

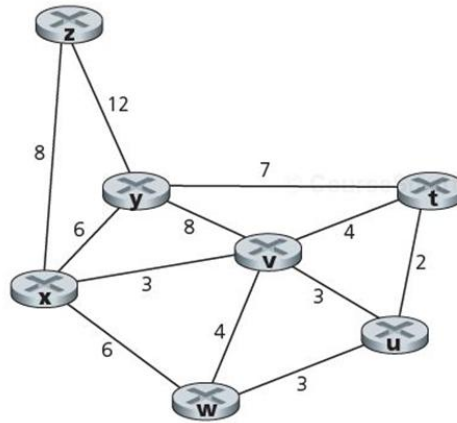
Homework 6

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Completely answer the following question.

1. Consider the network shown in the figure below. With the indicated link costs, use Dijkstra's shortest-path algorithm to compute the shortest path from **node v** to all network nodes. Show how the algorithm works by presenting your results in the table provided. (10 points)



Step	N'	D(u), p(u)	D(v), p(v)	D(w), p(w)	D(x), p(x)	D(y), p(y)	D(z), p(z)
0	v	∞	0	∞	∞	∞	∞
1	v, w	4, v	0	3, v	∞	8, v	∞
2	v, w, u	4, v	0	3, v	7, w	8, v	∞
3	v, w, u, x	4, v	0	3, v	7, w	6, u	∞
4	v, w, u, x, y	4, v	0	3, v	7, w	6, u	∞
5	v, w, u, x, y, z	4, v	0	3, v	7, w	6, u	14, y
6	v, w, u, x, y, z	4, v	0	3, v	7, w	6, u	14, y