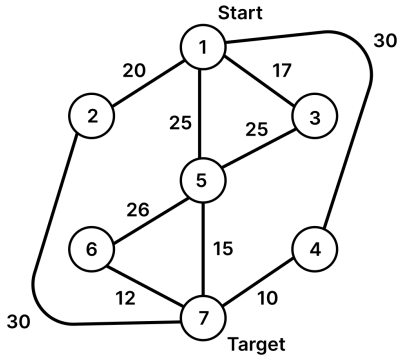
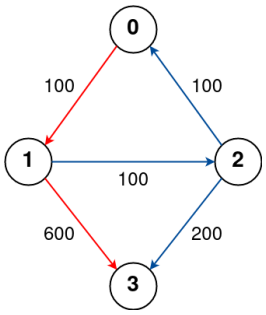
DSA II Lab (Assignment 2)

Total Marks: 20 Marks



1. Use the **Kruskal Algorithm** (implement using Min Heap) to find out the Minimum Spanning Tree. **[10]**

2. There are n cities connected by some number of flights. You are given an array flights where **flights[i] = [$from_i$, to_i, $price_i$]** indicates that there is a flight from city $from_i$ to city to_i with cost $price_i$. You are also given three integers src, dst, and k, return the cheapest price from src to dst with at most k stops. If there is no such route, return -1. **[10]**



Input: n = 4, flights = [[0,1,100],[1,2,100],[2,0,100],[1,3,600],[2,3,200]], src = 0, dst = 3, k = 1
Output: 700
Explanation: The graph is shown above. The optimal path with at most 1 stop from city 0 to 3 is marked in red and has cost 100 + 600 = 700. Note that the path through cities [0,1,2,3] is cheaper but is invalid because it uses 2 stops.