Task-04

in case of adjacency list

Here in BFS algorithm, time complexity of while loop is depend upon the number of edges. So the time complexity will be $O(E)$. Similiarly here the for loop is also depends upon number of vertices. So it will be $O(V)$

∴ Total time complexity will be

$$O(E) + O(V)$$

$$= O(V+E)$$

In case of matrix the time complexity will $O(v^2)$ since in case matrices every vertex have to check.

In case of DFS algorithm time complexity will be similliar to BFS.

~~Here I've implemented BF~~

Here according to the question I've implemented BFS algorithm and my rival Group implemented DFS algorithm. In case of BFS ~~I've~~ algorithm I it needed to discover 9 ~~rd~~ vertices to reach the final

destination. On the other hand, in case of DFS algorithm it needed to discover 7 vertices which is less than BFS algorithm. That means the rival had to cross less paths to reach the destination. So, my rival Gary gets to the victory first.