

## Task 4

The time complexity of task 2.py which is BFS,

$$\text{for (adjacency list)} \rightarrow \cancel{O(V+E)} O(V+E)$$

$$\text{for (matrix)} \rightarrow O(V^2)$$

The time complexity for task 3.py which is DFS,

$$\text{for (adjacency list)} \rightarrow O(V+E)$$

$$\text{for (adjacency matrix)} \rightarrow O(V^2)$$

where  $V$  = vertices and  $E$  = edges.

As we can see in BFS it took me  
9 cities to reach victory road while  
~~my~~ with DFS, my rival gray only  
needed to ~~vis~~ visit 7 cities before  
reaching the destination. So, my  
rival would reach the victory road  
first.