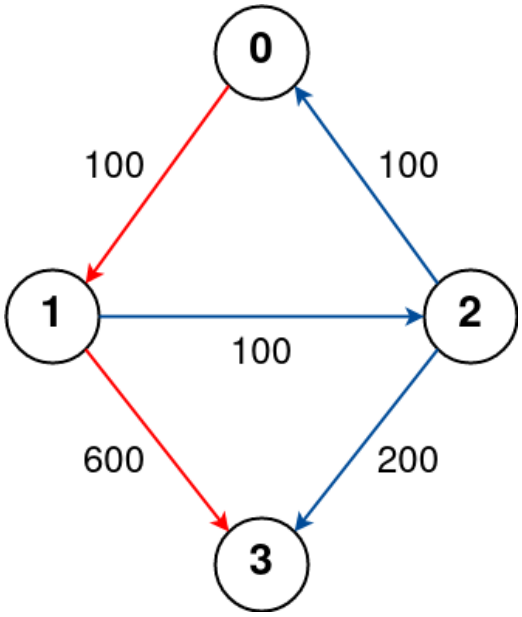
Cheapest Flights Within K Stops LeetCode

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.

Example:



Source = 0, Destination = 3, k = 1

Output: 700

Approach 1: Function to find the cheapest price from source to destination with at most k stops

- **Explanation:**
    - The **findCheapestPrice** function constructs an adjacency list representing flights and initializes a vector to store the cost of reaching each node from the source.
    - It uses a BFS traversal with a queue to explore possible flights, updating the cost if a cheaper path is found.
    - The traversal stops when the destination is reached with at most k stops, and the cost of reaching the destination is returned.
    - If the destination is unreachable, the function returns -1.
- **Time Complexity:**

- **The time complexity is O(V + E), where V is the number of vertices (nodes) and E is the number of edges (flights).**
    - **Both the creation of the adjacency list and BFS traversal contribute to the time complexity.**

- **Space Complexity:**
    - **The space complexity is O(V + E), where V is the number of vertices (nodes) and E is the number of edges (flights).**
        - **The adjacency list, cost vector, and the BFS queue contribute to space usage.**