neighbor.

S/D	Link	Cost
B/A	-	∞
B/B	-	0
B/C	-	∞
B/D	-	∞
B/E	-	∞

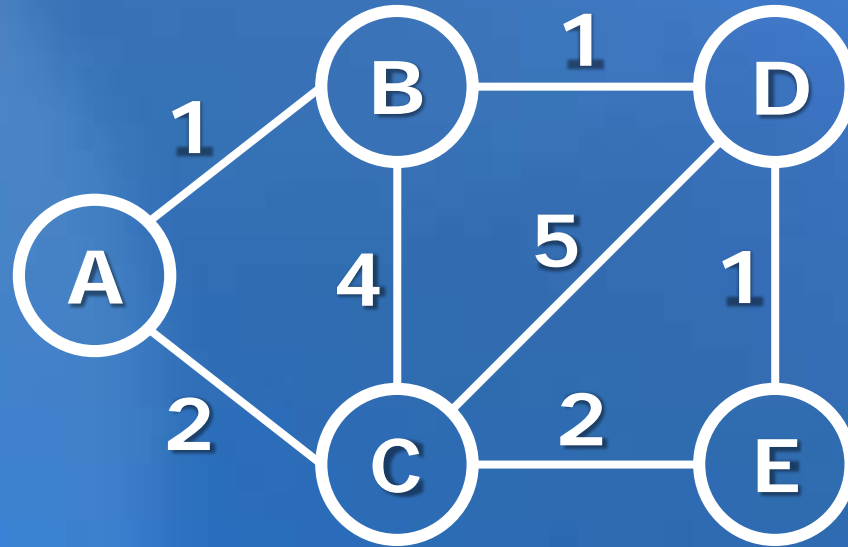


Distance Vector (n=0)

S/D	Link	Cost
A/A	-	0
A/B	-	∞
A/C	-	∞
A/D	-	∞
A/E	-	∞

S/D	Link	Cost
B/A	-	∞
B/B	-	0
B/C	-	∞
B/D	-	∞
B/E	-	∞

S/D	Link	Cost
C/A	-	∞
C/B	-	∞
C/C	-	0
C/D	-	∞
C/E	-	∞



S/D	Link	Cost
D/A	-	∞
D/B	-	∞
D/C	-	∞
D/D	-	0
D/E	-	∞

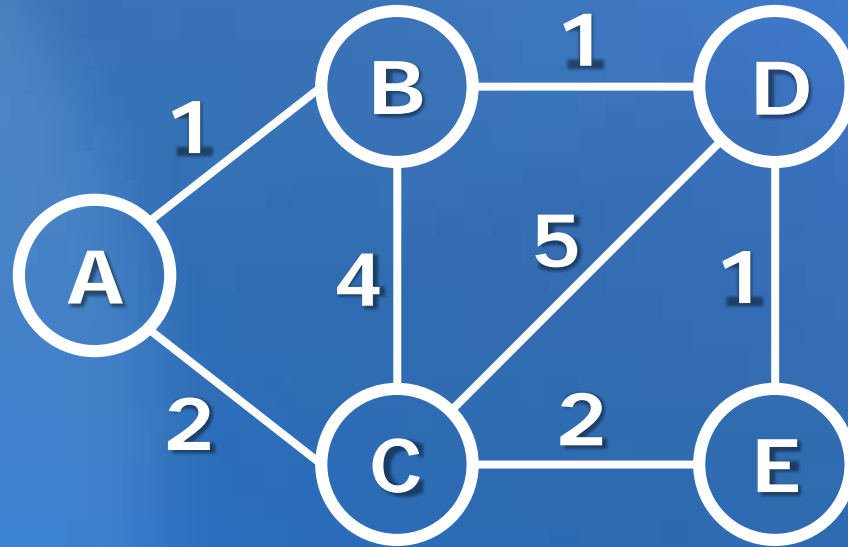
S/D	Link	Cost
E/A	-	∞
E/B	-	∞
E/C	-	∞
E/D	-	∞
E/E	-	0

Distance Vector (n=1a)

S/D	Link	Cost
A/A	-	0
A/B	B	1
A/C	C	2
A/D	-	∞
A/E	-	∞

S/D	Link	Cost
B/A	-	∞
B/B	-	0
B/C	-	∞
B/D	-	∞
B/E	-	∞

S/D	Link	Cost
C/A	-	∞
C/B	-	∞
C/C	-	0
C/D	-	∞
C/E	-	∞



S/D	Link	Cost
D/A	-	∞
D/B	-	∞
D/C	-	∞
D/D	-	0
D/E	-	∞

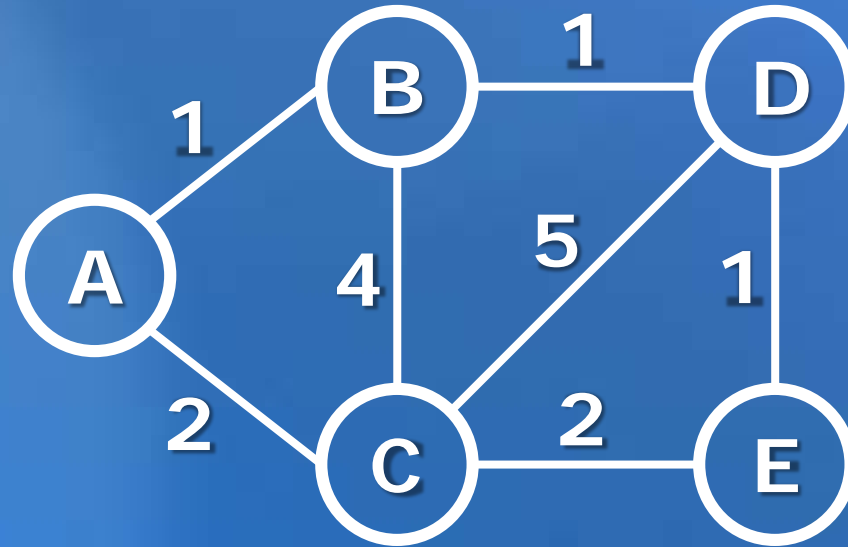
S/D	Link	Cost
E/A	-	∞
E/B	-	∞
E/C	-	∞
E/D	-	∞
E/E	-	0

Distance Vector (n=1b)

S/D	Link	Cost
A/A	-	0
A/B	B	1
A/C	C	2
A/D	-	∞
A/E	-	∞

S/D	Link	Cost
B/A	A	1
B/B	-	0
B/C	C	4
B/D	D	1
B/E	-	∞

S/D	Link	Cost
C/A	-	∞
C/B	-	∞
C/C	-	0
C/D	-	∞
C/E	-	∞



S/D	Link	Cost
D/A	-	∞
D/B	-	∞
D/C	-	∞
D/D	-	0
D/E	-	∞

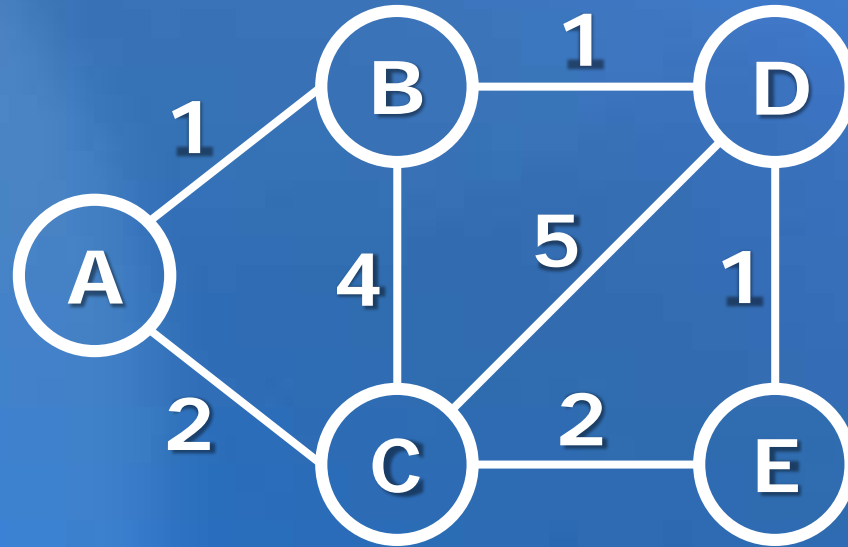
S/D	Link	Cost
E/A	-	∞
E/B	-	∞
E/C	-	∞
E/D	-	∞
E/E	-	0

Distance Vector (n=1c)

S/D	Link	Cost
A/A	-	0
A/B	B	1
A/C	C	2
A/D	-	∞
A/E	-	∞

S/D	Link	Cost
B/A	A	1
B/B	-	0
B/C	C	4
B/D	D	1
B/E	-	∞

S/D	Link	Cost
C/A	A	2
C/B	B	4
C/C	-	0
C/D	D	5
C/E	E	2



S/D	Link	Cost
D/A	-	∞
D/B	B	1
D/C	C	5
D/D	-	0
D/E	E	1

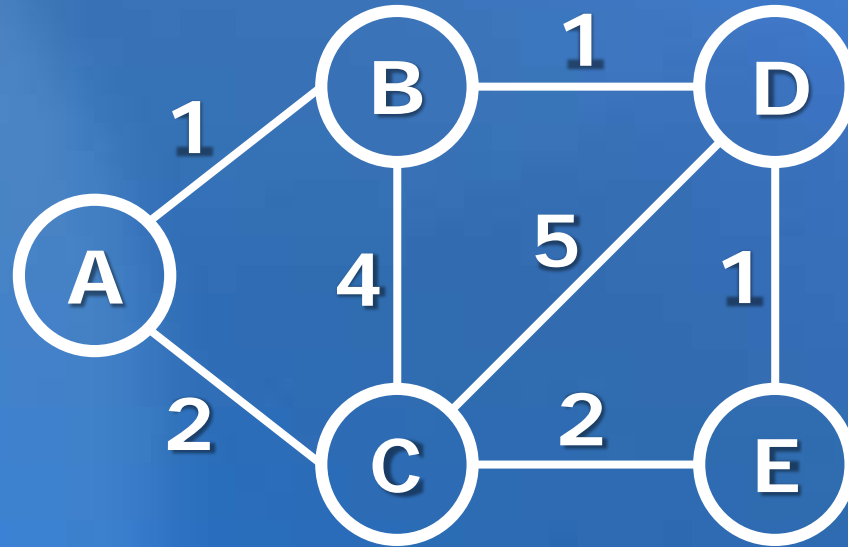
S/D	Link	Cost
E/A	-	∞
E/B	-	∞
E/C	C	2
E/D	D	1
E/E	-	0

Distance Vector (n=2)

S/D	Link	Cost
A/A	-	0
A/B	B	1
A/C	C	2
A/D	B	2
A/E	C	4

S/D	Link	Cost
B/A	A	1
B/B	-	0
B/C	A	3
B/D	D	1
B/E	D	2

S/D	Link	Cost
C/A	A	2
C/B	A	3
C/C	-	0
C/D	E	3
C/E	E	2



S/D	Link	Cost
D/A	B	2
D/B	B	1
D/C	E	3
D/D	-	0
D/E	E	1

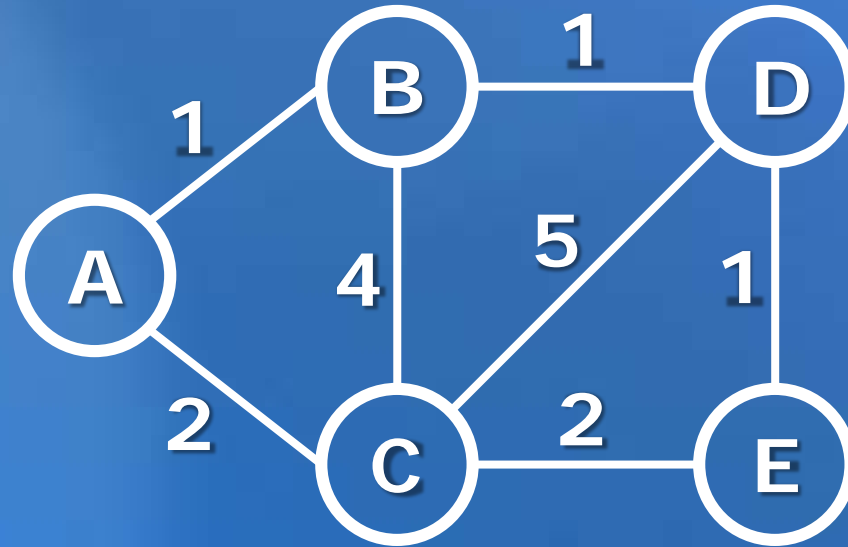
S/D	Link	Cost
E/A	C	4
E/B	D	2
E/C	C	2
E/D	D	1
E/E	-	0

Distance Vector (n=2)

S/D	Link	Cost
A/A	-	0
A/B	B	1
A/C	C	2
A/D	B	2
A/E	C	4

S/D	Link	Cost
B/A	A	1
B/B	-	0
B/C	A	3
B/D	D	1
B/E	D	2

S/D	Link	Cost
C/A	A	2
C/B	A	3
C/C	-	0
C/D	E	3
C/E	E	2



S/D	Link	Cost
D/A	B	2
D/B	B	1
D/C	E	3
D/D	-	0
D/E	E	1

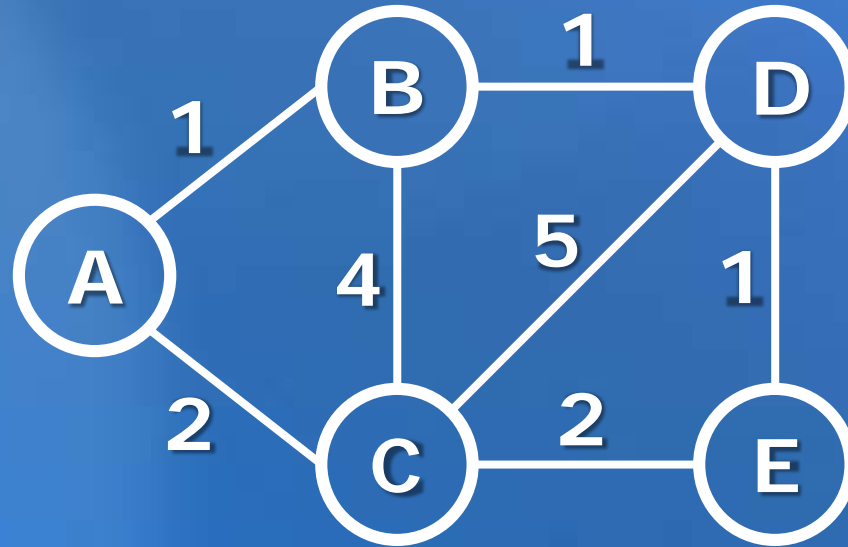
S/D	Link	Cost
E/A	C	4
E/B	D	2
E/C	C	2
E/D	D	1
E/E	-	0

Distance Vector (n=3)

S/D	Link	Cost
A/A	-	0
A/B	B	1
A/C	C	2
A/D	B	2
A/E	B	3

S/D	Link	Cost
B/A	A	1
B/B	-	0
B/C	A	3
B/D	D	1
B/E	D	2

S/D	Link	Cost
C/A	A	2
C/B	A	3
C/C	-	0
C/D	E	3
C/E	E	2



S/D	Link	Cost
D/A	B	2
D/B	B	1
D/C	E	3
D/D	-	0
D/E	E	1

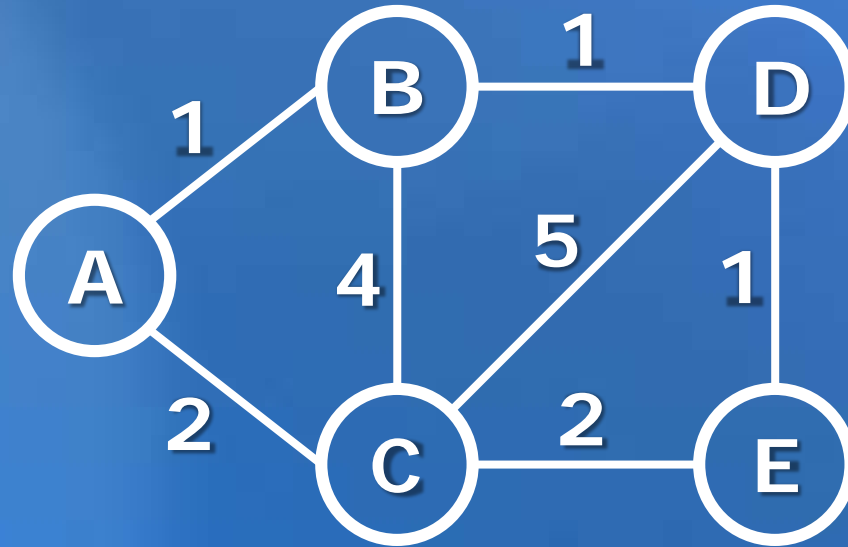
S/D	Link	Cost
E/A	C	4
E/B	D	2
E/C	C	2
E/D	D	1
E/E	-	0

Distance Vector (n=4+)

S/D	Link	Cost
A/A	-	0
A/B	B	1
A/C	C	2
A/D	B	2
A/E	B	3

S/D	Link	Cost
B/A	A	1
B/B	-	0
B/C	A	3
B/D	D	1
B/E	D	2

S/D	Link	Cost
C/A	A	2
C/B	A	3
C/C	-	0
C/D	E	3
C/E	E	2



S/D	Link	Cost
D/A	B	2
D/B	B	1
D/C	E	3
D/D	-	0
D/E	E	1

S/D	Link	Cost
E/A	C	4
E/B	D	2
E/C	C	2
E/D	D	1
E/E	-	0