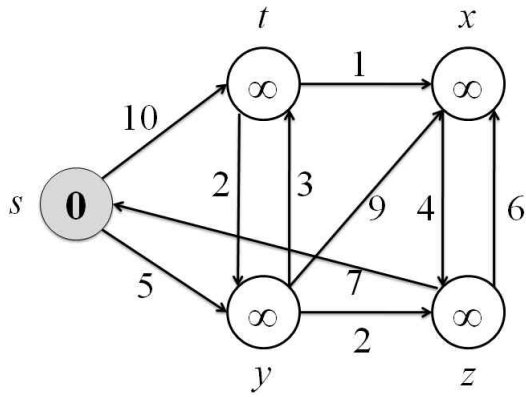


# Review 15

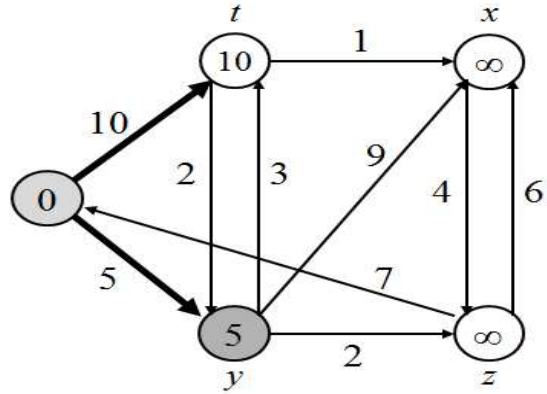
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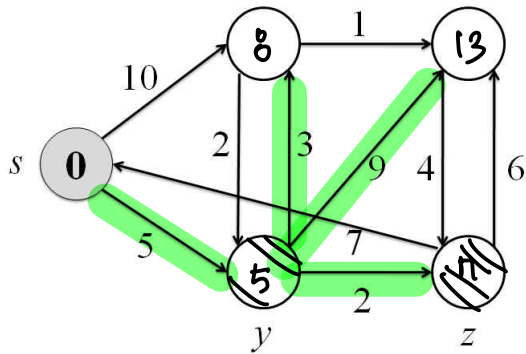
1. The following figures shows the process to solve the single-source shortest paths problem when the vertex  $s$  is a source and the Dijkstra's algorithm is used. Fill in the blanks in the vertices and show the shortest path tree.



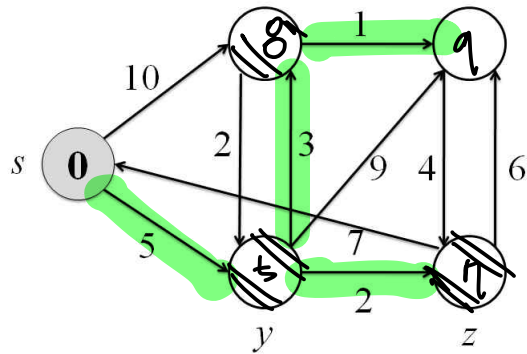
(a)



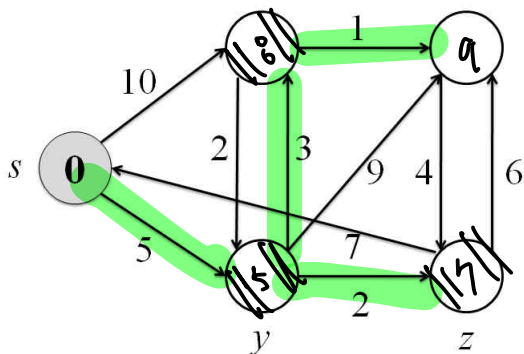
(b)



(c)



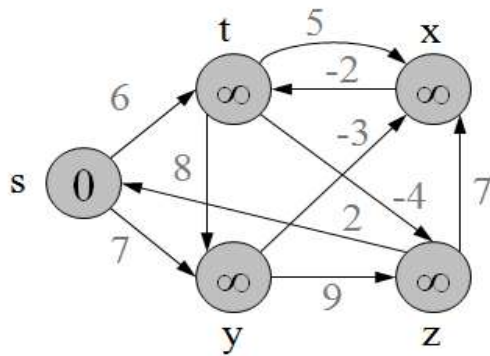
(d)



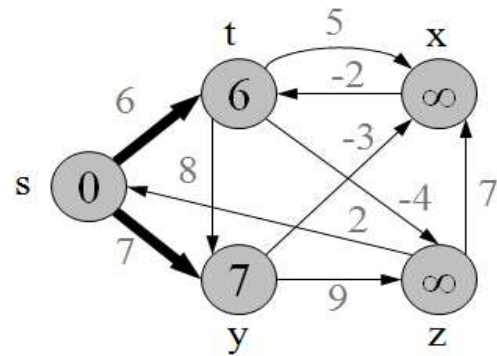
(e)

2. The following figures shows the process to solve the single-source shortest paths problem when the vertex  $s$  is a source and the Bellman-Ford algorithm is used. Fill in the blanks in the vertices and show the shortest path tree. ✎

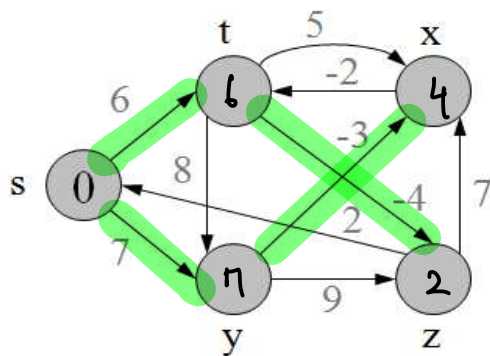
**Relaxation order:**  $(t,x)$ ,  $(t,y)$ ,  $(t,z)$ ,  $(x,t)$ ,  $(y,x)$ ,  $(y,z)$ ,  $(z,x)$ ,  $(z,s)$ ,  $(s,t)$ ,  $(s,y)$



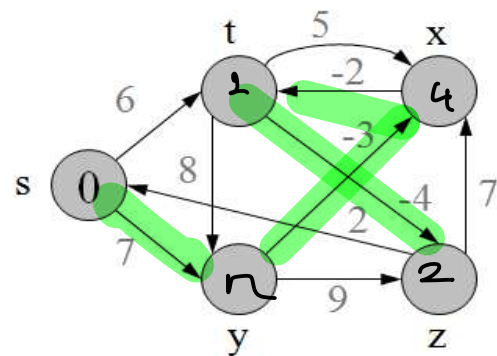
(a)



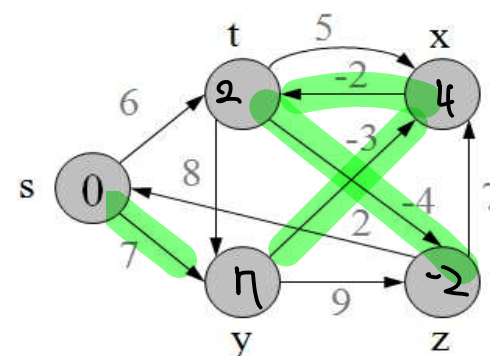
(b)



(c)



(d)



(e)

3. The following figures shows the process to solve the single-source shortest paths problem when the vertex  $s$  is a source and a linear-time shortest path algorithm in DAGs is used. Fill in the blanks in the vertices and show the shortest path tree.

