Distance vector Routing

Example

N1 table (top right):

Dest	Dist	Next
N1	0	N1
N2	1	N2
N3	∞	-
N4	∞	-
N5	∞	-

N5 table (left):

Dest	Dist	Next
N1	∞	-
N2	3	N2
N3	∞	-
N4	4	N4
N5	0	N5

N2 table:
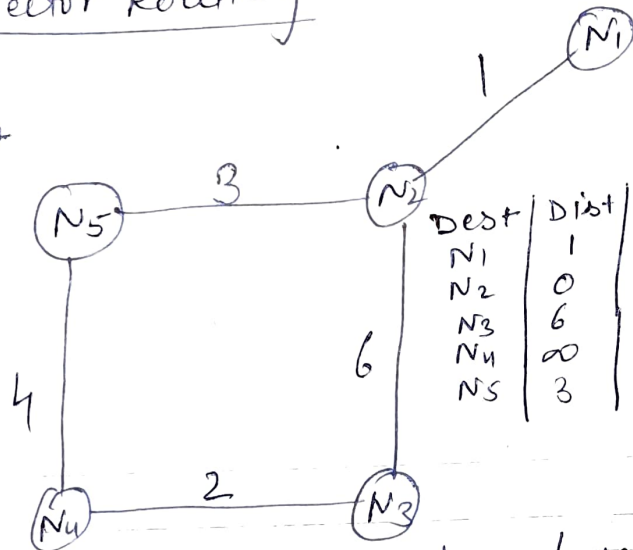
Dest	Dist	Next
N1	1	N1
N2	0	N2
N3	6	N3
N4	∞	N5
N5	3	N5

N4 table:

Dest	Dist	Next
N1	∞	-
N2	∞	-
N3	2	N3
N4	0	N4
N5	4	N5

N3 table:

Dest	Dist	Next
N1	∞	-
N2	6	N2
N3	0	N3
N4	2	N4
N5	∞	-

→ Share the Routing table
 - only with neighbours
 → only distance Vector (array of values)

At $N_1 \rightarrow N_2$

At $N_2 \rightarrow N_1, N_3, N_5$

At $N_3 \rightarrow N_4, N_2$

At $N_4 \rightarrow N_3, N_5$

At $N_5 \rightarrow N_2, N_4$

At N₁

$$N_2$$

1
0
6
∞
3

updated Routing table

Dest	Dist	Next
N₁	0	N₁
N₂	1	N₂
N₃	7	N₃,N₃
N₄	∞	—
N₅	4	N₅

$N_1 \to N_2$ and $N_2 \to N_2$
$$1 + 0 = 1$$

$N_1 \to N_2$ and
$$N_2 \to N_3$$
$$1 + 6$$

$N_1 \to N_4$
$N_1 \to N_2$ and $N_2 \to N_4$
$$1 + \infty = \infty$$

Nearly all routing tables updated.

At N₅

N₂	N₄
1	∞
0	∞
6	2
∞	0
3	4

Dest	Dist	Next
N₁	4	N₂
N₂	3	N₂
N₃	6	N₄
N₄	4	N₄
N₅	0	N₅

$N_5 \to N_1 + 1 = 4$
$\quad\quad 3$

options → 1) $N_5 \to N_2$ and $N_2 \to N_1$
$\quad\quad$ 2) $N_5 \to N_4$ and $N_4 \to N_1$
$\quad\quad\quad 4 + \infty = \infty$

$\underline{N_5 \to N_4}$
$\qquad\qquad 4 \quad + \quad 0 = \boxed{4}$
1) $N_5 \to N_4$ & $N_4 \to N_4$
2) $N_5 \to N_2$, $N_2 \to N_4$
$\qquad 3 + \infty = \infty$