

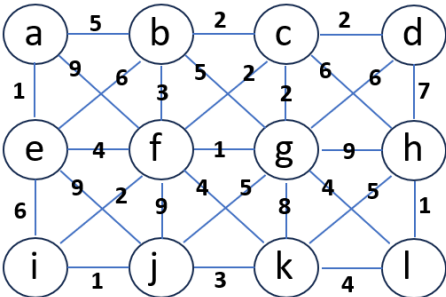
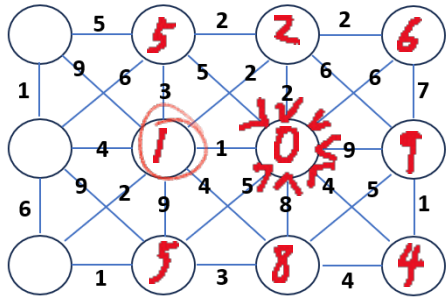
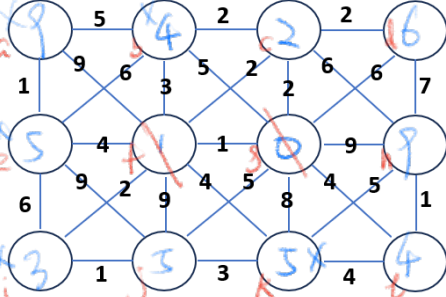
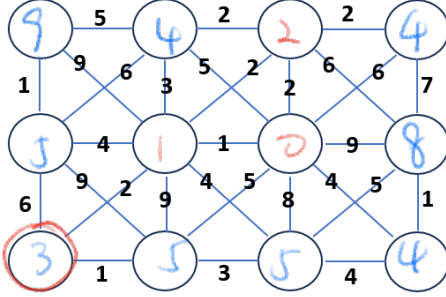
# CSE327 Assignment 5: Intelligent Scissor (10 pts)

Due Oct 18 2023, 11:59PM, submitted via Brightspace

(1) (3pts) In the 3 x 4 graph below, nodes are denoted as ( a, b, ..., l ), and the link cost between any neighboring nodes is also given (e.g., the link cost between node a and node f is 9). Choose node g as the seed node and node j as the target node, use the Dijkstra's shortest algorithm to find the path between the seed and target with the smallest cost.

The first iteration of expansion is done below. Finish the other three rows.

*visited nodes.*

	Active List	Expanded Nodes
	{g}	{}
	{b,c,d,f,h,j,k,l}	{g}
	{a,b,c,d,e,h,i,j,k,l}	{g,f}
	{a,b,d,e,h,i,j,k,l}	{g,f,i}

	<p><math>\{a, b, d, e, h, j, k, l\}</math></p> <hr/> <p>next active points b.d.j.l includes j stop</p>	<p><math>\{g, f, c, i\}</math></p>
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(2) Implement the intelligent scissor algorithm (7pts).

One sample image is uploaded. You can also test on your own image. In your demonstration, pick one point in the image as the seed point, then pick the other point as the target point. Find the path between the two points with the smallest cost using the Dijkstra's algorithm, and overlay it onto the image. Try different target points to see how it works.

Zip your **source codes** (with comments in the codes to help our TA to grade your assignment) and **report** (your solution to question 1, explanation on how to run your codes if there are multiple functions, your results and observations) in a folder "CSE327\_HW5\_YourName", and upload it to the Brightspace.