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Task - 3 :

I used dijkstra to solve problem 1 and 2 respectively. For the first loop, the time complexity is n (n = number of nodes. And for the second loop, the time complexity is ~~nlogeE~~ elogn (e = number of edges). So, if there are N places and M roads, the time complexity will be

$$N + M\log N$$

If there number of titans in each road is exactly 1, we can use BFS to find the shortest path and solve the problem.

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Task-4:

BFS also gives the shortest path between source and destination. But in this case, there are weights for each edge which indicates the traffic intensity in the specific road. BFS can't be implemented if there are weights of the edges. So, we used dijkstra to solve the problem as it can be implemented and works well with weights given for each edge.