

Question 1

- Starting off with the adjacency list, we add edges and assign weights to each of them which are the edge values between 2 nodes.
- In the main function, it calls the addEdge() function in order to create the required adjacency list of the graph.
- It then creates an object of the class Graph and returns the answer of the Dijkstra's algorithm.
- In the class Graph, we use a priority queue to get the $n \log n$ time complexity.
- The priority queue has a pair of int and int where the queue is sorted in descending order on the basis of the first value.
- Assigning the value of 0 node as 0, we start iterating through the queue and assigning the shortest path we calculate to each node.
- Once the queue is empty, it means we have the shortest path for each node in the array dist[] which is then returned.