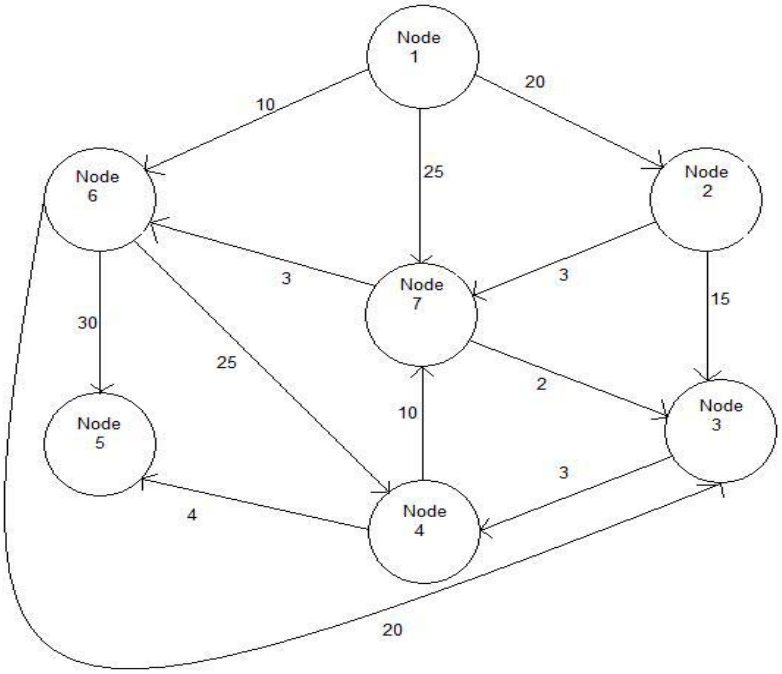
Dijkstra's Shortest Path algorithm practice problem (with source = 1)



T[].dist	1	2	3	4	5	6	7
initialize	0	∞	∞	∞	∞	∞	∞
V = 1	0	20	∞	∞	∞	10	25
V = 6	0	20	30	35	40	10	25
V = 2	0	20	30	35	40	10	23
V = 7	0	20	25	35	40	10	23
V = 3	0	20	25	28	40	10	23
V = 4	0	20	25	28	32	10	23
T[].path (final value)	0	1	7	3	4	1	2

	Shortest Path from 1	Cost
1	1	0
2	1 → 2	20 = 20
3	1 → 2 → 7 → 3	20 + 3 + 2 = 25
4	1 → 2 → 7 → 3 → 4	20 + 3 + 2 + 3 = 28
5	1 → 2 → 7 → 3→ 4 → 5	20 + 3 + 2 + 3 + 4 = 32
6	1→ 6	10 = 10
7	1 → 2 → 7	20 + 3 = 23

	T[w].dist	T[v].dist + C[v][w]	T[v].dist + C[v][w] < T[w].dist ?
V = 6	W:3 = ∞ W:4 = ∞ W:5 = ∞	10 + 20 = 30 10 + 25 = 35 10 + 30 = 40	True True True
V =2	W:3 = 30 W:7 = 25	20 + 15 = 35 20 + 3 = 23	False True
V = 7	W:3 = 30	23 + 2 = 25	True
V = 3	W:4 = 35	25 + 3 = 28	True
V = 4	W:5 = 40	28 + 4 = 32	True