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Section : 11

Task-3

There are N places

M roods

The time complexity of the function dijkstra is $O(N \log N)$. Time complexity for task 1 became $O(N^2)$ for indented for loops.

Time complexity of task 2 is $O(N)$. But since task 1 is imported and implemented the actual time complexity for task 2 is also $O(N^2)$

If the no of titans in each node is exactly 1, we do not need to check if the no. of titans is more or

less. Doing BFS on the gnoph will solve the problem. Time complexity of BFS on the gnaph will be O(M+N) since there are N places and M roads. The gnaph can be given as input all weights as 1.

Task-4

In the input table, we can see that there are traffic levels for each vertex 1 and vertex 2. Now, if we represent the input table to the graph, we will get a weighted graph (with different weight values).

But we know that BFS is not applicable in such cases. BFS is applicable for unweight graph. Also, we can make the graph having some weight to behave like unweight graph and implement the BFS algorithm to find the shortest path.

Since, the above ~~mentio~~ mentioned enitenia does not match for this ~~pro~~ problem, the BFS algorith is not applicable for this ~~se~~ scenenio.