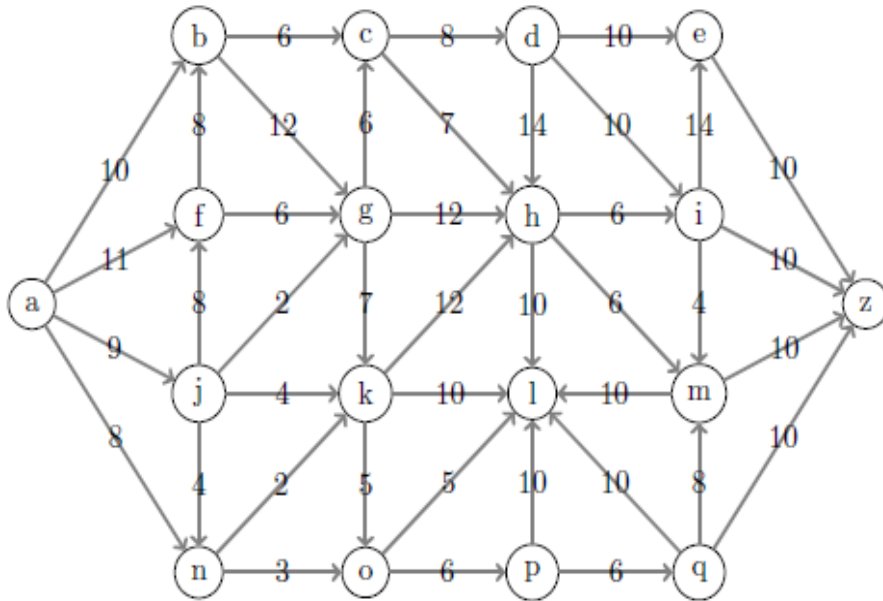
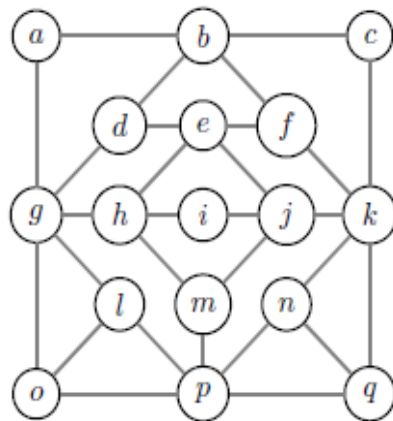


Discrete Math. Graduation Exam, Fall 2021

1. Consider the following network with a being the source and z being the target. Find the value of the maximum flow and mincut in the following network.



2. Show that the following graph does not have a Hamilton cycle.



3. Let G be a connected planar simple graph with e edges and v vertices, $v \geq 3$. If G is a bipartite graph, show that $e \leq 2v - 4$.